Course Specifications

Course Title:	**Parasitology**
Course Code:	**4014311-3**
Program:	**General Biology**
Department:	**Department of biology**
College:	**Faculty of Applied Science**
Institution:	**Um Al-Qura University**

Table of Contents

A. Course Identification

1. Credit hours:	**3 hours.**
2. Course type	
a.	University ☐ College ☐ Department ☑ Others ☐
b.	Required ☑ Elective ☐
3. Level/year at which this course is offered:	**4th Year / Level 7.**
4. Pre-requisites for this course (if any)**:**	**Invertebrates (4012311-3).**
5. Co-requisites for this course (if any)**:**	**NA.**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	30	50
2	Blended	-	-
3	E-learning	-	-
4	Correspondence	-	-
5	Other	30	50

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	30
2	Laboratory/Studio	42
3	Tutorial	-
4	Others (specify)	30
	Total	102
Other Learning Hours*		
1	Study	30
2	Assignments	8
3	Library	15
4	Projects/Research Essays/Theses	10
5	Others (specify)	-
	Total	63

* 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

This course presents general concepts of parasitology, knowledge of some parasitic diseases that could be transmitted between animals and man (zoonotic diseases), knowledge about how to protect man and domestic animals from parasites and their treatment in case of infection. Basic knowledge of parasitism, the different biological inter-relationships and the host parasite relationships.

2. Course Main Objective

By the end of this course the students are expected to be able to:

- **General concept of parasitology.**

- Knowledge of some parasitic diseases that could be transmitted between animals and man (Zoonotic diseases).
- Knowledge how to protect man and domestic animals from parasites and their treatment.
- Basic knowledge of parasitism, the different biological inter-relationships and the host parasite relationships.
- Knowledge of different parasitic examples from all phyla (Protozoa & Metazoa), their morphology, biology, life cycles, diagnosis, treatment & control.
- Dissemination of health awareness of these parasitic diseases.
- Gain the scientific terms of parasitology which allow the students how to deal with internet, text books and references.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge:**	
1.1	Identify parasitism, ecto-parasites and endo-parasites with examples.	
1.2	Know parasitic diseases and modes of diagnosis.	
1.3	Learn how to control of parasitic infections.	
1.4	Distinguish types of hosts	
1.5	Enumerate host-parasite relationship.	
1.6	Remember the terms of parasitology.	
1.7	Know ectoparasites, endoparasites and intracellular parasites.	
1.8	Follow the life cycles of different parasites	
2	**Skills:**	
2.1	Explain the different types of parasites, hosts and the life cycles.	
2.2	Categorize the infective stages of different parasites	
2.3	Describe, draw life cycles of different parasites.	
2.4	Define symptoms of infections from protozoan, or metazoan parasites.	
2.5	Apply / study stages of parasites microscopically	
	Summarize parasitism, relations between parasites and their hosts.	
3	**Competence:**	
3.1	Developing oral presentations and leader ship activity	
3.2	Perform self-directed learning.	
3.3	Communicating personal ideas and thoughts	
3.4	Tabulate experimental data	
3.5	Work independently, Self-learning and as part of a team,	
3.6	To apply, describe, discuss, or contribute reports.	

C. Course Content

No	List of Topics (16 weeks)	Contact Hours
1	Introduction to Parasitology. • History of parasitology. • An introduction to Parasitology, biological relationship,	2
2	Types of hosts and parasitism:	

	General knowledge of parasites from the different phyla.	
3	Subkingdom Protozoa • Phylum Sarcomastigophora (*Entamoeba histolytica, Giardia, Trichomonas vaginalis, Trypanosoma, Leishmania).*	2
4	Subkingdom Protozoa • Ciliophora (Balantidium coli)	2
5	Subkingdom Protozoa • Apicomplexa (*Plasmodium*) and/or *toxoplasma*	2
6	Midterm exam	2
7	Subkingdom Metazoa • An Introduction to Helminths and their characters. • Phylum Platyhelminthes *(Schistosoma mansoni, Schistosoma haematobium)*	2
8	Subkingdom Metazoa • Phylum Platyhelminthes (*Fasciola* and cestodes examples*: Taenia saginata, Taenia solium, Echinococcus granulosus*.	2
9	Subkingdom Metazoa Phylum Nemathelminths (*Ascaris lumbricoides, Ancylostoma duodenale, Trichinella spiralis*)	2
10	Subkingdom Metazoa • Phylum Arthropoda: ▪ *Cimex lectularis,*	2
11	Subkingdom Metazoa: • Phylum Arthropoda: ▪ *Chtenocephalides canis,*	2
12	Subkingdom Metazoa: • Phylum Arthropoda: ▪ *Pules irritans,* ▪ *Pediculus humanus,*	2
13	Subkingdom Metazoa: • Phylum Arthropoda: ▪ *Rhipicephalus sanguineus,* ▪ *Sarcoptes scabiei*	2
14	Subkingdom Metazoa: • Phylum Arthropoda: ▪ Sarcoptes scabiei.	2
15	General Revision+ Power point presentation	2
16	Final exam.	
	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	Identify parasitism, parasites and their examples.	1.Lectures and student research papers.	- Homework and Quizzes.
1.2	Know parasitic diseases and modes of diagnosis.		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.3	Learn how to control of parasitic infections.	2. The using of visual display such as PowerPoint. 3. Homework assignments. Discussions (connecting what they learn in the class and applying this information in laboratory).	- Midterm and final written exams. - Evaluation of reports. - Group discussions and participation in the lecture. Course work reports.
1.4	Distinguish types of hosts		
1.5	Enumerate host-parasite relationship.		
1.6	Remember the terms of parasitology.		
1.7	Know ectoparasites, endoparasites and intracellular parasites.		
1.8	Follow the life cycles of different parasites		
2.0	**Skills**		
2.1	Examine and describe parasitic stages.	1. Interactive lectures. 2. Seminars. 3. Participation of students in discussions during the lecture. 4. Trying to explain the issues in regular and motivated manner. 5. Follow up the students in lab and during carryout all analytical techniques.	- Exam must contain questions that can measure these skills. - Quiz and exams. - Discussions after the lecture. Practical exam.
2.2	Define parasites under microscope		
2.3	Use computers and internet to search for the latest information in endocrinology and its applications.		
2.4	Characterize methods of resistance and appropriate treatment for each disease.		
2.5	Conducting documentary about some parasites throughout the Kingdom.		
2.6	Categorize parasitic protozoans, and metazoans.		
2.7	Draw life cycles of parasites.		
2.8	Differentiate between parasitic stages and symptoms of infection.		
2.9			
3.0	**Competence**		
3.1	Personal leader ship activity	• Oral presentations. • Internet search assignments and essays. • Incorporating the use and utilization of computer in the course requirements.	- Evaluation of student essays and assignments. - Marks given to for good reports and presentations. Evaluating during the discussion in lecture and reports. Part of the grad is put for student's written participation.
3.2	Teamwork activity		
…	Reports and presentations		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Periodical Exam(s)	4	10 %
2	Mid Term Exam (Theoretic)	8	20 %
3	Mid Term Exam (practical)	9	10 %

#	Assessment task*	Week Due	Percentage of Total Assessment Score
4	Reports and essay	11	5 %
5	Final Practical Exam	15	15 %
6	Final Exam	16	40 %
	Total		100 %

***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 :

2 Office hours/week

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	**Schmidt, Roberts "Foundations of Parasitology''**
Essential References Materials	**Mehlhorn H. (2008): Encyclopedia of Parasitology.** **Chiodini et al. (2001): Atlas of Medical Helminthology and Protozoology.** **Roberts et al. (2004): Foundation of Parasitology.**
Electronic Materials	**https://embryology.med.unsw.edu.au/embryology/index.php/Animal_Development.**
Other Learning Materials	**CD prepared by the staff members containing U-tube videos.** **Multi- media associated with the text book and the relevant websites.** **Biological charts.** **Microsoft office package.**

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	**The areas of class rooms are suitable, concerning the number of enrolled students; and air conditioned. Lecture room equipped with a black board and Data show. Instructors use their own laptop. Physiology lab well equipped.**
Technology Resources (AV, data show, Smart Board, software, etc.)	**Class rooms are already provided with data show, audio-visual equipment.**
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	**Microscopic slider for chordate embryos. Models for embryonic stages and videos to follow formation of chordate embryos.**

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Student Feedback on Effectiveness of Teaching	Students.	Class room discussions. Questionnaires.
Evaluation of Teaching	Instructor or by the Department	Revision of student answer paper by another staff member. Analysis the grades of students.

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	Dr. Loay Al-Kazmi. Prof. Osama Mohamed Sarhan.	
Reference No.		
Date	21/11/2019	