



Parasitology Course Specification

Basic Information		
Course Code	3APAR, 3BPAR	
Course Title	Parasitology	
Academic Year	Third	
Academic Program	Bachelor of Veterinary Sciences	
Hours/week	Lectures: 3	Practical: 3
Term	First & Second	

1. Course Aim

By the end of this course, students should have gained the basic concepts, principles and the essential practical skills in the field of Parasitology.

2. Intended Learning Outcomes

2.1. Knowledge and Understanding

On successful completion of this course, the student should be able to

- 2.1.1. Define the basic terms in the fields of General and Special Parasitology .
- 2.1.2. Identify different Phyla, Classes, Orders, Families and Species of Parasites
- 2.1.3. Describe The general characteristics morphology of Parasites.
- 2.1.4. Discuss the basic principles of development of different Phyla
- 2.1.5. define the life cycles of some important Parasites
- 2.1.6. Explain the different environmental aspects encourage the viability of parasites
- 2.1.7. Express in brief the inter- relation between host and Parasites.
- 2.1.8. Clarify basic control measures

2.2. Intellectual Skills

By the end of this course, the student should be able to

- 2.2.1. Evaluate the proper approach for Parasites and their life history
- 2.2.2. Investigate reasons and sources of infection,
- 2.2.3. interpret the environmental changes and incidence of Parasitic infection
- 2.2.4. manipulate the efficacy of control measures,
- 2.2.5. Clarify control measures in response to emerging and unexpected problems,
- 2.2.6. Design control systems to animal owners relevant to the socio–economics and resource availability.

2.3. Practical and Professional Skill

By the end of this course, the student should be able to

- 2.3.1. Carry out collection of samples from infected cases.
- 2.3.2. Practice of preparation of samples of parasites.
- 2.3.3. Evaluate examination of samples for parasitic infection by different methods.



- ٢,٣,٤. Identify the recovered samples.
 ٢,٣,٥. Measure the ability for making slide permanent mount and staining of different parasites.
 ٢,٣,٦. Apply the complete identification of the parasitic samples.
 2.3.7. determine the infection with different parasitic species.
 ٢,٣,٧. Practice description of parasites.
 2.3.9. Writing of a report for parasitic infection.

2.4. General and Transferable Skills

- By the end of this course, the student should be able to
 ٢,٤,١. Skills in editing and presentations.
 ٢,٤,٢. Communication skills.
 ٢,٤,٣. Adjusted him for continuous learning.
 ٢,٤,٤. write reports efficiently.
 2.4. ٥. Search the web for a given course topic to build up a review

٢. Course Contents

First Semester

Topic	Total (hr)	Lectures (hr)	Practical (hr)
HELMINTHOLOGY			
▪ Introduction to parasites and parasitism.	6	3	3
▪ Phylum:Platyhelmenthes			
▪ *Classification			
▪ *Class: Trematoda	6	3	3
▪ *Order: Digenea			
▪ *Classification and Morphology			
▪ *Development of Trematoda.			
▪ Family: Fasciolidae			
▪ Genus : Fasciola			
▪ *Family: Dicrocoeliidae	6	3	3
▪ Genus: Dicrocoelium			
▪ *Family:Heterophyiidae			
▪ Genus: Heterophyes			
▪ Family: Echinostomatidae			
▪ Genus: Echinochasmus			
▪ Genus: Echinostomum	6	3	3
▪ *Family: Schistosomatidae			
▪ Genus: Schistosoma			
▪ Family: Paramphistomatidae			
▪ Genus: Paramphistomum	6	3	3



- Genus: Cotylophron
- Genus: Carmyerius
- Genus: Gastrodiscus
- *Common Digenetic trematodes among Egyptian freshwater fish:
- *Family: Sangiunicolidae
- Genus: Sanguinocola

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- Class: Cestoidea
 - *Classification and Morphology
 - *Development of Cestodes
 - *Subclass: Colyloda
 - *Family: Diphyllbothridae
 - Genus: Diphyllbothrium
 - Genus: Spirometra
 - Genus: Polyonchobothrium
 - *Family: Bothriocephalidae
 - Genus: Bothriocephalus

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- *Subclass Eucestoda
 - *Family: Taeniidae
 - Genus: Taenia
 - Genus: Echinococcus
 - *Family: Dilepididae
 - Genus: Dipylidium
 - *Family: Hymenolepididae
 - Genus: Hymenolepis

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- Family: Anoplocephalidae
 - Genus: Anoplocephala
 - Genus: Paranoplocephala
 - Genus: Moneizia
 - *Family: Thysanosomidae
 - Genus: Avitellina
 - Genus: Stilesia

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- Family: Davainiidae
 - Genus: Davainea
 - Genus: Railliatina
 - Genus: Cotugnia
 - *Family: Proteocephalidae
 - Genus: Proteocephalus
 - *Family: Caryophyllidae
 - Genus: Caryophylleus



▪ Genus: Wynionia			
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▪ Phylum: Nematelminthes			
▪ *Class: Nematoda			
▪ -Morphology and development of Nematodes			
▪ *Subclass: Phasimida			
▪ *order : Ascaridida			
▪ *Superfamily: Ascarididea	6	3	3
▪ *Family: Ascaridae			
▪ Genus: Ascaris			
▪ Genus: Parascaris			
▪ Genus: Toxascaris			

▪ *Family: Anisakidae			
▪ Genus: Toxocara			
▪ Genus: Anisakis			
▪ *Family: Ascarididae			
▪ Genus: Ascaridia			
▪ *Superfamily: Heterakoidea			
▪ *Family: Heterakoidae	6	3	3
▪ Genus: Heterakis			
▪ *Superfamily: Oxyuroidea			
▪ *Family: Oxyuridae			
▪ Genus: Oxyuris			
▪ Genus: Entrobium			
▪ Genus: Passalurus			
▪ Genus : Sublura			

▪ *Order: Rhabditia			
▪ *Superfamily: Rhabditoidea			
▪ *Family: Rhabditidae			
▪ *Family: Strongyloididae			
▪ Genus : strongyloides			
▪			
▪ *Order: Strongylida			
▪ *Superfamily: Ancylostomatidea	6	3	3
▪ *Family: Ancylostomatidae			
▪ Genus: Ancylostoma			
▪ Genus: Bunostomum			
▪ Genus : Necator			
▪ *Superfamily: Trichostrongylidae			
▪ *Family: Trichostrongylidae			
▪ Genus: Trichostrongylus			



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- Genus: Haemonchus
 - Genus: Ostertagia
 - Genus: Nematodirus
 - *Family :Dictycaulidae
 - Genus: Dictycaulus
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- *Superfamily: Strongyloidea
 - *Family: Strongylidae
 - Genus: Strongylus
 - *Family: Trichonematidae
 - Genus: Triodontophorus
 - Genus: Trichonema
 - Genus: Oesophagostomum
 - *Family: Chabertidae
 - Genus: Chabertia 6 3 3
 - *Family: Syngamidae
 - Genus: Syngamus
 - *Family:Amidostomatidae
 - Genus: Amidostoma
 - *Superfamily: Metastrongyloidea
 - *Family: Metastrongylidae
 - Genus: Metastrongylus
 - Genus: Meullreius
 - Genus: Protostrongylus
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- Order:Spirurida
 - *Superfamily: spirurtoidea
 - *Family: Spiruridae
 - Genus: Habronema
 - Genus: Spirocerca
 - *Family: Camallanidae
 - Genus: Paracamellanus
 - Genus: Camallanus
 - *Family: Cucllanidae 6 3 3
 - Genus: Cucullanus
 - *Family: Acuaridae
 - *Family: Tetrameridae
 - *Superfamily: Filaroidea
 - *Family: Filaridae
 - *Family: Setaridae
 - *Family: Onchocercidae
 - *Superfamily: Dracanculoidea
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- *Family: Dracunculidae
- *Subclass: Aphasmdia
- order: Enoplida
- *Superfamily: Trichuriodea
- *Family: Trichinillidae
- *Family: Trichuridae

▪ Fish parasites:			
▪ *Phylum: Annelida			
▪ *Class: Hirudinea (leeches)			
▪ *Family: Psicolidae			
▪ Genus: Psicolida			
▪ Genus: Hemichepsis			
▪ Genus: Cystobrunchialis			
▪ *Phylum: Acanthocephala			
▪ Genus: Acanthosentis			
▪ Genus: Acanthocephalans			
▪ *Family: Acanthostomidae			
▪ Genus: Acanthostomum	6	3	3
▪ *Family: Allocreadida			
▪ Genus: Orientocreadium			
▪ *Family: Paramphistomatidae			
▪ Genus: Sandonia sudanesis			
▪ Genus: Deropristis mllaid			
▪ *Order: Monogenea			
▪ *Family: Dactylogyridae			
▪ Genus: Dactylogyrus			
▪ *Family: Gyrodactylidae			
▪ Genus: Gyrodactylus			
▪ *Encysted metacercariae infecte fish (Black spot disease, yellow grup disease).			
▪ Total Teaching Hours	90	45	45

Second Semester

Topic	Total (hr)	Lectures (hr)	Practical (hr)
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PROTOZOLOGY

▪ Parasitic Protozoa			
▪ *Introduction: structure and mechanism of performance of its vital functions.	6	3	3
▪ *Classification			



▪ Subphylum : Apicomplexa			
▪ *Family: Eimeriidae	6	3	3
▪ *Family: Cryptosporidiidae			
▪ Family: Sarcocystidae	6	3	3
▪ Family: Plasmodiidae			
▪ *Family: Babesiidae	6	3	3
▪ *Family: Theileriidae			
▪ Rickettsia infecting farm animals			
▪ *Subphylum: Sarcomastigophora	6	3	3
▪ *Family: Trypanosomatidae			
▪ *Family: Bodonidae			
▪ Family: Hexamitidae			
▪ *Family: Trichomonadidae	6	3	3
▪ *Family: Monocercomonadidae			
▪ Subphylum : Sarcodina			
▪ *Family: Entamoebidae			
▪ *Subphylum : Ciliophora	6	3	3
▪ *Subphylum : Myxospora			
▪ *Subphylum: Microspora			

(Veterinary Entomology)

▪ *Introduction			
▪ *Effect of arthropods on the health of animal and man.			
▪ *Phylum: Arthropoda	6	3	3
▪ *Morphology, development and life history			
▪ *Classification of arthropods of veterinary and medical importance.			
▪ Order: Diptera			
▪ *Family: Culicidae	6	3	3
▪ Family: Psychodidae			
▪ *Family: Ceratopogonidae	6	3	3
▪ *Family: Simuliidae			
▪ *Family: Tabanidae			
▪ Family: Muscidae			
▪ *Family: Sarcophagid	6	3	3
▪ Family: Callophoridae			
▪ *Family: Oestridae	6	3	3



▪ *Family: Hippoboscidae			
▪ Order : Phthiraptera (lice)	6	3	3
▪ Order : Siphonaptera (fleae)			
▪ Order : Hemiptera (Bug)			
▪ Order : Coleoptera (Beetles)			
▪ Order : Hymenoptera (Ants)	6	3	3
▪ Order : Orthoptera (cockroaches)			
▪ Class : Crustacea			
▪ Class: Arachnida			
▪ *Family: Ixodidae (Hard Ticks)			
▪ *Family: Argasidae (Soft Ticks)			
▪ *Family: Sarcoptidae (Mites)	6	3	3
▪ *Family: Psoroptidae (Mites)			
▪ *Family: Demodicidae (Mites)			
▪ *Family: Dermanyssidae			
▪ Class: Pentastomida			
Total	90	45	45
▪ Student activities			
○ Field trips to commercial and governmental farms (group activity)			
○ Mini reviews from the web and the library (individual activity)	—	—	—
○ Presentations and seminars (individual activity)			
○ Illustrative posters (group activity)			
Total (Υ semesters)	180	90	90

* Contents sharing in the achievement of the intended learning outcomes; KU (knowledge and understanding), IS (intellectual skills), PPS (practical and professional skills) and GT (general and transferable skills).



Σ. Teaching and Learning Methods

4.1. Lectures to gain knowledge and understanding skills.

ξ,ϒ Practical sessions for the students to gain practical skills.

ξ,ϓ field trips to the animal production farms, for observation of the infected animals.

ξ,ξ self directed learning skills.

4.ξ,ϑ. Analyze the results and reach specific conclusion.

4.4.2. Writing a review paper to gain the skills of self-learning and presentation

4.4.3. Sample collection, preservation, examination and identification.

Ο. Teaching and Learning Methods for Students of Limited Capabilities

- Activating office hours.
- Additional revisions for previously taught and difficult topics.
- Providing a summary for previous chapter at the end of each one.
- Following up student feedbacks.

ϒ,ϑ. Methods	ϒ. Student Assessment			
	Intended Learning Outcomes Covered			
	KU	IS	PPS	GTS
Written exams	2.1.1/2.1.2/2.1.3/ 2.1.4/2.1.5/2.1.6/ 2.1.7/2.1.8/2.1.9/	2.2.3/2.2.5/		
Practical exams			2.3.1/2.3.2/2.3.3/ 2.3.4/2.3.5/2.3.6/	
Oral exams		2.2.1/2.2.2/2.2.4/ 2.2.6/		2.4.1/2.4.4/
Student activities				2.4.1/2.4.2/2.4.3/ 2.4.4/

KU, knowledge and understanding; IS, intellectual skills; PPS, practical and professional skills; GTS, general and transferable skills.

ϒ,ϒ. Exam Descriptio

- Written exams
- Short essays.
 - Drawings.



	<ul style="list-style-type: none"> • Multiple choice questions. • True or false. • Comparisons. • Giving the scientific term/information.
Practical exams	<ul style="list-style-type: none"> • Slideshow exams. • Record designs and evaluation. • Practical case studies. • Exams on animals of the faculty farm.
Oral exams	<ul style="list-style-type: none"> • The exam committee involves at least 3 examiners. Each evaluates the student by giving a separate score. The scores are then averaged. • Examiners are provided with the course specification. • The student randomly selects question cards.
Student activities	<ul style="list-style-type: none"> • Self-learning activities are evaluated throughout the semester. For details, refer to the section: “Σ Teaching and Learning Methods”.

Exams and activities	Assessment Schedule	Weighing of Assessments	
	Week (in each semester)	Per semester	Total (%)
Semester work exam	4 th , 8 th and 12 th	8	16
Student activities	Throughout the semester	2	4
Final written exam	16 th	25	50
Final Practical exam	16 th	10	20
Final oral exam	16 th	5	10
Total		50	100

V. List of References

V, 1. Course Notes

Departmental notes

V, 2. Essential Book

*Soulsby. 1996

*Foundation of parasitology

*Fundamental of parasitology

Wall, R. and Shearer, D. (1996): Veterinary entomology. Published by Chapman & Hall, 2-6 Boundary Row, London SE1 1HN, UK.

Hendrix CH.M. And Robinson E. (2006): Diagnostic parasitology for veterinary technicians. Mosby Inc. an affiliate of Elsevier Inc.

▪ Hendrix CH.M. (1998): diagnostic veterinary parasitology 1998 by Mosby Inc.



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- Lapage, G. (1907): Veterinary parasitology. 1st publ., Edinburch: Tweeddale court, London.
 - Monnig, H.O. (1900): Veterinary helminthology and entomology. Reprinted 3rd ed. Bailliere, Tindall and Cox, London.
 - Garcia L.S. (1999) practical guide to diagnostic parasitology American society microbiology
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V,Υ. Recommended Books

- Keys to the trematoda.
 - Keys to the cestoda.
 - Keys to the nematode.
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V,Σ. Periodicals, websites, etc.

Scientific Journals

- The journal of parasitology
- The journal of veterinary medical science.
- The journal of Veterinary parasitol.
- Korean journal of parasitology.

Scientific websites

- <http://www.cdc.org>
 - <http://www.pubmed.org/>
 - <http://www.sciencedirect.com/>
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Course coordinator:

Dr. Eman Kamal Bazh

Head of Department:

Prof. Dr. Abdelrahman Aborwash