



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



Aquatic Animal Microbial Diseases

(811P)

PhD COURSE SPECIFICATION

A. BASIC INFORMATION

University:	University of Sadat City
Faculty:	Veterinary Medicine
Program on which the course is given:	PhD in Veterinary Medical Sciences (Aquatic Animal Medicine and Hygiene)
Department offering the Course:	Aquatic Animal Medicine and Hygiene
Course code:	811P
Course title:	Aquatic Animal Microbial Diseases
Lecture (hr/week):	3
Practical (hr/week):	3
Course coordinator:	Dr. Mouhammed Khallaf

B. PROFESSIONAL INFORMATION

1) Overall aims of course

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

-)] Diagnose different bacterial, viral and mycotic diseases of fish and other aquatic animals.
-)] Solve problems of aquatic microbial diseases in a professional manner.

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. Recognize the basic terminology of microbial aquatic diseases.
- a.2. Realize the etiology and advanced pathogenesis of aquatic microbial diseases.
- a.3. Describe the major clinical signs of aquatic microbial diseases.
- a.4. Outline the advanced methods of diagnosis and treatment of aquatic microbial diseases
- a.5. Discuss the prevention and control measures of bacterial, viral and mycotic 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 microbial diseases from non-infectious diseases.
- b.3. Select the most suitable and economic way of treatment of disease conditions in fish.
- b.4. Detect the suitable measures to control and prevent aquatic microbial 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 advanced post mortem examination of dead and diseased fish.
- c.4. Examine the necessary laboratory bacteriological, viral and mycotic investigations to aid diagnosis of the microbial diseases.
- c.5. Classify the aquatic diseases depending upon case history, clinical signs, PM lesions and laboratory findings.
- c.6. Use 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

Introduction and basic terminology	6	0	6
Viral diseases of fish	12	9	21
Bacterial diseases of fish	12	12	24
Mycotic diseases of fish	12	12	24
Diagnosis of microbial diseases of fish	9	12	21
Clinical treatment of microbial diseases of fish	12	9	21
Vaccination and clinical immunology of fish	6	9	15
Microbial diseases of edible crustacea	6	9	15
Microbial diseases of edible mollusca	6	9	15
Microbial diseases of echinodermata	6	6	12
Microbial diseases of amphibia	6	6	12
Microbial diseases of aquatic reptiles	9	6	15
Microbial diseases of aquatic mammals	9	6	15
Diagnosis of microbial infections in aquatic animals	12	9	21
Treatment and control of microbial infections in aquatic animals	9	18	27
Total	132	132	264

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:

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

c. WEIGHT OF ASSESSMENTS:

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

6) List of references

6.1. Essential books

- J **Fish Diseases and Disorders**, Volume 3: **Viral, Bacterial and Fungal Infections**. Patrick T. K. Woo, David W. Bruno., CABI; 2nd edition (2010).
- J **Fish Disease: Diagnosis and Treatment**. Noga, E.J. (2010): Wiley-Blackwell; 2 edition, USA.
- J **Fish Bacteriology**. Witman, R.N. (1982):. 7th Ed., Upper Saddle River, New Jersey, USA.
- J **Fish disease diagnosis**. Anderson,M.D. (2002). An International Thomson. Publishing Company, London.
- J **Bacterial disease diagnosis**. Amlacher,S.R. (1993): 3rd Ed., Lea and Febiger, Philadelphia PA.
- J **Crustacean diseases and management**. Michael, M.T. (1975): Iowa State University Press/ Ames, Iowa.
- J **Fish Health and Diseases**. Tood,J.R. (1977): CAB International Wallingford, Oxon Ox10 8De, UK.
- J **Aquatic Ecosystem and related problems**. Tabered, A.D. (2008). 3rd Ed. FAO international publication.

6.3. Periodicals

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

6.4. Web sites

- J animal-world.com/encyclo/fresh/.../Diseases.htm
- J www.fishyfarmacy.com
- J www.fishyfarmacy.com/symptoms.html
- J www.aquaticcommunity.com/disease
- J www.alnwadr.com/animals103
- J 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.

	Course coordinators	Head of department
Name	Dr. Mouhammed Khallaf	Prof. Dr. Shaaban Gadallah
Signature		

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)	LS (b)	P.P.S (c)	G.T.S (d)
Introduction and basic terminology	3	3	6	6	0	1			
Viral diseases of fish	3	3	21	12	9	1,2,3,4,5	1,2	1,2,3,4,5,6	1,2,3,4
Bacterial diseases of fish	3	3	24	12	12	1,2,3,4,5	1,2	1,2,3,4,5,6	1,2,3,4
Mycotic diseases of fish	3	3	24	12	12	1,2,3,4,5	1,2	1,2,3,4,5,6	1,2,3,4
Diagnosis of microbial diseases of fish	3	3	21	9	12	2,3,4	1	1,2,3,4,5	1,2,3,4
Clinical treatment of microbial diseases of fish	3	3	21	12	9	4,5	3,4	6	1,2,3,4
Vaccination and clinical immunology of fish	3	3	15	6	9	5	3,4	6	1,2,3,4
Parasitic diseases of fish and aquatic animals	3	3	15	6	9	1,2,3,4,5	1,2	1,2,3,4,5,6	1,2,3,4
Developmental diseases of fish and aquatic animals	3	3	15	6	9	1,2,3,4,5	1,2	1,2,3,4,5,6	1,2,3,4
Aquaculture	3	3	12	6	6				1,2,3,4
Microbial and parasitic diseases of edible crustacea	3	3	12	6	6	1,2,3,4,5	1,2	1,2,3,4,5,6	1,2,3,4
Microbial and non- infectious diseases of edible mollusca	3	3	15	9	6	1,2,3,4,5	1,2	1,2,3,4,5,6	1,2,3,4
Microbial and parasitic diseases of echinodermata	3	3	15	9	6	1,2,3,4,5	1,2	1,2,3,4,5,6	1,2,3,4
Microbial and parasitic diseases of amphibia	3	3	21	12	9	1,2,3,4,5	1,2	1,2,3,4,5,6	1,2,3,4
Microbial and parasitic diseases of aquatic reptiles	3	3	27	9	18	1,2,3,4,5	1,2	1,2,3,4,5,6	1,2,3,4
Microbial and parasitic diseases of aquatic mammals	3	3	6	6	0	1,2,3,4,5	1,2	1,2,3,4,5,6	1,2,3,4
Diagnosis of microbial and parasitic infections in aquatic animals	3	3	21	12	9	2,3,4	1	1,2,3,4,5	1,2,3,4
Treatment and control of microbial and parasitic diseases in aquatic animals	3	3	24	12	12	5	4,5	6	1,2,3,4
Total			264	132	132				