

Course Description of Fish Breeding and Production

1. Course Name					
Fish Breeding and Production					
2. Course Code					
FIBP226					
3. Term /Year					
Second semester 2023-2024					
4. Description Preparation Date:					
1-2-2024					
5. A. Available Attendance Forms					
In-Person					
6. Number of Credit Hours (Total of Units)					
2 theoretical + 3 practical / 3.5 units					
7. Course administrator's name (mention all, if more than one name)					
Dr. Khalid Hadi Mustafa Email : khmm9191@uomosul.edu.iq Hani Hashem Muhammad					
8. Course Objectives					
theoretical 1- Providing students with the knowledge and skills necessary to understand and apply the basics of education and fish production. 2- For the student to become familiar with the most important administrative and environmental factors for fish production. 3- Teaching the student the correct scientific foundations establishing fish farming ponds. 4- Enabling the student to know how to make the most of fish production.			practical 1- Enabling the student to identify environmental factors Which affects the production and breeding of fish 2- Teaching the student the different methods of raising and producing fish. 3- Identifying the ponds' productivity of natural food and fertilizing the ponds correctly. 4- Identify the types of diseases that affect fish and ways to prevent them.		
9. TEACHING AND LEARNING STRATEGIES					
theoretical 1- Interactive lecture. 2-Explanation and clarification. 3. Brainstorm: Brainstorming Debating and discussing			practical 1- Practical applications in poultry fields. 2- Scientific visits to feed factories. 3-Explanation and clarification. Brainstorming Debating and discussing Reporting.		
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject Name	Learning method	Evaluation Method
First	2 Theoretical 3Practical	theoretical a1: The student learns about an introduction to fish farming and production - a historical overview of fish farming - the importance and advantages of fish - the food crisis and global production	theoretical introduction to fish farming and production - a historical overview of fish farming - the importance and advantages of fish - the food crisis and	Theoretical: Visual and auditory methods Explanation and dialogue style Practical:	- Tests. Assignment Discussions

		Practical: b6: The student is familiar with fish farming	global production Practical: fish farming	Assignment and report	
Second	2 Theoretical 3 Practical	Theoretical: a2: The student learns about the systems used in raising and producing fish - raising one type of fish in an aquarium - raising several types of fish in a tank - mixed farming - the level of intensification Practical: b7: The student is familiar with some of the economic fish farmed in Iraq and the world	Theoretical: systems used in raising and producing fish - raising one type of fish in an aquarium - raising several types of fish in a tank - mixed farming - the level of intensification Practical: economic fish farmed in Iraq and the world	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
Third	2 Theoretical 3 Practical	Theoretical: a3: The student understands the nature of enclosures - rearing in ponds, in cages, in canals, in enclosures, and in sea terrariums Practical: b8: The student is familiar with the basic components of fish farming	Theoretical: nature of enclosures - rearing in ponds, in cages, in canals, in enclosures, and in sea terrariums Practical: basic components of fish farming	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
Fourth	2 Theoretical 3 Practical	Theoretical: a4: The student learns about fish farming in closed rotary systems. Practical: b9: The student is familiar with the scientific and practical foundations for establishing breeding ponds	Theoretical: fish farming in closed rotary systems. Practical: scientific and practical foundations for establishing breeding ponds	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
Fifth	2 Theoretical 3 Practical	Theoretical: b1: The student is familiar with fish rearing ponds - choosing a site - methods for treating permeability in earthen ponds - sizes and shapes of ponds - types of ponds according to the purpose of culture Practical: b10: The student explains the water environment	Theoretical: fish rearing ponds - choosing a site - methods for treating permeability in earthen ponds - sizes and shapes of ponds - types of ponds according to the purpose of culture Practical: water environment	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
Sixth	2 Theoretical	Theoretical: a5: The student understands the design of parallel and	Theoretical: the design of parallel and	Theoretical: Visual and auditory	- Tests. Assignment Discussions

	3Practical	consecutive ponds - construction of seals for earthen ponds - bottom of the pond - water drainage lines - water processing lines Practical: b11: The student shows the productivity of fish and the density of culture	consecutive ponds - construction of seals for earthen ponds - bottom of the pond - water drainage lines - water processing lines Practical: productivity of fish and the density of culture	methods Explanation and dialogue style Practical: Assignment and report	
Seventh	2 Theoretical 3Practical	Theoretical: b2: The student is familiar with water sources - the quality of surface water and ground water and the physical characteristics of pond water - field project Practical: b12: The student is familiar with the steps for setting up and preparing a fish farming tank - field project	Theoretical: water sources - the quality of surface water and ground water and the physical characteristics of pond water - field project Practical: steps for setting up and preparing a fish farming tank - field project	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
Eighth	2 Theoretical 3Practical	Theoretical: a6: The student learns about the chemical characteristics of water in culture ponds - its life characteristics Practical: c1: The student identifies fertilizing ponds	Theoretical: chemical characteristics of water in culture ponds - its life characteristics Practical: fertilizing ponds	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
Ninth	2 Theoretical 3Practical	Theoretical: b3: The student is familiar with aquatic plants and their control in ponds - types of aquatic plants - methods of controlling aquatic plants. Practical: c2: The student explains the natural food cycle in water	Theoretical: aquatic plants and their control in ponds - types of aquatic plants - methods of controlling aquatic plants. Practical: natural food cycle in water	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
Tenth	2 Theoretical 3Practical	Theoretical: b4: The student is familiar with fertilizing ponds - types of fertilizers - inorganic fertilizers - organic fertilizers - the decision to fertilize ponds or not	Theoretical: fertilizing ponds - types of fertilizers - inorganic fertilizers - organic fertilizers - the decision to fertilize ponds or not	Theoretical: Visual and auditory methods Explanation and dialogue style	- Tests. Assignment Discussions

		Practical: c3: Explains fish diseases to students	Practical: fish diseases	Practical: Assignment and report	
Eleventh	2 Theoretical 3 Practical	Theoretical: a7: The student remembers the feed and nutrition of fish - natural feed - phytoplankton, zooplankton and benthic organisms - additional feeds - chemical composition of feed materials. Practical: c4: The student distinguishes the transport of live fish	Theoretical: feed and nutrition of fish - natural feed - phytoplankton, zooplankton and benthic organisms - additional feeds - chemical composition of feed materials. Practical: transport of live fish	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
Twelfth	2 Theoretical 3 Practical	Theoretical: b5: The student explores the distribution of additional foods during the growing season - feeding methods - prepared foods and their types - a field project Practical: b13: The student is familiar with administrative work in fish farms - a field project	Theoretical: distribution of additional foods during the growing season - feeding methods - prepared foods and their types - a field project Practical: administrative work in fish farms - a field project	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
Thirteen	2 Theoretical 3 Practical	Theoretical: a8: The student learns about the needs of fish for the main nutrients, physical and chemical properties of food - feeding plan and schedules Practical: b14: The student is familiar with harvesting and marketing	Theoretical: needs of fish for the main nutrients, physical and chemical properties of food - feeding plan and schedules Practical: harvesting and marketing	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
fourteenth	2 Theoretical 3 Practical	Theoretical: a9: The student learns about fish reproduction - natural reproduction - methods of partially controlled natural reproduction - the advantages of artificial propagation - artificial propagation Practical: b15: The student is familiar with fish nutrition	Theoretical: fish reproduction - natural reproduction - methods of partially controlled natural reproduction - the advantages of artificial propagation - artificial propagation Practical: fish nutrition	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
Fifteenth	2 Theoretical	Theoretical: a10: The student learns about health care - the most important diseases that affect fish	Theoretical: health care - the most important diseases that affect fish	Theoretical: Visual and auditory methods Explanation	- Tests. Assignment Discussions

	3Practical	Practical: b16: The student is familiar with fish farming in rice fields	Practical: fish farming in rice fields	and dialogue style Practical: Assignment and report	
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11. Course Evaluation

This service allows customers to issue a permit	Evaluation Methods	Calendar Appointment (Week)	Degree	Relative Weight%
1	Theoretical Final Report + Practical Experience Reports	Theoretical Week 15 Practical Week 1-15	7Theoretical +6Practical	13%
2	Quiz (1)	Week (3)	4Theoretical +2Practical	6%
3	Midterm test (theoretical and practical)	Week (9)	10Theoretical +5Practical	15%
4	Quiz (1)	Week (12)	4Theoretical +2Practical	6%
5	Final Practical Test	Practical Exam Week	20	20%
6	Final theoretical test	Theoretical Exam Week	40	40%
	Total		100	100%

12. Learning and Teaching Resources

Required textbooks (methodology if any)	book on the basics of fish breeding and production
Key References (Sources)	
Recommended supporting books and references (scientific journals, reports...)	
E-References , Websites	



Theoretical subject teacher
Dr. Dr. Aysar mohammed salim saeed



practical subject teacher,
M.M. Zuhoor Fouad Al-Obaidi



Chair of scientific committee
Prof. Dr. Muthanna Ahmed Muhammad Tayyib




Head of the Animal Production Department

Prof. Dr. Omar Diaa Muhammad

