



University of Sadat City  
Faculty of Veterinary Medicine  
Dept. of Aquatic Animal Medicine and Hygiene  
(2014-2015)



# Aquatic Animal Parasitic Diseases

(812P)

## PhD COURSE SPECIFICATION

### A. BASIC INFORMATION

<b>University:</b>	<b>University of Sadat City</b>
<b>Faculty:</b>	<b>Veterinary Medicine</b>
<b>Program on which the course is given:</b>	<b>PhD in Veterinary Medical Sciences (Aquatic Animal Medicine and Hygiene)</b>
<b>Department offering the Course:</b>	<b>Aquatic Animal Medicine and Hygiene</b>
<b>Course code:</b>	<b>812P</b>
<b>Course title:</b>	<b>Aquatic Animal Parasitic Diseases</b>
<b>Lecture (hr/week):</b>	<b>3</b>
<b>Practical (hr/week):</b>	<b>3</b>
<b>Course coordinator:</b>	<b>Dr. Mouhammed Khallaf</b>

## **B. PROFESSIONAL INFORMATION**

### **1) Overall aims of course**

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

- J Diagnose different parasitic diseases of fish and other aquatic animals.
- J Treat and control aquatic parasitic diseases.

### **2) Intended learning outcomes of course (ILOs)**

#### **a) KNOWLEDGE AND UNDERSTANDING**

*By the end of this course, the graduate should be able to:*

- a.1. Define the basic terminology in parasitic aquatic diseases.
- a.2. Recognize the etiology and pathogenesis of aquatic parasitic diseases.
- a.3. Describe the major clinical signs of aquatic parasitic diseases.
- a.4. Outline the methods of diagnosis and treatment of aquatic parasitic diseases
- a.5. Discuss the prevention and control measures of parasitic diseases of fish and other aquatic animals.

#### **b) INTELLECTUAL SKILLS**

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

- b.1. Correlate the results of laboratory tests with clinical signs and PM lesions to reach correct diagnosis.
- b.2. Differentiate aquatic parasitic diseases from other infectious or non-infectious diseases.
- b.3. Select the most suitable and economic way of treatment and prevention of parasitic disease conditions in fish.
- b.4. Order the suitable measures to control and prevent aquatic parasitic diseases.
- b.5. Detect the quality of fish intended for human consumption.

#### **c) PROFESSIONAL AND PRACTICAL SKILLS**

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

- c.1. Determine case history and information about the morbidity and mortality in aquatic animals.
- c.2. Prepare blood and tissue sampling, labeling and preservation of samples.
- c.3. Investigate post mortem examination of dead and diseased fish.
- c.4. Determine the necessary laboratory investigations to aid diagnosis of the parasitic diseases.
- c.5. Classify the aquatic diseases depending upon case history, clinical signs, PM lesions and laboratory findings.
- c.6. Determine drug doses accurately on a pond basis according to fish size, intensity and severity of disease.

#### **d) GENERAL AND TRANSFERABLE SKILL**

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

- d.1. Plan effectively as part of a team.
- d.2. Create different resources for self-learning such as libraries, scientific periodicals, internet and various scientific associations.
- d.3. Join effectively.
- d.4. Organize time perfectly.

### 3) Topics and contents

Topic	No. of hours		
	Lectures	Practical	Total
Zoogeography of aquatic parasites	6	0	6
Diseases caused by protozoa	6	12	18
Diseases caused by monogena	6	6	12
Diseases caused by digenea	6	12	18
Diseases caused by cestodes	6	6	12
Diseases caused by nematodes	6	6	12
Diseases caused by acanthocephala	6	6	12
Parasitic malacology	9	6	15
Diseases caused by arthropoda	6	6	12
Diseases caused by protozoa	6	6	12
Parasitic annelid	6	6	12
Lamprey	6	6	12
Parasitic diseases of edible crustacea	6	6	12
Parasitic diseases of edible mollusca	6	6	12
Parasitic diseases of edible echinodermata	6	3	9
Parasitic diseases of amphibia	6	3	9
Parasitic diseases of aquatic reptiles	6	6	12
Parasitic diseases of aquatic mammals	6	6	12
Diagnosis of parasitic infestations in aquatic animals	9	9	18
Treatment and control of parasitic infestations in aquatic animals	12	15	27
<b>Total</b>	<b>132</b>	<b>132</b>	<b>264</b>

### 4) Teaching and learning methods

- 4.1. Lectures.
- 4.2. Practical.
- 4.3. Self-learning activities.

### 5) Student assessment

#### a. METHODS:

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

3- Oral examination	For assessment of knowledge and Intellectual skills
4- Student activities	For assessment of knowledge and general and transferable skills

**b. MATRIX ALIGNMENT OF THE MEASURED ILOS/ ASSESSMENTS METHODS:**

	<b>K.U (a)</b>	<b>I.S (b)</b>	<b>P.P.S (c)</b>	<b>G.S (d)</b>
Written exam	1,2,3,4,5	1,2,3,4		1,2,3,4
Practical exam		2	1,2,3,4,5,6	4
Oral exam	2,3,5	3,5		3,4
Student activities				1-

**c. WEIGHT OF ASSESSMENTS:**

<b>Assessment</b>	<b>Allocated Mark</b>	<b>Evidence</b>
Final written exam	<b>50%</b>	Marked and signed written paper
Practical exam	<b>20%</b>	Marked and signed practical exam paper
Oral exam	<b>20%</b>	Signed list of oral exam marks
Student assignments	<b>10%</b>	Representative samples of presented materials

## **6) List of references**

### **6.1. Essential books**

- ] Woo P.T.K. (2006): Fish Diseases and Disorders, Volume 1: Protozoan and Metazoan Infections. CABI; Second edition (June 23, 2006).
- ] Untergasser , G., Untergasser , D., Axelrod , H. R. (1992): Handbook of Fish Diseases. TFH Publications.
- ] Noga, E.J. (2010): Fish Disease: Diagnosis and Treatment. Wiley-Blackwell; 2 edition, USA.
- ] Anderson, M.D. ( 2002). Fish disease diagnosis. An International Thomson. Publishing Company, London.
- ] Michael, M.T. (1975): Crustacean diseases and management. Iowa State University Press/ Ames, Iowa.

### **6.3. Periodicals**

- ] Index of fish Health and Production
- ] Journal of fish disease
- ] Indian journal of fish disease
- ] Journal of fish bacteriology

) Journal of virology

#### **6.4. Web sites**

) [animal-world.com/encyclo/fresh/.../Diseases.htm](http://animal-world.com/encyclo/fresh/.../Diseases.htm)

) [www.fishyfarmacy.com](http://www.fishyfarmacy.com)

) [www.fishyfarmacy.com/symptoms.html](http://www.fishyfarmacy.com/symptoms.html)

) [www.aquaticcommunity.com/disease](http://www.aquaticcommunity.com/disease)

) [www.alnwadr.com/animals103](http://www.alnwadr.com/animals103)

) [www.fishlore.com/Disease.htm](http://www.fishlore.com/Disease.htm)

#### **7) Facilities required for teaching and learning**

7.1 Data-show.

7.2 Network for technology transfer.

7.3 Computer.

	<b>Course coordinators</b>	<b>Head of department</b>
<b>Name</b>	<b>Dr. Mouhammed Khallaf</b>	<b>Prof. Dr. Shaaban Gad Allah</b>
<b>Signature</b>		

### Matrix alignment of course topics and ILOs

Topic	No. of hours /week		Total hours	Hours for Lect.	Hours for Pract.	ILOs			
	Lect.	Pract.				K.U (a)	I.S (b)	P.P.S (c)	G.T.S (d)
Zoogeography of aquatic parasites	3	3	6	6	0	1			
Diseases caused by protozoa	3	3	18	6	12	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4
Diseases caused by monogenea	3	3	12	6	6	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4
Diseases caused by digenea	3	3	18	6	12	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4
Diseases caused by cestodes	3	3	12	6	6	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4
Diseases caused by nematodes	3	3	12	6	6	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4
Diseases caused by acanthocephala	3	3	12	6	6	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4
Parasitic malacology	3	3	15	9	6	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4
Diseases caused by arthropoda	3	3	12	6	6	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4
Diseases caused by protozoa	3	3	12	6	6	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4
Parasitic annelida	3	3	12	6	6	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4
Lamprey	3	3	12	6	6	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4
Parasitic diseases of edible crustacea	3	3	12	6	6	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4
Parasitic diseases of edible mollusca	3	3	12	6	6	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4
Parasitic diseases of edible echinodermata	3	3	9	6	3	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4
Parasitic diseases of amphibia	3	3	9	6	3	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4
Parasitic diseases of aquatic reptiles	3	3	12	6	6	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4
Parasitic diseases of aquatic mammals	3	3	12	6	6	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4

Diagnosis of parasitic infestations in aquatic animals	<b>3</b>	<b>3</b>	<b>18</b>	<b>9</b>	<b>9</b>	<b>3,4</b>	<b>1,2</b>	<b>1-5</b>	<b>1-4</b>
Treatment and control of parasitic infestations in aquatic animals	<b>3</b>	<b>3</b>	<b>27</b>	<b>12</b>	<b>15</b>	<b>4,5</b>	<b>4,5</b>	<b>6</b>	<b>1-4</b>
Total			<b>264</b>	<b>132</b>	<b>132</b>				