



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



Special Studies in Aquatic Animal Sciences (816P)

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:	816P
Course title:	Special Studies in Aquatic Animal Sciences
Lecture (hr/week):	2
Practical (hr/week):	2
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:

- J Diagnose, treat and control special aquatic diseases (developmental, neoplastic, nutritional, toxicological, reproductive, immunological and stress 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 advanced terminology, characters and types of developmental, neoplastic, nutritional, toxicological, reproductive, immunological and stress diseases of fish and other aquatic animals.
- a.2. Recognize the etiology and advanced pathogenesis of aquatic diseases.
- a.3. Describe the major clinical signs of aquatic diseases of concern.
- a.4. Outline the methods of diagnosis and treatment of the special aquatic diseases.
- a.5. Discuss the prevention and control measures of special diseases of fish and other aquatic animals.

b) INTELLECTUAL SKILLS

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

- b.1. Analysis the results of laboratory tests with clinical signs and PM lesions to reach correct diagnosis.
- b.2. Differentiate special aquatic diseases from other microbial and non-infectious diseases.
- b.3. Select the most suitable and economic way of treatment and prevention of special disease conditions in fish.
- b.4. Point out the suitable measures to control and prevent aquatic special 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. Investigate 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. Apply post mortem examination of dead and diseased fish.
- c.4. Operate the modern laboratory investigations to aid diagnosis of special aquatic diseases.
- c.5. Diagnose the special 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. Arrange different resources for self-learning such as libraries, scientific periodicals, internet and various scientific associations.
- d.3. Join effectively.
- d.4. Modify time perfectly.

3) Topics and contents

Topic	No. of hours		
	Lectures	Practical	Total
Neoplasms and Related Disorders	10	6	16
Endocrine and Reproductive Systems, Including Their Interaction with the Immune System	6	10	16
Chemically Induced Alterations to Gonadal Differentiation in Fish	8	8	16
Disorders of Development in Fish	12	8	20
Stress Response and the Role of Cortisol	8	12	20
Disorders of Nutrition and Metabolism	8	8	16
Food Intake Regulation and Disorders	8	6	14
Immunological Disorders Associated with Polychlorinated Biphenyls and Related Halogenated Aromatic Hydrocarbon Compounds	10	12	22
Hydromineral Balance, its Regulation and Imbalances	6	10	16
Disorders Associated with Exposure to Excess Dissolved Gases	12	8	20
Total	88	88	176

4) Teaching and learning methods

- 5) 4.1. Lectures.
- 6) 4.2. Practical.
- 7) 4.3. Self-learning activities

8) 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	1,2,3,4,5		1,2,3,4
Practical exam		2	1,2,3,4,5,6	4,5
Oral exam	2,3,5	1,2,3,4		1,3
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

9) List of references

6.1. Essential books

-) Leatherland , J. F. and Woo, P. T.K (2010): Fish Diseases and Disorders, Volume 2: Non-infectious Disorders, Second Edition.. CAB International, UK.
-) Tacon, A.G.J. (1992): Nutritional fish pathology. Morphological signs of nutrient deficiency and toxicity in farmed fish. FAO publications, Rome.
-) Anderson, M.D. (2002) Fish disease diagnosis. Thomson. Publishing ompany, 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
-) www.fishyfarmacy.com
-) www.fishyfarmacy.com/symptoms.html
-) www.aquaticcommunity.com/disease
-) www.alnwadr.com/animals103
-) www.fishlore.com/Disease.htm

10) 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 Gad Allah
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)	I.S (b)	P.P.S (c)	G.T.S (d)
Neoplasms and Related Disorders	2	2	16	10	6	1-5	1-5	1-6	1-4
Endocrine and Reproductive Systems, Including Their Interaction with the Immune System	2	2	16	6	10	1-5	1-5	1-6	1,2,3,4
Chemically Induced Alterations to Gonadal Differentiation in Fish	2	2	16	8	8	1-5	1-5	1-6	1,2,3,4
Disorders of Development in Fish	2	2	20	12	8	1-5	1-5	1-6	1,2,3,4
Stress Response and the Role of Cortisol	2	2	20	8	12	1-5	1-5	1-6	1,2,3,4
Disorders of Nutrition and Metabolism	2	2	16	8	8	1-5	1-5	1-6	1,2,3,4
Food Intake Regulation and Disorders	2	2	14	8	6	1-5	1-5	1-6	1,2,3,4
Immunological Disorders Associated with Polychlorinated Biphenyls and Related Halogenated Aromatic Hydrocarbon Compounds	2	2	22	10	12	1-5	1-5	1-6	1,2,3,4
Hydromineral Balance, its Regulation and Imbalances	2	2	16	6	10	1-5	1-5	1-6	1,2,3,4
Disorders Associated with Exposure to Excess Dissolved Gases	2	2	20	12	8	1-5	1-5	1-6	1,2,3,4
Total			176	88	88				