Ministry of Higher Education & Scientific Research

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# **Course Specification of Veterinary parasitology (2)**

I	. Course Identification and General Infor	mation:				
1	Course Title:	Veterinary parasitology (2)				
2	Course Number & Code:		N	11 355		
			С.Н			Total
3	Credit hours:	Theoretical Practical Training Sem		Seminar	, rotai	
		2	1	0	0	3
4	Study level/ semester at which this course is offered:	Third year: second semester				
5	Pre –requisite (if any):		N	11 354		
6	Co -requisite (if any):					
7	Program (s) in which the course is offered:	Bachelo	r's degree (B.	Sc.) Veterina	ary Medicin	е
8	Language of teaching the course:	English				
9	Location of teaching the course:	Faculty of veterinary medicine				
10	Prepared by:	Dr. hamid Alrefaiey				
11	Date of approval:					

# **II.** Course description:

Prepared by

Dr. Hamid Alrefaiey

Vice Dean For Quality Affairs

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Dean of the Faculty

Ass. Prof. Dr. Abdu Alraoof Al-Shawkany Dean of Development

Center & Quality

Assurance

Ass. Prof. Dr. Huda Al-

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This course consists of theoretical and practical section is intended to familiarize the students with the essential facts and concepts of veterinary parasitology enabling them to control and prevent economical losses, parasitozoonoses. The lectures will discuss principal endo- and ectoparasites of domestic animals, which are of national or international importance to veterinary medical practice. Emphasis is placed on basic knowledge of parasite biology, epidemiology, pathogenesis, diagnosis, chemotherapy and control of parasitic infections. The purpose of the practical course is to highlight and expand on important parasites presented in lectures, especially identification and diagnostics. At the practical which follow the lectures the students become familiar with the methods of diagnosis including the interpretation of results.

III.	Intended learning outcomes (I	LOs)	of the course:	
(A) Kı	nowledge and Understanding:			
A	Alignment of Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs) in: Knowledge and Understanding.			
Program Intended Learning Outcomes (Sub- PILOs) in: Knowledge and Understanding			Course Intended Learning Outcomes (CILOs) in:  Knowledge and Understanding	
After cor	mpleting this program, students will be able to:	After	completing this course, students will be able to:	
А3	Identifies various causes of animal diseases, animal epidemics and how they can be diagnosed; including common and lifethreatening diseases of animals, poultry and fish.	a1-	Describe the general characteristics morphology of Parasites and define the life cycles of some important Parasites.	

Prepared by

Dr. Hamid Alrefaiey

Vice Dean For Quality Affairs

\_ ....

Dean of the Faculty

Ass. Prof. Dr. Abdu Alraoof Al-Shawkany Dean of Development

Center & Quality

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Ass. Prof. Dr. Huda Al-

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A4	Describes the foundations and procedural steps for treating all diseases that affect different animals, highlighting the medical conditions that need surgical interventions.	a2- Explain the different environmental aspects encourage the viability of parasites.				
	Teaching And Assessment Methods For Achieving Learning Outcomes:  Alignment of Learning Outcomes of Knowledge and Understanding to Teaching and Assessment Methods:					
Co	ourse Intended Learning Outcomes (CILOs) in Knowledge and Understanding	Tea	ching strategies/methods to be used	Methods of assessment		
a1-	Describe the general characteristics morphology of Parasites and define the life cycles of some important Parasites.  Explain the different environmental aspects encourage the viability of parasites.	<ul><li>Di</li><li>Pr</li><li>se</li><li>Ar</li><li>reac</li><li>W</li></ul>	acture by data show alogue and discuss actical practice  If directed learning skills analyze the results and the specific conclusion.  Triting a review paper to the skills of self-learning	<ul> <li>Written examination</li> <li>Quiz</li> <li>Oral examination</li> <li>Practical examination</li> <li>Activities</li> <li>Reports evaluation</li> </ul>		
		-Sam	presentation  ple collection,  ervation, examination and  ification.			

# (B) Intellectual Skills:

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Vice Dean For Quality

Dean of the Faculty

Dean of Development

Affairs

Ass. Prof. Dr. Abdu Alraoof AlShawkany

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Ass. Prof. Dr. Huda Al-

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Dr. Hamid Alrefaiey









	Alignment of Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs) in: Intellectual skills				
Prog	ram Intended Learning Outcomes (Sub- PILOs) in Intellectual skills	Cou	urse Intended Learning Out Ski	comes (CILOs) of Intellectual	
After	completing this program, students will be able to:	ill be able to: After completing this course, students will be able to:			
В3-	Design appropriate nursing and treatment care plans for different diseases that affect animals, prioritizing treatment.	b1-	<b>b1-</b> Interpret the environmental changes and incidence parasitic infection.		
B4-	Determines the appropriate and effective treatment; evaluates all medications used for each condition.	<b>b2-</b> Clarify control measures in response to emerging and unexpected problems.			
	Teaching And Assessment Meth	ods	For Achieving Learning	ng Outcomes:	
	Teaching And Assessment Methament of Learning Outcomes of Intellectual Skills ourse Intended Learning Outcomes (CILOs) in Intellectual Skills.	to Tea			
C	nment of Learning Outcomes of Intellectual Skills ourse Intended Learning Outcomes (CILOs) in	to Tea	ching Methods and Assess	ment Methods:	
C	nment of Learning Outcomes of Intellectual Skills ourse Intended Learning Outcomes (CILOs) in Intellectual Skills.	Teac  Teac  Lee	ching Methods and Assess thing strategies/methods to be used	ment Methods:  Methods of assessment	

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Dean of Development

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Dr. Hamid Alrefaiey









#### (C) Professional and Practical Skills: Alignment of Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs) in: Professional and Practical Skills Program Intended Learning Outcomes (Sub- PILOs) in Course Intended Learning Outcomes (CILOs) in **Professional and Practical Skills Professional and Practical Skills** After completing this program, students will be able to: After completing this course, students will be able to: Determine the infection with different parasitic **C1**-Accurately records a comprehensive pathological story c1of a sick animal including information on healthy species. behavior and the necessary checks. **C3**-Treat animal patients safely and effectively considering c2-Apply the complete identification of parasitic the evaluation of the results, the appropriate samples. modification of the treatment plan and the accurate description of the appropriate medications. **Teaching And Assessment Methods For Achieving Learning Outcomes:** Alignment of Learning Outcomes of Professional and Practical Skills to Teaching and Assessment Methods: Course Intended Learning Outcomes (CILOs) in Professional **Teaching** Methods of assessment and Practical Skills strategies/methods to be used After completing this course, students will be able to: -Practical practice - Written examinations Oral examinations -Problem solving Practical examination **c1**-Determine the infection with different parasitic species.

Ass. Prof. Dr. Huda Al-

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Center & Quality

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Rector of Sana'a University

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Ass. Prof. Dr. Abdu Alraoof Al-

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c2-	Apply the complete identification of parasitic samples.	-Working in groups	- Performance notice
		-Collaborative learning	- Achievement file
		conaborative learning	- Reports evaluation
		-	- Proposal evaluation

(D) General / Transferable Skills:  Alignment of Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs) in: General and Transferable skills					
Program Intended Learning Outcomes (PILOs) in General / Transferable skills  Course Intended Learning Outcomes (CILOs) in General / Transferable skills					
After completing this program, students will be able to:			r completing this course, students will be able to:		
D2-	Develops his scientific, professional and research capabilities and follow what is emerging in his field of specialization and using computer applications and information and communication technology.	d1-	Search the web for a given course topic to build up a review.		
D3-	Practices problem-solving, negotiation, supervision and veterinary medical management skills and writing research reports efficiently and professionally.	d2-	Demonstrate appropriate professional attitudes and behaviors in different practice situations.		

Alignment of Learning Outcomes of General and Transferable skills to Teaching and Assessment Methods:

Prepared by

Vice Dean For Quality

Dean of the Faculty

Dean of Development

Affairs

Ass. Prof. Dr. Abdu Alraoof Al
Center & Quality

Shawkany

Assurance

Ass. Prof. Dr. Huda Al-

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Cours	e Intended Learning Outcomes (CILOs) in General and Transferable Skills	Teaching strategies/methods to be used	Methods of assessment
After o	ompleting this course, students will be able to:	<ul><li>Dialogue and discuss</li></ul>	<ul><li>Achievement file</li></ul>
		<ul><li>Working in groups</li></ul>	<ul><li>Reports evaluation</li></ul>
d1-	Search the web for a given course topic to build up a review.	<ul><li>Scientific visits</li><li>Researches and projects</li></ul>	<ul><li>Proposal evaluation</li><li>Performance notice</li></ul>
d2-	Demonstrate appropriate professional attitudes and behaviors in different practice situations.	<ul><li>Self learning</li><li>Problem solving</li></ul>	Practical examinations

IV. Course Content: 1 – Course Topics/Items:						
	a – Theoretical Aspect					
Order	Topic List / Units	CILOs (symbols)	Sub-topic List	Number of weeks	Contact hours	
1	Protozoology; introduction, classification	a1,a2,b1,b2,c1,c2	Parasitic Protozoa Introduction: structure and mechanism of performance of its vital functions. Classification	1	2	
2		a1,a2,b1,b2,c1,c2	Genus: Trypanosoma	1	2	

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		Family: Trypanosomatidae		Genus: Leishmania		
		Family: Cryptosporidiidae		Genus Cryptosporidi		
ŀ				Giaridia & Entamoeba		_
	3	Family Trichomonadidae	a1,a2,b1,b2,c1,c2	Genus Trichomonas	1	2
ľ				Genus eimeria: eimeria spp		
ı				Poultry coccidiosis		
ı	4	APICOMPLEXA	a1,a2,b1,b2,c1,c2	Bovine coccidiosis	1	2
		Family: Eimeriidae		Ovine coccidiosis		
ŀ		Family: Sarcocystidae				
	5	Family: Plasmodidiae	a1,a2,b1,b2,c1,c2	Genus: Sarcocystis Genus: Toxoplasm Genus: Plasmodium	1	2
	6	Piroplasms: Family: Babesiidae Family: Theileriidae	a1,a2,b1,b2,c1,c2	Genus: Babesia Genus: Theileria	1	2
	7	Subphylum : Sarcodina Family: Entamoebidae Subphylum : Ciliophora	a1,a2,b1,b2,c1,c2	Genus Entamoebia Genus Ciliophora Genus Myxospora	1	2

Prepared by

Vice Dean For Quality

Dean of the Faculty

Dean of Development

Dr. Hamid Alrefaiey

Affairs

Ass. Prof. Dr. Abdu Alraoof Al-

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	Subphylum : Myxospora Subphylum: Microspora		Genus Microspora		
8	Veterinary Entomology:	a1,a2,b1,b2,c1,c2	Introduction Effect of arthropods on the health of animal and man. Phylum: Arthropoda Morphology, development and life history Classification of arthropods of veterinary and medical importance.	1	2
9	Veterinary Entomology: Order: Diptera	a1,a2,b1,b2,c1,c2	Family: Culicidae Family: Psychodidae Family: Ceratopogonidae	1	2
10	Veterinary Entomology: Order: Diptera	a1,a2,b1,b2,c1,c2	Family: Simullidae Family: Tabanidae Family: Muscidae Family: Sarcophagid	1	2
	Veterinary Entomology: Order: Diptera	a1,a2,b1,b2,c1,c2	Family: Callophoridae  Family: Oestridae  Family: Hippoboscidae	1	2
	Veterinary Entomology:	a1,a2,b1,b2,c1,c2		1	2

Prepared by

Dr. Hamid Alrefaiey

Vice Dean For Quality
Affairs

Ass. Prof. Dr. Abdu Alraoof Al-Shawkany

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Ass. Prof. Dr. Huda Al-

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	Class Insecta:				
	Order : Phthiraptera		Lice :		
	Order : Siphonaptera		fleae : Important species of		
	Order : Hemiptera		fleas Flea bite allergy		
	Order : Coleoptera		Bug: BED BUGS KISSING BUGS		
	Order : Hymenoptera		Beetles: Ants		
	Veterinary Entomology:				
	Order Orthoptera				
13	Class: Crustacea	a1,a2,b1,b2,c1,c2	cockroaches	1	2
	Class: Arachnida		Family: Ixodidae (Hard Ticks)		
	Veterinary Entomology:				
	Family: Argasidae		Ticks:		
	Family: Sarcoptidae		Common Hard Ticks		
	Family: Psoroptidae		Common Soft Ticks		
14	Family: Demodicidae	a1,a2,b1,b2,c1,c2	Tick Paralysis Tick Control	1	2
	Family: Dermanyssidae				
			Mites :		
	Class: Pentastomida		Itch and Mange Mites		
			Burrowing Mange Mites Non- Burrowing Mange Mites Other		

Prepared by

Dr. Hamid Alrefaiey

Vice Dean For Quality Affairs

\_ ....

Dean of the Faculty

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Center & Quality

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		Mites Causing Skin or Tissue Irritation Other Mites Treatments		
Number of Weeks /and Units Per Semester				28

	b- Training Aspect:			
Order	Training Tasks	CILOs (symbols)	Number of weeks	Contact hours
1	Protozoology: Morphology  Diagnostic stages of parasites  Examination of blood for detection trypanosoma	a1,a2,b1,b2,c1,c2	1	2
2	Trypanosoma spp	a1,a2,b1,b2,c1,c2	1	2
3	Trichomonus, cryptosporidium	a1,a2,b1,b2,c1,c2	1	2
4	Eimeria(coccidian) spp.	a1,a2,b1,b2,c1,c2	1	2
5	Entamoeba, Giardia spp.	a1,a2,b1,b2,c1,c2	1	2
6	Genus Histomonas, sarccocyst	a1,a2,b1,b2,c1,c2	1	2
7	Leishmania spp. , Plasmodium	a1,a2,b1,b2,c1,c2	1	2
8	Babesia, Theileria. Spp.	a1,a2,b1,b2,c1,c2	1	2

Prepared by

Dr. Hamid Alrefaiey

Vice Dean For Quality
Affairs

\_ ....

Dean of the Faculty

Ass. Prof. Dr. Abdu Alraoof Al-Shawkany Dean of Development

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9	Introduction Of Arthropoda, Family Tabanidae: Morphology	a1,a2,b1,b2,c1,c2	1	2
10	CLASS INSECTA: LICE Anoplura (Sucking lice) and Mallophaga (Biting lice) Fleas: Important species of fleas	a1,a2,b1,b2,c1,c2	1	2
11	Family sarcoptidae: sarcoptes:  Burrowing Mites, Non Burrowing Mites,  Order Coleoptera: True Beetles, Blister  Beetles Dung Beetles	a1,a2,b1,b2,c1,c2	1	2
12	Order Hemiptera: Bed Bugs Kissing Bugs Order Diptera: ARACHNIDS: VENOMOUS SPIDERS BLACK WIDOW - Latrodectus mactans FIDDLE-BACKED - Loxosceles reclusa Mosquitoes Other Blood Feeding flies MYIASIS PRODUCING DIPTERA Larvae	a1,a2,b1,b2,c1,c2	1	2
13	Family: Ixodidae: Ticks: Common Hard Ticks ,Common Soft Ticks.	a1,a2,b1,b2,c1,c2	1	2

Prepared by

Dr. Hamid Alrefaiey

Vice Dean For Quality Affairs

Ass. Prof. Dr. Abdu Alraoof Al-Shawkany

Dean of the Faculty

Dean of Development

Center & Quality

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Ass. Prof. Dr. Huda Al-

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14	4	Dermacentor, Oestrus, Order Orthoptera Cockroaches Grasshoppers	a1,a2,b1,b2,c1,c2	1	2
	Number of Weeks /and Units Per Semester				28

### V. Teaching strategies of the course:

- Lectures depending on the sharing efforts of the students and supported with macromedia and multimedia aids.
- Training in the laboratory
- Self-learning (Electronic learning, Seminars, scientific search on related websites, international, national and local journals, related books in faculty library).
- Summer training course.
- Assays and reviews.
- Discussion groups.
- Group work
- Problem Solving
- Assignments
- Brainstorming
- Log book
- Field visits

#### **3-Assessment Methods:**

- Written examination: For assessment of knowledge, back calling and Intellectual skills.
- Practical examination: For assessment of practical and professional skill.
- Oral examination: For assessment of knowledge and Intellectual skills.

Student activities: For assessment of knowledge and general and transferable skills.

Prepared by Vice Dean For Quality Dean of the Faculty Dean of Development

Dr. Hamid Alrefaiey Affairs Ass. Prof. Dr. Abdu Alraoof Al
Center & Quality

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Ass. Prof. Dr. Huda Al-

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V	VI. Schedule of Assessment Tasks for Students During the Semester:						
No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course  Learning  Outcomes (CILOs  symbols)		
1	Participation, quizzes and assignments	2-14	10	10%	a1,a2,b1,b2,c1,c2		
2	Mid-Term Exam	8	10	10%	a1,a2,b1,b2,c1,c2		
3	Mid-Term Practical Exam	8	10	10%	a1,a2,b1,b2,c1,c2		
4	Final Practical Exam	13	10	10%	a1,a2,b1,b2,c1,c2		
5	Oral Exam	13	5	5%	a1,a2,b1,b2,c1,c2		
6	Final Exam	16	55	55%	a1,a2,b1,b2,c1,c2		
	Total		100	100%			

VII. Students' Support:	
Office Hours/week	Other Procedures (if any)
From Saturday to Wednesday at 8:00 a.m. till 2 p.m.	Student can contact with me via e-mail

# VIII. Learning Resource (MLA style or APA style)S:

Dr. Hamid Alrefaiey

Prepared by

Vice Dean For Quality Affairs

Ass. Prof. Dr. Abdu Alraoof Al-Shawkany

Dean of the Faculty

Dean of Development

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Ass. Prof. Dr. Huda Al-

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#### 1- Required Textbook(s) ( maximum two )

- Foundation of parasitology .2006 by Larry S. Roberts (author), John Janovy (author).
- Hendrix CH.M. (1998): diagnostic veterinary parasitology (1998) by mosby Inc.

#### 2- Recommended Readings and Reference Materials

- 1- Veterinary Helminthology by Angus M.Dunn
- 2-Parasitology of Veterinarians by Jay George
- 3- Heminthes, Arthropods and Porotozoa Domesticated Animals by J.L. Soulsby.
- 4- Diagnostic Veterinary Parasitology by Charles M. Hendrix
- 5-Notes Book for students Veterinary Parasitology.

#### 3- Essential References

- -Abyladze, k. E. et al. (1990): parasitology and infections disease, agriculturals animals. Mir publisher Moscow, ussR in Russian.
- Geffrey, H. C. et al. (1991): Atlas of medical helminthology and protozology. Churchill livingstone, New
- Georgi, J. R.; Georgi, N. E. (1990): parasitology for veterinarians, . 5 Ed., Philadelphia, London.
- Kassai, T. (1999): Vet. Helminthology butterwoth Heinemann.
- Mehlhorn, H.; Duwel, D.; und raether, W. (1993): Diagnose und Therapie der Parasiten von Haus-Nutz-Heimtieren . gustav fischer verlag Stuttgart .
- Maff Adas (1986): Manual of veterinary parasitological laboratory techniques . 3. Ed reference 418 HM London.
- Soulsby, E. J. L. (1986): Helminths, arthropods and protozoa of domesticated animals 7. Ed. Bailliere tir London.

4- Electronic Materials and Web Sites etc.

Prepared by Vice Dean For Quality Dean of the Faculty Dean of Development

Dr. Hamid Alrefaiey Affairs Ass. Prof. Dr. Abdu Alraoof Al
Center & Quality

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Ass. Prof. Dr. Huda Al-

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	<u>Scientific Journals</u>
	The journal of veterinary medical science.
	☑ Korean journal of parasitology.
	Scientific websites
	1 http://www.cdc.org
	1 http://www.pubmed.org/
	1 http://www.sciencedirect.com/
5-	Other Learning Material:

Х.	Course Policies:
1	Class Attendance:
	MANDATORY TO ATTEND ALL COURSE LECTURES
2	Tardy:
	Not allowed at all. Students must be in class 10 minutes prior to the beginning of lectures.
3	Exam Attendance/Punctuality:
	Attendance is mandatory; absence is accepted with valid excuse.

Prepared by	Vice Dean For Quality	Dean of the Faculty	Dean of Development	
Dr. Hamid Alrefaiey	Affairs	Ass. Prof. Dr. Abdu Alraoof Al-	Center & Quality	
		Shawkany	Assurance	

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4	Assignments & Projects:
	All assignments and projects are to be submitted on their due date. Any assignment turned in after the due date will not be accepted without valid and reasonable excuse.
5	Cheating:
	Not tolerated and may lead to EXPELLING the student from the program
6	Plagiarism:
	Not tolerated AT ALL and may lead to EXPELLING the student from the program
7	Other policies:
	1.All devices must be on silent or at least on vibration during lectures/labs.
	2.Before any exam (written, practical, oral) student's identity will be checked (student's card, ID, passport). Without any of these documents, the student will not be allowed in the exam room.
	3.Any of type/ form of cheating is not allowed no matter what.
	4. Maintain silence during lectures and disturbance is not allowed

# **Course Plan of Veterinary parasitology (2)**

X Information about Faculty Member Responsible for the Course:						
Name of Faculty Member	Hamid A. N. Alrefaiey	Office Hours				

Prepared by

Vice Dean For Quality

Dean of the Faculty

Dean of Development

Affairs

Ass. Prof. Dr. Abdu Alraoof Al
Shawkany

Assurance

Ass. Prof. Dr. Huda Al-

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Location & Telephone No.	Sana'a mobile 775336921	SAT	SUN	MON	TUE	WED	THU
E mail	Hamid77Ali@gmail.com	8am	8am	8am	8am	8am	-
E-mail	nagihamidali@gmail.com	2pm	2pm	2pm	2pm	2pm	

KI. Coι	(I. Course Identification and General Information:						
1	Course Title:	Veterinary parasitology (2)					
2	Course Number & Code:			MI 355			
			C.1	Н		Total	
3	Credit hours:	Th.	Seminar	Pr.	F. Tr.	1014	
		2	-	1		3	
4	Study level/year at which this course is offered:	Third year: second semester					
5	Pre –requisite (if any):	MI 354					
6	Co –requisite (if any):	None					
7	Program (s) in which the course is offered	Bachelor's degree (B. Sc.) Veterinary Medicine			ledicine		
8	Language of teaching the course:	English					
9	System of Study:	Regular / Semester					
10	Mode of delivery:		Lecture	es and Pra	ctical		

Prepared by

Dr. Hamid Alrefaiey

Vice Dean For Quality
Affairs

\_ ....

Dean of the Faculty

Ass. Prof. Dr. Abdu Alraoof Al-Shawkany Dean of Development

Center & Quality

Assurance

Ass. Prof. Dr. Huda Al-

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11 Location of teaching the course: Faculty of veterinary medicine

### II. Course Description:

This course consists of theoretical and practical section is intended to familiarize the students with the essential facts and concepts of veterinary parasitology enabling them to control and prevent economical losses, parasitozoonoses. The lectures will discuss principal endo- and ectoparasites of domestic animals, which are of national or international importance to veterinary medical practice. Emphasis is placed on basic knowledge of parasite biology, epidemiology, pathogenesis, diagnosis, chemotherapy and control of parasitic infections. The purpose of the practical course is to highlight and expand on important parasites presented in lectures, especially identification and diagnostics. At the practical which follow the lectures the students become familiar with the methods of diagnosis including the interpretation of results.

#### I. Intended learning outcomes (ILOs) of the course:

After completing this course, students will be able to:

- a1- Describe the general characteristics morphology of Parasites and define the life cycles of some important Parasites.
- a2- Explain the different environmental aspects encourage the viability of parasites.
- b1- Interpret the environmental changes and incidence of parasitic infection.
- b2- Clarify control measures in response to emerging and unexpected problems.
- c1- Determine the infection with different parasitic species.
- c2- Apply the complete identification of parasitic samples.
- d1- Search the web for a given course topic to build up a review.
- d2- Demonstrate appropriate professional attitudes and behaviors in different practice situations.

Prepared by Vice Dean For Quality Dean of the Faculty Dean of Development

Dr. Hamid Alrefaiey Affairs Ass. Prof. Dr. Abdu Alraoof Al
Shawkany Assurance

Ass. Prof. Dr. Huda Al-

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## **II. Course Content:**

## A – Theoretical Aspect:

Order	Topics List	Week Due	Contact Hours
1	Protozoology; introduction, classification	1	2
2	Family: Trypanosomatidae ,Family: Cryptosporidiidae	2	2
3	Family Trichomonadidae	3	2
4	Phylum Apicomplexa : Family: Eimeriidae	4	2
5	Family: Sarcocystidae ,Family: Plasmodidiae	5	2
6	Order Piroplasms: Family: Babesiidae, Family: Theileriidae	6	2
7	Subphylum : Sarcodina : Family: Entamoebidae Subphylum : Ciliophora ,Subphylum : Myxospora Subphylum: Microspora	7	2
8	Mid Exam	8	2

Prepared by

Dr. Hamid Alrefaiey

Vice Dean For Quality Affairs

Ass. Prof. Dr. Abdu Alraoof Al-Shawkany

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9	Veterinary Entomology: Introduction, classification	9	2
10	Veterinary Entomology: Order: Diptera	10	2
11	Veterinary Entomology: Order: Diptera	11	2
12	Veterinary Entomology: Order: Diptera	12	2
13	Veterinary Entomology: Class Insecta: Order: Phthiraptera, Order: Siphonaptera Order: Hemiptera, Order: Coleoptera Order: Hymenoptera, Order Orthoptera	13	2
14	Veterinary Entomology: Class: Crustacea, Class: Arachnida	14	2
15	Veterinary Entomology: Family: Argasidae, Family: Sarcoptidae Family: Psoroptidae, Family: Demodicidae Family: Dermanyssidae	15	2
16	Final exam	16	2
	Number of Weeks /and Units Per Semester	16	32

Prepared by

Dr. Hamid Alrefaiey

Vice Dean For Quality Affairs

\_ ....

Dean of the Faculty

Ass. Prof. Dr. Abdu Alraoof Al-Shawkany Dean of Development

Center & Quality

Assurance

Ass. Prof. Dr. Huda Al-

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	b- Training Aspect:		
Order	Training Tasks	Week Due	Contact hours
	Protozoology: Morphology		2
1	Diagnostic stages of parasites	1	
	Examination of blood for detection trypanosoma		
2	Trypanosoma spp	2	2
3	Trichomonus, cryptosporidium	3	2
4	Eimeria(coccidian) spp.	4	2
5	Entamoeba, Giardia spp.	5	2
6	Genus Histomonas, sarccocyst	6	2
7	Leishmania spp. , Plasmodium	7	2
8	Mid exam	8	2
9	Babesia, Theileria. Spp.	9	2
10	Introduction Of Arthropoda, Family Tabanidae: Morphology	10	2
			2
11	Class Insecta: Lice	11	
	Anoplura (Sucking lice) and Mallophaga (Biting lice)	**	
	Fleas: Important species of fleas		

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	Family sarcoptidae: sarcoptes:		2
12	Burrowing Mites, Non Burrowing Mites,	12	
	Order Coleoptera: True Beetles, Blister Beetles Dung Beetles		
	Order Hemiptera: Bed Bugs Kissing Bugs		2
	Order Diptera:		
12	ARACHNIDS:	12	
13	VENOMOUS SPIDERS BLACK WIDOW - Latrodectus mactans FIDDLE-BACKED	13	
	- Loxosceles reclusa		
	Mosquitoes Other Blood Feeding flies MYIASIS PRODUCING DIPTERA Larvae		
14	Family: Ixodidae: Ticks: Common Hard Ticks ,Common Soft Ticks.	14	2
11		11	
15	Dermacentor, Oestrus, Order Orthoptera	15	2
13	Cockroaches Grasshoppers	13	
16	Final exam	16	2
	Number of Weeks /and Units Per Semester	16	32

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## III. Teaching strategies of the course:

- Lectures depending on the sharing efforts of the students and supported with macromedia and multimedia aids.
- Training in the laboratory
- Self-learning (Electronic learning, Seminars, scientific search on related websites, international, national and local journals, related books in faculty library).
- Summer training course.
- Assays and reviews.
- Discussion groups.
- Group work
- Problem Solving
- Assignments
- Brainstorming
- Log book
- Field visits.

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I١	V	Δςς	ess	m	eni	ŀΜ	leti	nn	ds:

- -Written exam
- -Practical exam
- -Oral exam
- -Quizzes
- Report assignments
- Discussion.

No.	Type of	W. J.B.	D.Co.ule	Proportion of
	Assessment Tasks	Week Due	Mark	Final Assessment

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\_ ....

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1	Participation, quizzes and assignments	2-14	10	10%
2	Mid-Term Exam	8	10	10%
3	Mid-Term Practical Exam	8	10	10%
4	Final Practical Exam	13	10	10%
5	Oral Exam	13	5	5%
6	Final Exam	16	55	55%
	Total	100	100%	

## V. Learning Resources:

1

### 1- Required Textbook(s) ( maximum two ).

- Foundation of parasitology .2006 by Larry S. Roberts (author), John Janovy (author).
- Hendrix CH.M. (1998): diagnostic veterinary parasitology (1998) by mosby Inc.

#### 2- Essential References.

- -Abyladze, k. E. et al. (1990): parasitology and infections disease, agriculturals animals. Mir publisher Mos ussR in Russian.
- Geffrey, H. C. et al. (1991): Atlas of medical helminthology and protozology. Churchill livingstone, New Y
- Georgi, J. R.; Georgi, N. E. (1990): parasitology for veterinarians, . 5 Ed., Philadelphia, London .
- Kassai, T. (1999): Vet. Helminthology butterwoth Heinemann.

Prepared by Vice Dean For Quality Dean of the Faculty Dean of Development

Dr. Hamid Alrefaiey Affairs Ass. Prof. Dr. Abdu Alraoof AlCenter & Quality

Shawkany Assurance

Ass. Prof. Dr. Huda Al-

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- Mehlhorn, H.; Duwel, D.; und raether, W. (1993): Diagnose und Therapie der Parasiten von Haus-Nutz-und Heimtieren . gustav fischer verlag Stuttgart .
- Maff Adas (1986): Manual of veterinary parasitological laboratory techniques . 3. Ed reference 418 HMS London.
- Soulsby, E. J. L. (1986): Helminths, arthropods and protozoa of domesticated animals 7. Ed. Bailliere tind London.

#### 3- Electronic Materials and Web Sites etc.

**Scientific Journals** 

The journal of parasitology

The journal of veterinary medical science.

The journal of Veterinary parasitol.

Korean journal of parasitology.

Scientific websites

1 http://www.cdc.org

1 http://www.pubmed.org/

1 http://www.sciencedirect.com/

VI. Co	VI. Course Policies:				
1	Class Attendance:				

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	MANDATORY TO ATTEND ALL COURSE LECTURES
2	Tardy:  Not allowed at all. Students must be in class 10 minutes prior to the beginning of lectures.
3	Exam Attendance/Punctuality:  Attendance is mandatory; absence is accepted with valid excuse.
4	Assignments & Projects:  All assignments and projects are to be submitted on their due date. Any assignment turned in after the due date will not be accepted without valid and reasonable excuse.
5	Cheating:  Not tolerated and may lead to EXPELLING the student from the program
6	Plagiarism:  Not tolerated AT ALL and may lead to EXPELLING the student from the program
7	1. All devices must be on silent or at least on vibration during lectures/labs. 2. Before any exam (written, practical, oral) student's identity will be checked (student's card, ID, passport). Without any of these documents, the student will not be allowed in the exam room.  3. Any of type/ form of cheating is not allowed no matter what. 4. Maintain silence during lectures and disturbance is not allowed.

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- ....

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Dr. Abdu Alraoof Al-

Vice Dean For Quality
Affairs

Dean of the Faculty

Ass. Prof. Dr. Abdu Alraoof Al-

Dean of Development

Center & Quality

Assurance

Rector of Sana'a University

Prof. Dr. Al-Qassim Mohammed Abbas