NON PARASITIC FISH DISEASES

1	Course Title:	NON PARASITIC FISH DISEASES
2	Course Code:	BIO6506
3	Type of Course:	Optional
4	Level of Course:	Third Cycle
5	Year of Study:	1
6	Semester:	2
7	ECTS Credits Allocated:	5.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. Hikmet Sami Yıldırımhan
15	Course Lecturers:	-
16	Contact information of the Course Coordinator:	Prof. Dr. F. Naci ALTUNEL altunel@uludag.edu.tr +90 224 2941784 Uludag University, Faculty of Arts and Sience, Department of Biology, 16059, Nilüfer-Bursa
17	Website:	
18	Objective of the Course:	The infectious diseases of fishes, viruses, bacterias, rickettsia, fungus, algae, physical and chemical conditions causing death, the diseases based on metabolic illness.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	Knows the fish diseases and prevention.
	2	Knows the diseases in fishes, the origin-related diseases in the current environment and physical requirements.
	3	Knows the diseases in fishes, the origin-related diseases in the current environment and chemical conditions.
	4	Learns the damage of drugs against diseases of fishes.
	5	Learns the negative effects of artificial fertilizers and other disinfectants.
	6	Learns the diseases arising from malnutrition in fishes.
	7	Learns the diseases arising from malnutrition in fishes.
	8	Learns the diseases based on genetics.
	9	Learns the diseases based on parasites.
	10	

21	Course Content:

Course Content:

Week	Theoretical	Practice
1	The general etiology of fish disease, the classification of diseases and prevention.	

2	The classification of diseases in fishes based on environment, the physical conditions (light, temperature and mechanical damages)	
3	The classification of diseases in fishes based on environment, the chemical conditions (pH, amount of oxygen, ammonia, other nitrogen compounds and salinity)	
4	The classification of diseases in fishes based on environment, the chemical conditions (Metals , cadmium, copper, silver, zinc cyanide, detergents, the damage of pesticides)	
5	The damage of drugs against fish diseases	
6	The damage of drugs against fish diseases: methylene blue, sülfanomid and other negative effects of antibiotics, artificial fertilizers and other disinfectants	
7	Origins of diseases in fishes, based on the metabolic diseases, diseases arising from malnutrition.	
8	Origins of diseases in fishes, based on the metabolic diseases, diseases arising from malnutrition.	
9	Diseases based on genetics.	
10	Diseases based on parasites.	
11	Application of chemical pesticides in fishes.	
12	Chemical agents (copper sulfate, formalin, furanas)	
13	Chemical drugs (mazoten, potassium permanganate)	
14	Fısh cultures	

22	Textbooks, References and/or Other Materials:	1-Amlacher E. 1970. Textbook of fish diseases. T. F. H. Publications, Inc. Ltd. 2- Harris C. L. 1992. Concepts in Zoology. Harper Collins Publishers. New York. 3-Sindermann C. J. 1966. Diseases of Marine Fishes.Academic Pres Inc. (London) Ltd. 4-Reinchenbach- Klinke 1973. Fish Pathology.T. F. H. Publications, Inc. Ltd. 5-Ribelin E. W. 1975. The Pathology of Fishes. The university of Wisconsin Press.London. 6-Roberts R. J. and Shepherd C.J. Handbook of Trout and Salmon Diseases. The whitefriars Pres Ltd, London.
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	0	0.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	100.00
Total	1	100.00
Contribution of Term (Year) Learning Activities to Success Grade		0.00
Contribution of Final Exam to Success Grade		100.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		

24	ECTS / WORK LOAD TABLE

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	6.00	84.00
Homeworks	3	4.00	12.00
Projects	2	5.00	10.00
Field Studies	0	0.00	0.00
Midterm exams	0	0.00	0.00
Others	0	0.00	0.00
Final Exams	1	32.00	32.00
Total Work Load			180.00
Total work load/ 30 hr			6.00
ECTS Credit of the Course			5.00

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	**PQ2**	**PQ3**	**PQ4**	**PQ5**	**PQ6**	**PQ7**	**PQ8**	**PQ9**	**PQ10**	**PQ11**	**PQ12**	**PQ13**	**PQ14**	**PQ15**	**PQ16**
ÖK1	4	1	4	0	0	0	0	5	0	0	0	0	0	0	0	0
ÖK2	0	1	0	0	0	0	5	0	3	0	5	4	0	0	0	0
ÖK3	5	1	3	4	0	0	0	2	0	4	0	0	0	0	0	0
ÖK4	0	1	0	5	0	0	5	0	0	0	0	4	0	0	0	0
ÖK5	4	1	5	5	0	0	0	5	0	5	4	0	0	0	0	0
ÖK6	0	1	0	0	0	0	3	0	5	4	0	0	0	0	0	0
ÖK7	4	1	4	0	0	0	0	4	0	0	5	5	0	0	0	0
ÖK8	5	1	0	0	2	0	4	0	0	4	0	4	0	0	0	0
ÖK9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	1 very low	2 low	3 Medium	4 High	5 Very High