



Course Specifications

Course Title:	Parasitology
Course Code:	321BIO-3
Program:	Biology
Department:	Biology
College:	College of Arts and Sciences
Institution:	Najran University

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A. Course Identification

1. Credit hours: 3
2. Course type
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
3. Level/year at which this course is offered: V/ 3 rd year
4. Pre-requisites for this course (if any): 221BIO-3
5. Co-requisites for this course (if any): non

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Correspondence		
5	Other	-	

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	30
2	Laboratory/Studio	30
3	Tutorial	
4	Others (specify) E-learning	
	Total	60
Other Learning Hours*		
1	Study	27
2	Assignments	3
3	Library	5
4	Projects/Research Essays/Theses	5
5	Others (specify)	10
	Total	50

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

Parasitology will acquire students with certain knowledge to define the types of parasites and their hosts with emphasis on the relationship between them. Parasitic protozoa, worms as well as arthropods that infect humans and animals with emphasis on their life cycle - diseases caused by species of various parasites and control methods. The course will develop student's skills to examine and diagnose different parasites.

2. Course Main Objective

1. Define the terminology of parasites, vectors, and hosts and their relationships.
2. Describe different strategies of parasite immune evasion.
3. Detect symptoms, pathogenesis and different methods of parasitic disease diagnosis and control.
4. Explain the epidemiology, mode of transmission, life cycle of several models e parasites.
5. Discuss host immune (invertebrate and vertebrate) responses to representatives of parasites.
6. Suggest solutions for preventing infectious diseases.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Define the terminology of parasites, vectors, and hosts and their relationships.	
1.2	Describe different strategies of parasite immune evasion.	
1.3	Detect symptoms, pathogenesis and different methods of parasitic disease diagnosis and control.	
2	Skills :	
2.1	Explain the epidemiology, mode of transmission, life cycle of several models e parasites.	
2.2	Discuss host immune (invertebrate and vertebrate) responses to representatives of parasites.	
2.3	Suggest solutions for preventing infectious diseases.	
3	Competence:	
3.1	Work independently and as a team work	
3.2	Manage recourses, time and other members of the group	
3.3	Communicate knowledge with others	

C. Course Content: Theoretical

No	List of Topics	Contact Hours
1	Introduction: definitions; principles What is Parasitology and its importance-Animal Associations and concept Host parasitic relationships Parasitism: definition, types of parasites, types of hosts Types of life cycles	4
2	Pathology of different parasitic infections.	2

	Anti parasitic immunity. -Invertebrate immune responses against parasites. -Vertebrate immune responses against parasites.	
3	Study of representative parasite models from different animal phyla: -Geographical distribution. -Life cycle and mode of transmission. -Disease symptoms and pathology.-Different diagnostic methods.- Different control strategies. 1- Protozoa: -Sarcodina: Endamoebidae <i>Entamoeba coli</i> <i>E.histolytica</i> - Sporozoa: <i>Plasmodium</i> -Mastigophora: <i>Giardia lamblia</i> , <i>Trichomonas vaginalis</i> - Flagellata: <i>Leishmania</i> spp. & <i>Trypanosoma</i> spp	4
4	2- Apicomplexa : - <i>Toxoplasma gondii</i> and <i>Plasmodium</i> spp. -Ciliophora: <i>Balantidium coli</i>	4
5	3- Platyhelminthes: -Trematodes: <i>Schistosoma</i> spp. <i>Fasciola</i> spp.	4
6	-Cestoda: <i>Taenia saginata</i> , <i>T. Solium</i> , <i>Hymenolepis nana</i> and <i>H. diminuta</i> , <i>Echinococcus granulosus</i> .	4
7	Phylum Ascyhelminths (Nematods) - <i>Ascaris</i> - <i>Ancylostoma</i> - <i>Entrobilus</i> and <i>Wuchraria</i> - <i>Dracunculus</i>	4
8	Phylum Arthropoda (external parasites): parasitic insects ; parasitic arachnids (ticks, mites)	4
Total		30

Practical:

No	List of Topics	Contact Hours
1	Introduction of parasitology, general instructions	2
2	-Sarcodina: Endamoebidae <i>Entamoeba coli</i> , <i>E. histolytica</i> -Mastigophora: <i>Giardia lamblia</i> , <i>Trichomonas vaginalis</i> - <i>Leishmania</i> spp. & <i>Trypanosoma</i> spp.	4
3	-Apicomplexa: (<i>Toxoplasma gondii</i> , & Malaria parasites - Ciliates: <i>Balantidium coli</i>	2
4	-Trematodes: Liver flukes, intestinal & lung flukes	4
5	-Blood Flukes (<i>Schistosoma haematobium</i> - <i>S. mansoni</i> - <i>S japonicum</i>)	4
6	-Cestoda: <i>Taenia saginata</i> , <i>T. Solium</i> , <i>Hymenolepis nana</i> & <i>H. diminuta</i> , <i>Echinococcus granulosus</i> .	4
7	<i>Ascaris</i> - <i>Ancylostoma</i> - <i>Entrobilus</i> <i>Wuchraria</i> - <i>Dracunculus</i>	4
8	-Phylum Arthropoda: parasitic insects parasitic arachnids (ticks, mites)	4
9	-Some diagnostic procedures for parasite detection	2
Total		30

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge:		
1.1	Define the terminology of parasites, vectors, and hosts and their relationships.	Lectures	Final and semester exams
1.2	Know different strategies of parasite immune evasion.	Lectures	Final and semester exams
1.3	Detect symptoms, pathogenesis and different methods of parasitic disease diagnosis and control.	Lectures	Final and semester exams
2.0	Skills :		
2.1	Explain the epidemiology, mode of transmission, life cycle of several models e parasites.	Student negotiations	Class room activity
2.2	Discuss host immune (invertebrate and vertebrate) responses to representatives of parasites.	Student negotiations	Class room activity
2.3	Suggest solutions for preventing infectious diseases.	Student negotiations	Class room activity
3.0	Competence:		
3.1	Work independently and as a team work	Student negotiations	Class room activity
3.2	Manage recourses, time and other members of the group	Student negotiations	Class room activity
3.3	Communicate knowledge with others	Student negotiations	Class room activity

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Theoretical First Exam	7	10%
2	Practical First Exam	7	5%
3	Theoretical Second Exam	12	10%
4	Practical Second Exam	12	5%
5	Practical final Exam	12	10%
6	Assays , oral presentations, blackboard activity	continuous	10%
Y	Theoretical Final Exam	16	50%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

- 10 hours per week as office hours
- Academic advisor 10 hours per week

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	F. E. G. Cox (1993). Modern Parasitology: A Textbook of Parasitology second edition. Parasitology (protozoology and helminthology) by K. D. Chatterjee (2009).
Essential References Materials	Larry Roberts, Jr., John Janovy (2008). Foundations of Parasitology, 8th edition
Electronic Materials	Websites, http://pathmicro.med.sc.edu/book/parasit-sta.html
Other Learning materials	Films related to the course

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) 40 seats/ class room/ 20 seats/lab Computer access with data show and internet
Technology Resources (AV, data show, Smart Board, software,	Data show, Overhead projector
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Models Microscopes

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course evaluation	Student	direct
Student-faculty meeting	Faculty, Program Leaders	indirect
Departmental council discussions	Staff members	indirect
Discussion with the group of faculty teaching the same course	Peer Reviewer	indirect
Periodical departmental revisions of each method of teaching	Peer Reviewer	indirect

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	