

Specification for Aquatic animals Diseases course 2019/2020

A-Affiliation

1.	Relevant program	Bachelor of Veterinary Medical Science (BVMSc)
2.	Department offering the course	Department of Aquatic Animals Diseases and Management

Date of specification approval: ministerial decree No. 1727 on 26/4/2017
(Approved in this template by the department council on 1/10/2019)

B-Basic information

1.	Course title	Aquatic animals Diseases
2.	Course code	515 (B) II
3.	Level	5 th year
4.	Semester	Second semester
5.	Total hours	4
6.	Lecture hours	2
7.	Practical hours	2

C-Professional Information

1- Overall aims of course

The aim of the course is to provide basic information about management and control of the most prevailing fish diseases and to equip the students with appropriate clinical veterinary skills to assess risk and implement appropriate diagnosis, treatment and control measures.

2- Intended learning outcomes of the course (ILOs)

a- Knowledge and understanding

After successful completion of this course, the graduates should acquire the following:

- a1- Describe principles of microbiology and microbial diseases as well as parasitology and parasitic diseases
- a2- Identify Fish health conditions and biosecurity measures.
- a3- Mention the Causes of infectious fish diseases and epizootiology of diseases.
- a4- List Appropriate methods for diagnosis and differential diagnosis of fish diseases.
- a5- Describe the economic impact of fish diseases and methods available for prevention and control.
- a5- Mention Veterinary therapy and principles of their uses in aquaculture.
- a6- Identify Ecological diseases and appropriate methods for management and control.

b- Intellectual skills

After successful completion of this course, the graduates should be able to:

- b1-Develop problem lists and differential diagnosis to reach to appropriate solution and control of the clinical diseases.
- b2- Assess the changing demands of contemporary clinical veterinary practice
- b3- Interpret the collected data and synthesis creative solution for problems associated with fish and shellfish farming conditions.
- b4-Criticize how data are collected and managed.
- b5- Analyze the results obtained from their investigation and their value and limitations.

c- Professional and practical skills

After successful completion of this course, the graduates should be able to:

- c1- Use more recent advanced and specialized identification techniques .
- c2- Equip with specialized skills of laboratory and field samples collection and processes.
- c3-Perform emergency care to fish.
- c4- Use appropriate safety procedure to protect themselves and co-workers.
- c5- Write a communication report, case history
- c6-Conduct clinical examination on diseased fish and collect different samples.
- c7- Identify the risks and relevant factors promoting disease outbreaks, and to implement an appropriate treatment regime.
- C8- Implement several strategies for control of fish diseases

D- General and transferable skills

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

- d1- Collaborate effectively within team as in field trip and assignments
- d2-Communicate effectively with other relevant using variety of media
- d3- Demonstrate efficient IT capabilities (use digital data-base).
- d4-Search for information **and** demonstrate lifelong learning and self-learning.
- d5- Effectively manage tasks and resources as well as, work in stressful environment.
- d6-Describe professional responsibility towards communities and create solutions for environmental condition associated with aquaculture

3- Contents:

3.1.Course Contents

Topic	Lecture hours	Tutorial hours	Practical hours
1- Case history, examination of fish population , clinical examination and postmortem examination of aquatic animals	-	2	2
2- Bacterial diseases of freshwater and marine water fishes.	8		-
3- Practical diagnosis of bacterial diseases.	-	2	2
4- Parasitic diseases of freshwater and marine water fishes.	6		-
5- Practical diagnosis of parasitic diseases	-	2	2
6- Mycotic diseases freshwater and marine water	4		-

fishes			
7- Practical diagnosis of fish mycotic diseases	-	2	2
8- Viral diseases of fin fish and its practical diagnosis	4	1	1
9- Shellfish diseases (bacterial- parasitic-mycotic and viral)	4	1	1
10- Practical diagnosis of crustacean diseases.	-	2	2
11- Ornamental fish diseases (bacterial- parasitic-mycotic and viral)	2		
12- Practical diagnosis of ornamental diseases.	-	1	1
13-Ecological diseases	2	-	-
14-Therapy and control of aquatic animals diseases	-	2	2
Total hours	30	15	15

The midterm and practical exams are included during the semester **3.2: course**

3.2. Course content and ILOs matrix:

Topics	A) Knowledge and understanding	B) Intellectual skills	C) Practical skills	D) Transferable skills
1- Case history, examination of fish population , clinical examination and postmortem examination of fish	a1	b3,b5	c2,c5,c6	d1 ,d4,d6
2- bacterial fish diseases	a2,3,4,5,6	b1,2,3,4, 5		
3- Practical diagnosis of bacterial diseases.	a1,a2,a4	b1,5	c1,2,3,4,5 ,6,7,8	d1,d2,d3,d4,d 5,d6
4- Parasitic fish diseases	a2,3,4,5,6	b1,2,3,4, 5		
5- Practical diagnosis of parasitic diseases	a1,a2,a4	b1	c1,2,3,4,5 ,6,7,8	d1,d2,d3,d4,d 5,d6
6- Mycotic fish diseases	a2,3,4,5,6	b1,2,3,4, 5		
7- Practical diagnosis of fish mycotic diseases	a1,a2,a4	b1	c1,2,3,4,5 ,6,7,8	d1,d2,d3,d4,d 5,d6
8- Viral diseases of fin fish and its practical diagnosis	a1,a3,a4	b1,b3,b4	c1,2,3,4,5 ,6,7,8	d1,d2,d3,d4,d 5,d6
9- Shellfish diseases (bacterial- parasitic-mycotic and viral)	a1,a3,a4	b1,b3,b4		
10- Practical diagnosis of shellfish diseases.	a1,a2,a3,a5	b1,b3,b5	c1,2,3,4,5 ,6,7,8	d1,d2,d3,d4,d 5,d6
11- Ornamental fish diseases (bacterial- parasitic-mycotic and viral)	a1,a2,a3,a5	b1,b3,b5		
12- Practical diagnosis of ornamental fishes	a1,a3,a4	b1,b3,b4	c1,2,3,4,5 ,6,7,8	d1,d2,d3,d4,d 5,d6
13-Therapy and control of fish diseases	a6	b1,b5	c3,c7,c8	d4,d5,d6
14-Ecological diseases	a4,a6,a7	b1,b3	C1, c 8	d1,d2,d3,d4,d 5,d6

4-Teaching and Learning and Assessment methods

4-1:Teaching and learning methods

- Interactive lectures include case studies, diagnostic tools, diagnostic images, strategies of diseases control.
- Small group teaching (Tutorial) and problem solving within the practical class including problem solving , interpretation of diagnostic laboratory tests and diseases pictures
- Laboratory practical sessions including training on case history taking, clinical examination , diagnostic lab exam
- Assignments and researches to promote teamwork and self learning.
- Field trips and reports to understand infectious control measures , problem solving and promote students responsibility
- Discussion and seminars to discuss clinical findings and promote critical thinking and creativity.

4-2: Assessment methods

- Practical examination to assess practical and professional skills
- Semester work activities and periodical exams (quiz, assay, class actives, mid-term exam and field trip) : Corrective assessment to enhance students engagement to learning , assess students recall and performance, as well as to assess the knowledge and understanding, intellectual skills and follow up of the course.
- Written examination to assess knowledge and understanding, intellectual skills.
- Oral examination used to assess knowledge and understanding, intellectual skills and transferable skills

4 – 3-Teaching and Learning and Assessment methods and ILOs matrix

Course ILO's		Teaching and learning Methods					Assessment Method			
		Interactive Lecture	tutorials	Practical sessions	Assignments and researches	Field trips and reports	Discussions and seminars	Practical examination	Oral examination	Written examination
Knowledge & Understanding	a1	√	√			√		√	√	√
	a2	√	√			√		√	√	
	a3	√	√					√	√	√
	a4	√	√					√	√	√
	a5	√	√					√	√	√
	a6	√	√					√	√	√
	a7	√	√					√	√	√
Intellectual Skills	b1	√	√		√			√	√	√
	b2	√	√					√	√	
	b3	√	√				√	√	√	√
	b4	√	√			√	√	√	√	√
	B5	√	√			√		√	√	
Practical and Professional Skills	c1	√	√		√		√			√
	c2			√	√	√	√			
	c3			√		√	√			
	c4			√			√			
	c5			√		√	√			√

	c6			√	√	√		√			√
	C7			√		√	√	√			
	C8			√		√	√	√			
General and Tran. Skills	d1			√		√	√	√	√		√
	d2				√		√	√	√		√
	d3				√		√	√	√		√
	d4					√	√	√	√		√
	d5				√	√		√	√		
	d6							√	√		

5- Assessment timing and grading:

Assessment method	timing	grade
Mid-term exam and semester work	6 th week	15
Practical exam	14 th week	20
oral exam	End of semester	15
Written exam	End of semester	50
total		100

6- List of references

6.1- Course notes

- Notes on fish diseases part II.
- Practical notes on fish diseases Par II.
- Color atlas

6.2- Essential books (text books)

- Edward Noga (2010). Fish Disease: Diagnosis and treatment
- Albert C.L.G. Gunther (2006) An Introduction To The Study Of Fishes
- Woo P.T.K. (1995) Fish diseases and disorders CAB international.
- Austin B. and Austin D. (1993) Bacterial fish pathogens, Ellis Horwood.

6.3- Recommended books

- Edward Noga (2010). Fish Disease: Diagnosis and treatment
- Woo P.T.K. (1995) Fish diseases and disorders CAB international.

5-4 Periodicals, Web sites.

- www.ekb.eg
- www.int-res.com/journals/dao/

7- Facilities required for teaching and learning

- Well equipped Laboratory.
- Kits, media for isolation other materials. Alive and preserved Fishes
- Data show and Computers and local network
- Equipped lecture hall

Course coordinator: Professor ADEL SHAHEEN

Head of department: Prof. Assistant Dr. Aml El-Esally

Signature:..... Date: 1/10/2019