Republic of Yemen

Ministry of Higher Education &Scientific Research

21 SEPTEMBER UNIVERSITY of MEDICALS & APPLIED SCIENCES

Faculty of Medicine

Bachelor Program of Medicine and Surgery

Course Specification of

Medical Parasitology

Course Code :(A21P214)

2023

T4: This Template is Developed and Approved by CAQA-Yemen, 2023

Prepared by:	Reviewed by:	Head of department	Quality Unit:	Dean of Medicine Faculty	Center of Development and Quality Assurance Dean
Dr. Ghamdan Al-tahish	Dr Gamil Taher Abdul Mughni		Dr. Fadhl Shujaa Al-deen	Dr. Salwa Al-Ghomeri	

I. General Information:

1.	Course Title:	Medical Parasitology				
2.	Course Code:	A21P214				
3.	Credit Hours:	Credit Hours	Theory Contact Hours		Practical Contact Hours	
			Lecture	Tutorial/ Seminar	Lab	Clinical
		3	2	--	2	--
4.	Level/ Semester at which this Course is offered:	2nd Level / 1st Semester				
5.	Pre –Requisite (if any):	Introduction to Microbiology				
6.	Co –Requisite (if any):	NA				
7.	Program (s) in which the Course is Offered:	Bachelor of Medicine and Surgery (MBBS)				
8.	Language of Teaching the Course:	English				
9.	Location of Teaching the Course:	Faculty of Medicine				
10.	Prepared by:	Dr. Ghamdan Al-tahish				
١١	Date and Number of Approval by Council:	2023				

II. Course Description:

Medical Parasitology covering Protozoa, Helminths and Arthropods, which infect humans. It provides medicinal students with adequate knowledge about principles of Parasitology, national parasitic problems and common parasites worldwide, the epidemiology, sources of infection, life cycle, pathogenesis, clinical features, and method of laboratory diagnosis, treatment as well as prevention and control of medically important Parasites. It is also giving the medicinal student's practical skill in uses the different technique and basic identification methods for recognition of parasitic agents/ larval stages.

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	Classify the types of parasites of medical importance	**M**	**A1**	Describe the general and basic sciences related to human body structure and functions with emphasis on normal and abnormal conditions.
a2	Describe the characteristics, Pathophysiology, mechanism, diagnosis, treatment, prevention and control of parasites of medical importance.	**M**		
a3	List the anthropoids of medical interest, clinical importance and method of compact.	**M**	**A3**	Explain the pathological and pathogenesis changes in various diseases, and their etiological triggers including genetic, developmental, infectious, metabolic, endocrinal, autoimmune, neoplastic, traumatic, degenerative and occupational factors.
B. Intellectual Skills:				
b1	Categorize the types of parasites of medical importance	**A**	**B1**	Compare between normal and abnormal conditions and predict the appropriate treatment or intervention.
b2	Distinguish between types of diagnosis, treatment, prevention and control of parasites of medical importance.	**A**	**B2**	Analyze and interpret the finding from history, clinical examination and investigations to propose a diagnosis and develop a shared management plan for common acute, chronic and urgent physical and mental health presentations.
C. Professional and Practical Skills:				
c1	Select the appropriate processing method needed to diagnose of some parasites and arthropods of medical importance, larval stage	**P**	**C1**	Perform complete clinical examination and precise

	and lesion in different specimens.			investigations to reach the final diagnosis
c2	Perform the different serological tests to determination the compatibilities, autoimmune diseases and hypersensitivity in deferent clinical specimens.	**P**		
c3	Apply biosafety procedures and quality management system in laboratory practice.	**P**	**C3**	Carry out routine medical procedure and demonstrate the ability of using common medical tools required for diagnosis and management with highly qualified competency.
	D. Transferable Skills:			
d1	Effectively use different computer skills such as internet, word processing and data sheet to interpret and analysis results and investigation of certain parasitic disease to reach proper diagnosis.	**I**	**D1**	Communicate with professionals, patients, their families and the community through verbal, written and other non-verbal means.
d2	Work independently or as a member of team effectively and lead teams carrying out various professional tasks and accept the view of others.	**I**	**D2**	Work individually or in a team and develop lifelong learning using up to date technology that help in understanding the diseases and its control and prevention.
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	Classify the types of parasites of medical importance	- Interactive lectures - Presentation - Self-learning - Office hours	- Written exam (mid and final terms and quizzes) - Assignment
a2	Describe the characteristics, Pathophysiology, mechanism, diagnosis, treatment, prevention and control of parasites of medical importance.	- Interactive lectures - Seminars - Office Hours - Self learning	- Written exam (mid and final terms and quizzes) - Assignment

a3	List the anthropoids of medical interest, clinical importance and method of compact.	- Interactive lectures - Seminars - Discussion - Office Hours - Self learning	- Written exam (mid and final terms and quizzes) - Assignment

(B) Alignment of Course Intended Learning Outcomes (Intellectual Skills) to Teaching Strategies and Assessment Methods:

	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
b1	Categorize the types of parasites of medical importance	- Interactive lectures - Discussion - Self-learning - Presentation	- Written exam (mid and final terms) - Assignment
b2	Distinguish between types of diagnosis, treatment, prevention and control of parasites of medical importance.	- Interactive lectures - Discussion - Self-learning - Presentation	- Written exam (final terms)

(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	Select the appropriate processing method needed to diagnose of some parasites and arthropods of medical importance, larval stage and lesion in different specimens.	-Practical session.	- Practical Exam
c2	Perform the different serological tests to determination the compatibilities, autoimmune diseases and hypersensitivity in deferent clinical specimens.	-Practical session.	- Practical Exam
c3	Apply biosafety procedures and quality management system in laboratory practice.	-Practical session.	- Practical Exam

(D) Alignment of Course Intended Learning Outcomes (Transferable Skills) to Teaching Strategies and Assessment Methods:

	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
d1	Use effectively different computer skills such as internet, word	- Seminars - Discussion	Assignment - Homework

	processing and data sheet to interpret and analysis results and investigation of the diseases.	- Self Learning - Presentation	- Teamwork - Practical Exam
d2	Work independently or as a member of team effectively and lead teams carrying out various professional tasks and accept the view of others.	- Seminars - Discussion - Self Learning - Presentation	Assignment - Homework - Teamwork - Practical Exam

IV. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	**Introduction to Medical Parasitology**	– Historical Perspective – Definitions – Types of parasites, transmission of parasites, types of host and host-parasite relationship, life cycle of parasites.	1	2	a1,a2
2	**Platy helminthes/ Trematodes**	– Trematodes taxonomy, Hepatic & Intestinal flukes. – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2	a1, d1
3	**Trematodes**	– Lung flukes & Blood flukes. – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2	a1,a3, d1
4	**Platy helminthes/ Cestodes**	– Cestodes classification, intestinal Cestodes – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2	a1-a3 b1, d1
5	**Platy helminthes/ Cestodes**	– Intestinal Cestodes – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis,	1	2	a1-a3 b1, d1

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
		treatment and prevention& control			
6	**Platy helminthes/ Cestodes**	– Tissues Cestodes – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2	a1-a3 b1, d1
7	**Nematodes**	– Classification, intestinal nematodes – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2	a1,d1
8	**Mid-Term Theoretical Exam**	– MCQs and essay questions	1	2	a1, a2,a3,b1
9	**Nematodes**	– Tissue nematodes – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2	a1-a3 b1, d1
10	**Protozoa, Sarcodina**	– Introduction, taxonomy, – Amoeba and amphizoic amoeba. – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2	a1-a3 b1, d1
11	**Mastigophora (Flagellates)**	– Intestinal and Urogenital flagellates Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2	a1-a3 b1, d1
١٢	**Mastigophora (Flagellates)**	– Blood and Tissue flagellates – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention & control	1	2	a1-a3 b1, d1
١٣	**Apicomplexa**	– Malaria – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2	a1-a3 b1, d1

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
١٤	**Apicomplexa**	– Toxoplasmosis & intestinal sporozoa – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2	a1-a3 b1, d1
١٥	**Arthropods**	– Introduction, taxonomy – Myiasis and Scabies – Mosquitoes – Ticks & Mites	1	2	a1-a3 b1, d1
١6	**Final Theoretical Exam**	MCQs and essay questions	1	2	a1,a2,a3 b1,b2
Number of Weeks /and Units Per Semester			**16**	**32**	

B. Practical Aspect (Lab):

No.	Tasks/ Experiments	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	- General information about safety precaution inside Medical Parasitology lab	1	2	c1,c3 d1, d2
2	- Investigation and reporting of Hepatic& Intestinal flukes.	1	2	c1-c3 d1, d2
3	- Investigation and reporting of Lung flukes & Blood flukes.	1	2	c1-c3 d1, d2
4	- Investigation and reporting of intestinal Cestodes.	1	2	c1-c3 d1, d2
5	- Investigation and reporting of Intestinal Cestodes.	1	2	c1-c3 d1, d2
6	- Investigation and reporting of Tissues Cestodes.	1	2	c1-c3 d1, d2
7	- Mid-Term practical Exam	1	2	c1-c3 d1, d2

No.	Tasks/ Experiments	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
8	- Investigation and reporting of Intestinal nematodes.	1	2	c1-c3 d1, d2
9	- Investigation and reporting of Tissue nematodes.	1	2	c1-c3 d1, d2
10	- Investigation and reporting of Amoeba.	1	2	c1-c3 d1, d2
11	- Investigation and reporting of Intestinal, and Urogenital flagellates.	1	2	c1-c3 d1, d2
12	- Investigation and reporting of Malaria.	1	2	c1-c3 d1, d2
13	- Investigation and reporting of Toxoplasmosis & intestinal sporozoa.	1	2	c1-c3 d1, d2
14	- Investigation and reporting of Arthropods.	1	2	c1-c3 d1, d2
15	- Final Practical Exam	1	2	c1,c2,c3
Number of Weeks /and Units Per Semester		**15**	**30**	

C. Tutorial Aspect (if any):

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	**Assignment 1: Types of Intestinal Cestodes**	4th	2	a1-a3, b1,d1,d2
2	**Assignment 2: Types of Protozoa**	**10th**	2	a1,a2,a3, b1,d1,d2

No.	Assignments	Week Due	Mark	Aligned CILOs(symbols)
3	**Assignment 3: Case study about Malaria Diseases**	**13th**	**1**	a1,a3, b1,d1,d2
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**	weeks 4-13	**5**	5%	a1,a2,a3, b1, d1,d2
2	**Quizzes**	week 5	**5**	5%	a1,a2,a3
3	**Mid-Term Practical Exam**	week 7	**10**	10%	c1,c2,c3,d1,d2
4	**Mid-Term Theoretical Exam**	week 8	**10**	10%	a1,a2,a3,b1
5	**Final Practical Exam**	week 14	**20**	20%	c1,c2,c3
6	**Final Theoretical Exam**	week 16	**50**	50%	a1,a2,a3, b1,b2
Total			**100**	**100%**	

IX. Learning Resources:

1- Required Textbook(s):

1. Paniker CKJ and Ghosh S. (2018). Paniker's Textbook of Medical Parasitology. Eighth edition. Jaypee Brothers Medical Publishers, New Delhi.
2. Mahmud R, Lim YAL and Amir A. (2017).**Medical Parasitology**: A Textbook. Springer International Publishing.

2- Essential References:

1. Sastry AS & Sandhya BK (2014). **Essentials of Medical Parasitology**. First Edition: Jaypee Brothers Medical Publishers, New Delhi.
2. Bogitsh BJ, Carter CE and Oeltmann TN. (2013). **Human Parasitology**. 12th ed. Oxford: Academic Press, Elsevier, Oxford.

3. Brooks, G.F.; Carroll, K. C.; Butel, J.S.; Morse, S. A. (2020):**Jawetz, Melnick and Adelberg's Medical Microbiology**. 24th ed.McGraw-Hill.

3- Electronic Materials and Web Sites etc.:

Websites:

1. *http://www.mdconsult.com*
2. *http://http://en.wikipedia.org/wiki/Immunology*
3. *-www.parasitology.org .uk*
4. *-www.cvm.okstate.edu/users/icfox/htdocs/clinpara/index.htm*
5. *-www.parasite.biology.qiowa.edu*

Journals:

1. Parasitology Journal of tropical medicine and magazine
2. International journal for Parasitology

Other Web Sources:

1. *On-line Mendelian Inheritance in Man, http://gdbwww.gdb.org/omimdoc/omimtop.html*
2. *www.web-books.com/MoBio/Free/Ch8D1.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 Medicine

Program of Bachelor of Medicine and Surgery (MBBS)

Course Plan (Syllabus) of Medical Parasitology

Course Code: A21P21٤

I. Information about Faculty Member Responsible for the Course:								
Name of Faculty Member:	Dr. Taha Abdul-Aziz Alnosary	Office Hours						
Location& Telephone No.:	Sanaa-77794004							
E-mail:	Taha_kaid @yhoo.com	SAT	SUN	MON	TUE	WED	THU

2023

Prepared by:	Reviewed by:	Head of department	Quality Unit:	Dean of Medicine Faculty	Center of Development and Quality Assurance Dean
Dr. Ghamdan Al-tahish	Dr Gamil Taher Abdul Mughni		Dr. Fadhl Shujaa Al-deen	Dr. Salwa Al-Ghomeri	

II. Course Identification and General Information:

	Course Title:	**Medical Parasitology**				
	Course Code:	**A21P214**				
	Credit Hours:	**Credit Hours**	**Theory Contact Hours**		**Practical Contact Hours**	
			Lecture	**Tutorial/Seminar**	**Lab**	**Clinical**
		3	2	--	2	--
	Level/ Semester at which this Course is offered:	2nd Level / 1st Semester				
	Pre –Requisite (if any):	Introduction to Microbiology				
	Co –Requisite (if any):	NA				
	Program (s) in which the Course is Offered:	Bachelor of Medicine and Surgery (MBBS)				
	Language of Teaching the Course:	English				
	Location of Teaching the Course:	Faculty of Medicine				
	Prepared by:	Dr. Ghamdan Al-tahish				
١١	**Date and Number of Approval by Council:**	2023				

III. Course Description:

Medical Parasitology covering Protozoa, Helminths and Arthropods, which infect humans. It provides medicinal students with adequate knowledge about principles of Parasitology, national

parasitic problems and common parasites worldwide, the epidemiology, sources of infection, life cycle, pathogenesis, clinical features, and method of laboratory diagnosis, treatment as well as prevention and control of medically important Parasites. It is also giving the medicinal student's practical skill in uses the different technique and basic identification methods for recognition of parasitic agents/ larval stages.

IV. Course Intended Learning Outcomes (CILOs) :

Upon successful completion of the Course, student will be able to:

	A**. Knowledge and Understanding:**
a1	Classify the types of parasites of medical importance
a2	Describe the characteristics, Pathophysiology, mechanism, diagnosis, treatment, prevention and control of parasites of medical importance.
a3	List the anthropoids of medical interest, clinical importance and method of compact.
	B**. Intellectual Skills:**
b1	Categorize the types of parasites of medical importance
b2	Distinguish between types of diagnosis, treatment, prevention and control of parasites of medical importance.
	C. Professional and Practical Skills:
c1	Select the appropriate processing method needed to diagnose of some parasites and arthropods of medical importance, larval stage and lesion in different specimens.
c2	Perform the different serological tests to determination the compatibilities, autoimmune diseases and hypersensitivity in deferent clinical specimens.
c3	Apply biosafety procedures and quality management system in laboratory practice.
	D. Transferable Skills:
d1	Effectively use different computer skills such as internet, word processing and data sheet to interpret and analysis results and investigation of certain parasitic disease to reach proper diagnosis.
d2	Work independently or as a member of team effectively and lead teams carrying out various professional tasks and accept the view of others.

I= Introduced, P=Practiced or M/A= Mastered/Advanced

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	**Introduction to Medical Parasitology**	– Historical Perspective – Definitions – Types of parasites, transmission of parasites, types of host and host-parasite relationship, life cycle of parasites.	1	2
2	**Platy helminthes/ Trematodes**	– Trematodes taxonomy, Hepatic & Intestinal flukes. – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
3	**Trematodes**	– Lung flukes & Blood flukes. – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
4	**Platy helminthes/ Cestodes**	– Cestodes classification, intestinal Cestodes – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
5	**Platy helminthes/ Cestodes**	– Intestinal Cestodes – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
6	**Platy helminthes/ Cestodes**	– Tissues Cestodes – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
7	**Nematodes**	– Classification, intestinal nematodes – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
8	Mid-Term Theoretical Exam	– MCQs and essay questions	1	2
9	Nematodes	– Tissue nematodes – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
10	Protozoa, Sarcodina	– Introduction, taxonomy, – Amoeba and amphizoic amoeba. – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
11	Mastigophora (Flagellates)	– Intestinal and Urogenital flagellates Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
١٢	Mastigophora (Flagellates)	– Blood and Tissue flagellates – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention & control	1	2
١٣	Apicomplexa	– Malaria – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
١٤	Apicomplexa	– Toxoplasmosis & intestinal sporozoa – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
١٥	Arthropods	– Introduction, taxonomy – Myiasis and Scabies – Mosquitoes – Ticks & Mites	1	2
16	Final Theoretical Exam	MCQs and essay questions	1	2
Number of Weeks /and Units Per Semester			16	32

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	**Introduction to Medical Parasitology**	– Historical Perspective – Definitions – Types of parasites, transmission of parasites, types of host and host-parasite relationship, life cycle of parasites.	1	2
2	**Platy helminthes/ Trematodes**	– Trematodes taxonomy, Hepatic & Intestinal flukes. – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
3	**Trematodes**	– Lung flukes & Blood flukes. – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
4	**Platy helminthes/ Cestodes**	– Cestodes classification, intestinal Cestodes – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
5	**Platy helminthes/ Cestodes**	– Intestinal Cestodes – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
6	**Platy helminthes/ Cestodes**	– Tissues Cestodes – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
7	**Nematodes**	– Classification, intestinal nematodes – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
8	**Mid-Term Theoretical Exam**	– MCQs and essay questions	1	2
9	**Nematodes**	– Tissue nematodes – Definition, classification, distribution,	1	2

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
		morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control		
10	Protozoa, Sarcodina	– Introduction, taxonomy, – Amoeba and amphizoic amoeba. – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
11	Mastigophora (Flagellates)	– Intestinal and Urogenital flagellates Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
١٢	Mastigophora (Flagellates)	– Blood and Tissue flagellates – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention & control	1	2
١٣	Apicomplexa	– Malaria – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
١٤	Apicomplexa	– Toxoplasmosis & intestinal sporozoa – Definition, classification, distribution, morphology, life cycle, pathogenesis, clinical features, laboratory diagnosis, treatment and prevention& control	1	2
١٥	Arthropods	– Introduction, taxonomy – Myiasis and Scabies – Mosquitoes – Ticks & Mites	1	2
16	Final Theoretical Exam	MCQs and essay questions	1	2
Number of Weeks /and Units Per Semester			16	32

B. Practical Aspect:

No.	Tasks/ Experiments	Number of Weeks	Contact Hours
1	- General information about safety precaution inside Medical Parasitology lab	1	2
2	- Investigation and reporting of Hepatic& Intestinal flukes.	1	2
3	- Investigation and reporting of Lung flukes & Blood flukes.	1	2
4	- Investigation and reporting of intestinal Cestodes.	1	2
5	- Investigation and reporting of Intestinal Cestodes.	1	2
6	- Investigation and reporting of Tissues Cestodes.	1	2
7	- Mid-Term practical Exam	1	2
8	- Investigation and reporting of Intestinal nematodes.	1	2
9	- Investigation and reporting of Tissue nematodes.	1	2
10	- Investigation and reporting of Amoeba.	1	2
11	- Investigation and reporting of Intestinal, and Urogenital flagellates.	1	2
12	- Investigation and reporting of Malaria.	1	2
13	- Investigation and reporting of Toxoplasmosis & intestinal sporozoa.	1	2
14	- Investigation and reporting of Arthropods.	1	2
15	- Final Practical Exam	1	2
Number of Weeks /and Units Per Semester		**15**	**30**

No.	Tasks/ Experiments	Number of Weeks	Contact Hours
1	- General information about safety precaution inside Medical Parasitology lab	1	2
2	- Investigation and reporting of Hepatic& Intestinal flukes.	1	2
3	- Investigation and reporting of Lung flukes & Blood flukes.	1	2
4	- Investigation and reporting of intestinal Cestodes.	1	2
5	- Investigation and reporting of Intestinal Cestodes.	1	2

No.	Tasks/ Experiments	Number of Weeks	Contact Hours
6	- Investigation and reporting of Tissues Cestodes.	1	2
7	- Mid-Term practical Exam	1	2
8	- Investigation and reporting of Intestinal nematodes.	1	2
9	- Investigation and reporting of Tissue nematodes.	1	2
10	- Investigation and reporting of Amoeba.	1	2
11	- Investigation and reporting of Intestinal, and Urogenital flagellates.	1	2
12	- Investigation and reporting of Malaria.	1	2
13	- Investigation and reporting of Toxoplasmosis & intestinal sporozoa.	1	2
14	- Investigation and reporting of Arthropods.	1	2
15	- Final Practical Exam	1	2
Number of Weeks /and Units Per Semester		**15**	**30**

C. Tutorial Aspect:

No.	Tutorial	Number of Weeks	Contact Hours
1	NA		
Number of Weeks /and Units Per Semester			

VI. Teaching Strategies of the Course:

خطأ! لم يتم العثور على مصدر المرجع.

VII. Assessment Methods of the Course:

خطأ! لم يتم العثور على مصدر المرجع.

VIII. Assignments:

No.	Assignments	Week Due	Mark
1	**Assignment 1: Types of Intestinal Cestodes**	4th	2
2	**Assignment 2: Types of Protozoa**	**10th**	2
3	**Assignment 3: Case study about Malaria Diseases**	**13th**	**1**
Total			**5**

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

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
1	**Assignments**	weeks 4-13	**5**	5%
2	**Quizzes**	week 5	**5**	5%
3	**Mid-Term Practical Exam**	week 7	**10**	10%
4	**Mid-Term Theoretical Exam**	week 8	**10**	10%
5	**Final Practical Exam**	week 14	**20**	20%
6	**Final Theoretical Exam**	week 16	**50**	50%
Total			**100**	**100%**

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
1	**Assignments**	weeks 4-13	**5**	5%
2	**Quizzes**	week 5	**5**	5%
3	**Mid-Term Practical Exam**	week 7	**10**	10%
4	**Mid-Term Theoretical Exam**	week 8	**10**	10%
5	**Final Practical Exam**	week 14	**20**	20%
6	**Final Theoretical Exam**	week 16	**50**	50%
Total			**100**	**100%**

X. Learning Resources:

1- Required Textbook(s):

Paniker CKJ and Ghosh S. (2018). Paniker's Textbook of Medical Parasitology. Eighth edition. Jaypee Brothers Medical Publishers, New Delhi.

3. Mahmud R, Lim YAL and Amir A. (2017).**Medical Parasitology**: A Textbook. Springer International Publishing.

1. 2- Essential References:

Sastry AS & Sandhya BK (2014). Essentials of Medical Parasitology. First Edition: Jaypee Brothers Medical Publishers, New Delhi.

4. Bogitsh BJ, Carter CE and Oeltmann TN. (2013). **Human Parasitology**. 12th ed. Oxford: Academic Press, Elsevier, Oxford.
5. Brooks, G.F.; Carroll, K. C.; Butel, J.S.; Morse, S. A. (2020):**Jawetz, Melnick and Adelberg's Medical Microbiology**. 24th ed.McGraw-Hill.

1. 3- Electronic Materials and Web Sites etc.:

Websites:

http://www.mdconsult.com

http://*http://en.wikipedia.org/wiki/Immunology*

6. -*www.parasitology.org .uk*
7. -*www.cvm.okstate.edu/users/icfox/htdocs/clinpara/index.htm*
8. -*www.parasite.biology.qiowa.edu*

Journals:

3. Parasitology Journal of tropical medicine and magazine
4. International journal for Parasitology

Other Web Sources:

3. *On-line Mendelian Inheritance in Man, http://gdbwww.gdb.org/omimdoc/omimtop.html*
4. *www.web-books.com/MoBio/Free/Ch8D1.htm*

XI. Course Policies: (Based on the Uniform Students' Bylaw (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.