

Course Description Form

1.Course Name:	
Principle of Animal Production	
2.Course Code:	
PRAP114	
3.Semester / Year:	
Second season,2023-2024.	
4.Description Preparation Date:	
05/01/2024	
5.Available Attendance Forms:	
learning in presence (theoretical and practical)	
6.Number of Credit Hours (Total of Units :	
75 hours (2 hours theoretical and 3 hours practical).	
7.Course administrator's name (mention all, if more than one name)	
Name: A. P. Ghadeer Abdel Moneim Mohamed ghadeer_abd@uomosul.edu.iq	
Name : L. Rowaida Zuhair Younis rwaida_al_gha@uomosul.edu.iq	
8.Course Objectives	
<p>Course Objectives</p> <ol style="list-style-type: none"> 1.Introducing the student to the classification of animals in the animal kingdom. 2.Introducing the student for phenotypic specifications and productive performance of international and local livestock breeds. 3.Introducing the student to productive performance, breeding and fattening sheep, and genetic improvement of local sheep. 4.Introducing the student to nutrition and preparing fattening diets for sheep. 5.Introducing the student to the field operations that take place daily and weekly for cattle and sheep in the animal field. 6. Introducing the student to the nature and types of animal breeding housing. 7.Introducing the student to the most important common diseases that affect livestock and sheep, their pathogens and methods of prevention. 8. Involving students in practical application of laboratory experiments in groups. 	
9.Teaching and Learning Strategies	
Strategy	<p>theoretical:</p> <p>Interactive lecture strategy</p> <p>Discussion strategy</p> <p>Problem solving strategy by commissioning reports</p> <p>Brainstorming strategy.</p> <p>Practical:</p> <p>Assignment to team work</p> <p>Assigning tasks and reports for each experiment</p>

10.Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 st	Theoretical 2 Practical 3	Theoretical: a1 The student learns about the economic importance of livestock and its relationship to economic integration. The economic importance of livestock and its relationship to economic integration. Practical: b1 Acquires practical and scientific skills in conducting field operations on farm animals.	Theoretical: The economic importance of livestock and its relationship to economic integration. Factors that led to a decline in level of animal production in developed countries and Iraq. Practical: Field operations that take place on a daily basis, some of which are monthly seasonal in animals farm. Neutering, numbering, spraying and dipping, shearing wool, amputating the tail, clipping the beak. Layering.	Theoretical: Using of whiteboard, audio-visual means, Discussions. Practical: audio aids visual, powerpoint, Bulletins discussions.	Theoretical: Quizzes, Reports, discussions Exams. Practical: Quizzes, reports, posters, discussions, Exams.
2 nd	Theoretical 2 Practical 3	Theoretical: a2 The student acquires the skill in classifying the animal kingdom. Practical: b2 The student prepares cows for milking operations, practices daily milking operations, and manual and mechanical milking methods.	Theoretical: Animal kingdom, classification: Bovine family: cattle genus, Genus Bos, sheep genus, Genus Ovis. Goat genus, Genus Capra. General formal specifications for beef cattle, specifications of carcasses for beef cattle. Practical: Milking, milking methods, and preparing cows for the milking process..	Theoretical: use whiteboard, Audio aids and visual, discussions. Practical: audio aids visual, powerpoint, Bulletins discussions..	Theoretical: Quizzes, Reports, discussions Exams. Practical: Quizzes, reports, posters, discussions, Exams..
3 rd	Theoretical 2 Practical 3	Theoretical: a3 The student can learn about the productive and phenotypic characteristics of internationally known livestock. Practical: a1 The student acquires the skill and management experience in practicing the suckling process using both natural and artificial methods.	Theoretical: Cattle breeds in the world: beef cattle, milk cattle, dual-purpose cattle Practical: The suckling, its definition, methods of suckling, small calves suckling, methods of suckling artificial suckling.	Theoretical: use whiteboard, Audio aids and visual, discussions. Practical: audio aids visual, powerpoint, Bulletins discussions.	Theoretical: Quizzes, Reports, discussions Exams. Practical: Quizzes, reports, posters, discussions, Exams..

4 th	Theoretical 2 Practical 3	Theoretical: a4 The student learns about the phenotypic characteristics and productive performance of Iraqi cows. Practical: a2 The student gains scientific experience in designing and constructing livestock housing and providing them with administrative services and artistic.	Theoretical: Iraqi cows: their appearance and production specifications and their breeding areas in Iraq. Breeding of calves, milk fever causes and treatment. Practical: Animal housing, its types, specifications, and technical and engineering conditions in constructing animal housing..	Theoretical: use whiteboard, Audio aids and visual, discussions. Practical: audio aids visual, powerpo Bulletins discussions	Theoretical: Quizzes, Reports, discussions Exams. Practical: Quizzes, reports, posters, discussions, Exams.
5 th	Theoretical 2 Practical 3	Theoretical: b1 The student learns about the phenotypic and genetic characteristics and productive performance of buffalo animals and their daily milk production? Practical: a3 The student learns about farm records, their importance and types in the animal field .	Theoretical: Buffalo, a historical overview the origin and origin of the buffalo and the general and physiological characteristics of the buffalo. Reproduction of buffalo. Breeds of buffalo in the world. Production of milk and meat in buffalo. Practical: Definition of farm records their types, importance, and benefits.	Theoretical: use whiteboard, Audio aids and visual, discussions. Practical: audio aids visual, powerpo Bulletins discussions.	Theoretical: Quizzes, Reports, discussions Exams. Practical: Quizzes, reports, posters, discussions, Exams..
6 th	Theoretical 2 Practical 3	Theoretical: b2 The student learns about the classification and location of sheep in the animal kingdom, methods of classifying sheep, sheep breeds, meat sheep, milk sheep, and wool sheep. Practical: a4 The student classifies the quality of feed according to its raw fiber content. Introducing students to coarse and concentrated feed materials and the differences between them.	Theoretical: Classification of the location of sheep in the animal kingdom, methods of classifying sheep, breeds of sheep, meat sheep, sheep milk, sheep wool. Practical: Coarse and concentrated feed materials and the differences between them.	Theoretical: use whiteboard, Audio aids and visual, discussions. Practical: audio aids visual, powerpo Bulletins discussions	Theoretical: Quizzes, Reports, discussions Exams. Practical: Quizzes, reports, posters, discussions, Exams.

7 th	Theoretical 2 Practical 3	theoretical a5 The student learns about the types of Iraqi sheep and their appearance and production characteristics, and clarification . Advantages of raising sheep. Practical: a5 The student monitors and determines the quality of pastures and grazing systems..	Theoretical: Iraqi sheep: Awassi sheep, Kurdish sheep, Arab sheep, Hamdaniya sheep. Naemi sheep, Najdi sheep. Appearance and production specifications. Practical: Pastoralism, definition of pasture, pasture and grazing systems, Types of pastures: natural pastures, artificial pastures.	Theoretical: use whiteboard, Audio aids and visual, discussions. Practical: audio aids visual, powerpoint Bulletins discussions.	Theoretical: Quizzes, Reports, discussions Exams. Practical: Quizzes, reports, posters, discussions, Exams..
8 th	Theoretical 2 Practical 3	Theoretical: a6 The student can gain knowledge about the characteristics and advantages of goat breeding and the geographical distribution of goats in the world. Practical: b3 The breeder can prepare the necessary diets for the animals to meet their needs for nutrient compounds.	Theoretical: Goats, goat breeds in hot and semi-hot areas, European goat breeds, Iraqi goat breeds, Local goats, maraz, mountain goats Practical: Preparing and preparing rations according to nutritional decisions: the maintenance ration and production ration.	Theoretical: use whiteboard, Audio aids and visual, discussions. Practical: audio aids visual, powerpoint Bulletins discussions	Theoretical: Quizzes, Reports, discussions Exams. Practical: Quizzes, reports, posters, discussions, Exams.
9 th	Theoretical 2 Practical 3	Theoretical: a6 The student can gain knowledge about the characteristics and advantages of goat breeding and the geographical distribution of goats in the world. Practical: b3 The breeder can prepare necessary diets for animals to meet their needs for nutritional compounds	Theoretical: Goats, goat breeds in hot and semi-hot areas, European goat breeds, Iraqi goat breeds, Local goats, maraz, mountain goats Practical: Preparing and preparing rations according to nutritional decisions: the maintenance ration and the production ration..	Theoretical: use whiteboard, Audio aids and visual, discussions. Practical: audio aids visual, powerpoint Bulletins discussions.	Theoretical: Quizzes, Reports, discussions Exams. Practical: Quizzes, reports, posters, discussions, Exams..
10 th	Theoretical 2 Practical 3	Theoretical: b3 The student can learn about the productive, phenotypic, and genetic characteristics of horses and camels and determine the location of horses and camels in the animal kingdom.	Theoretical: Horses and camels, introduction, location of horses and camels in the animal kingdom, breeds of horses and camels, types of camels, structure of the digestive system, reproduction in camels and horses.	Theoretical: use whiteboard, Audio aids and visual, discussions. Practical: audio aids visual, powerpoint Bulletins	Theoretical: Quizzes, Reports, discussions Exams. Practical: Quizzes, reports, posters, discussions, Exams.

		Practical: b4 The student can gain experience in knowing the parts function of the male female reproductive system and method of reproduction and reproduction in livestock and poultry.	Practical: Male reproductive system, female reproductive system in livestock and poultry. A scientific visit to the Artificial Insemination Center/Ministry of Agriculture.	discussions	
11 th	Theoretical 2 Practical 3	Theoretical: b4 The student gains scientific experience in preparing and balancing diets in terms of nutritional components for farm animals. Practical: c1 The student gains theoretical and practical scientific experience about artificial insemination, importance, advantages and disadvantages.	Theoretical: Nutrition and feed: concentrated feed and coarse feed. Preparing, preparing and balancing diets for animals, the basic rules in formulating the diet. Practical: Artificial insemination: its definition, semen collection, types of semen diluents, semen preservation.	Theoretical: use whiteboard, Audio aids and visual, discussions. Practical: audio aids visual, powerpoint Bulletins discussions.	Theoretical: Quizzes, Reports, discussions Exams. Practical: Quizzes, reports, posters, discussions, Exams..
12 th	Theoretical 2 Practical 3	Theoretical: c1 The student gains experience in determining the needs of animals for nutritional compounds, qualifying him in management Raising a productive herd on the farm. Practical: b5 The student gains scientific experience in classifying poultry determining its location in the animal kingdom and its economic importance.	Theoretical: Food compounds, their definition, their most important importance, needs for growth, fattening, and production of food compounds. Practical: Poultry: Definition of poultry, determining location of poultry in the animal kingdom, classification of poultry (biological classification, classification by origin, economic classification).	Theoretical: use whiteboard, Audio aids and visual, discussions. Practical: audio aids visual, powerpoint Bulletins discussions.	Theoretical: Quizzes, Reports, discussions Exams. Practical: Quizzes, reports, posters, discussions, Exams.
13 th	Theoretical 2 Practical 3	Theoretical: a8 Introducing the student to the internal components of the egg and the factors that help in the occurrence of diastasis in laying hens. Practical: a7	Theoretical: Poultry, the origin of poultry, a historical overview of human domestication of domestic birds, the advantages of raising poultry over other farm	Theoretical: use whiteboard, Audio aids and visual, discussions. Practical: audio aids	Theoretical: Quizzes, Reports, discussions Exams. Practical: Quizzes, reports, posters,

		The student can identify internal components of the egg and select suitable eggs for hatching.	animals., the location of poultry in the animal kingdom. Practical: Eggs and their components, definition of the egg and identification of its components, factors that help in the appearance of laying in laying hens. Classification of poultry (biological classification, classification according to origin, economic classification).	visual, powerpoint, Bulletins discussions	discussions, Exams..
14 th	Theoretical 2 Practical 3	Theoretical: a9 The student learns about the classification of poultry according to geographical location. Classification of poultry according to production performance. Practical: c2 The student gains practical experience in conducting egg hatching operations. Using the hatching Machine. Cleaning, sterilization and health conditions in preparing and equipping the hatching machines.	Theoretical: Poultry breeds, classification of poultry according to geographic location, classification of poultry according to production performance. Practical: Hatching, hatching methods, types and sizes of hatching machines, design and classification of hatching places. Suitable environmental conditions for hatching.	Theoretical: use whiteboard, Audio aids and visual, discussions. Practical: audio aids visual, powerpoint, Bulletins discussions.	Theoretical: Quizzes, Reports, discussions Exams. Practical: Quizzes, reports, posters, discussions, Exams.
15 th	Theoretical 2 Practical 3	Theoretical: c2 The student gains experience and power of observation in detecting infestations with external and internal parasites. Cleaning and disinfecting animal housing periodically during the breeding and production period.	Theoretical: Parasites and diseases: external and internal parasites, bacterial and viral diseases. Organizing a scientific visit for students to the veterinary hospital to examine the students for medical cases. Practical: Bacterial diseases: symptoms, causes, treatment.	Theoretical: use whiteboard, Audio aids and visual, discussions. Practical: audio aids visual, powerpoint, Bulletins discussions.	Theoretical: Quizzes, Reports, discussions Exams. Practical: Quizzes, reports, posters, discussions, Exams..

		Practical: c3 The student can identify and diagnose pathological infections, whether their causes are bacterial or viral for infected animals Providing treatment for infected animals.	Viral diseases:symptoms, causes, treatment..		
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11.Course Evaluation:

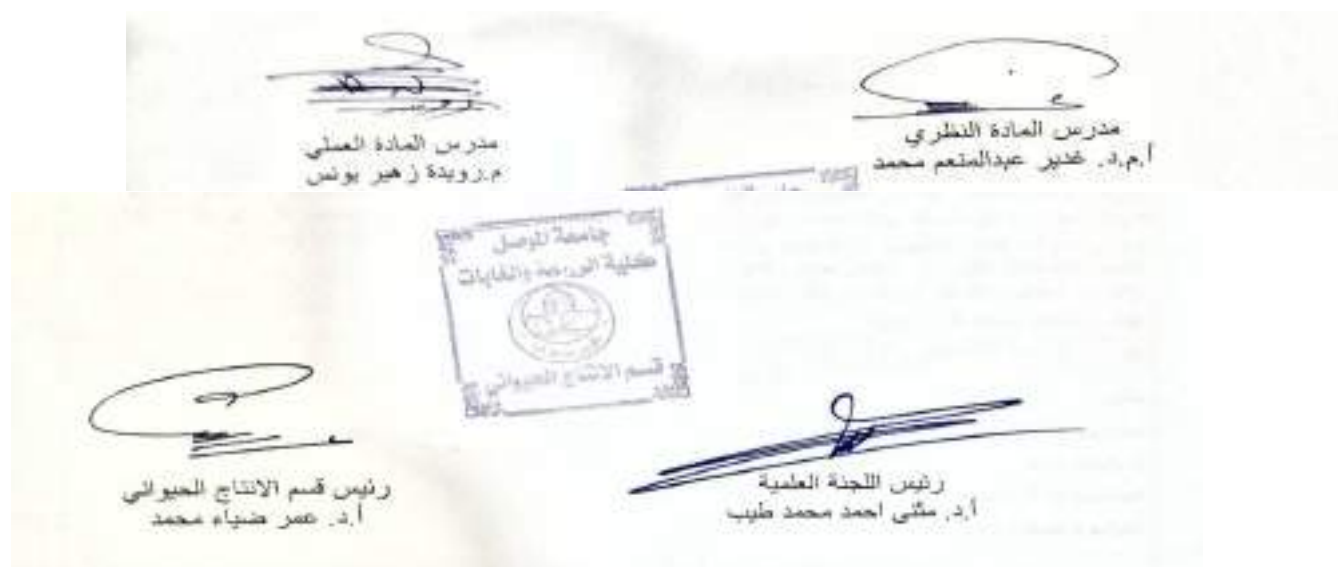
No.	Evaluation methods	Evaluation date (week)	marks	Relative weight (%)
1	The first short test Quiz (1). Theoretical: Practical	Week 4: Theoretical: Short test Quiz (1). Week 4: Practical: Short test Quiz (1).	Theoretical: 2.5 Practical: 2.5	5%
2	Monthly exam (1).	Week 9: Theoretical test (1). Week 9: Practical test (1).	Theoretical: 10 Practical : 5	15%
3	Second short test Quiz.(2).	Week 11: Theoretical:Short test Quiz (2). Week 11: Practical:Short test Quiz (2)	Theoretical: 2.5 Practical: 2.5	5%
4	Monthly exam (2).	Week 13: Theoretical test (2). Week 13: Practical test (2).	Theoretical: 10 Practical : 5	15%
5	Quest rate.	Seasonal rates are announced at the end of the semester.	Theoretical: 25 Practical : 15	40%
6	Final practical test.	Practical exams week.	20	20%
7	Final theoretical test.	The week of theoretical exams.	40	40%
8	Total	The final score of the theoretical and practical of final exam at the end of academic year.	100	100%

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc .

12.Learning and Teaching Resources .

Required textbooks (curricular books, if any)	Principles of Animal Production (Authors by Prof.Dr.Najib Tawfiq Ghazal, Prof.Dr.Nahil Mohammad Ali Suleiman and Prof.Dr.Radi Khattab Abdullah,2000. Dar Al-Kutub for Printing and Publishing, University of Mosul/Iraq.
Main references (sources)	1.Animal Nutrition translated into Arabic Language by (Dr. Ahmed Al Haj Taha and Dr. Mohamed Ramzi Taqa)

	<p>for the year 1985. Dar Al-Kutub for Printing and Publishing, University of Mosul/Iraq.</p> <p>2.Principles of Animal Production (Author by Prof. Dr. Mohammad Ali Makki Al-Rubaie), for the year 2020. Al Noor Library.</p> <p>3 Dairy cattle .(Prof. Dr. Ahmed Al-Haj Taha, Dr. Akram Thanoun Younis, and Dr. Mahmoud Rashid Al-Rashed) for the year 1989. Dar Al-Kutub for Printing and Publishing, University of Mosul/Iraq.</p>
Recommended books and references (scientific journals, reports...)	<p>1.Egyptian Journal of Animal Production:ISSN=0302-4520, and the impact factor of the journal is (1.84)/,Association of Arab Universities Cairo-Egypt. https://www.arabimpactfactor.com/pages/tafaseljournal.php?id=8466&date=2022</p> <p>4.Journal of Animal Sciences and Livestock Production. ISSN:2577-0594,CiteScore:0.79. https://www.primescholars.com/animal-sciences-and-livestock-production.html</p> <p>3.Journal of Animal,Poultry & Fish Production (JAPFP),Publisher:Scientific Society of Agricultural Sciences,Ismailia,Egypt https://japfp.journals.ekb.eg/</p>
Electronic References, Websites	<p>1.Animal production in hot regions (a series of lectures on animal production materials). https://lejan60labia.site123.me/</p> <p>2.Animal and poultry production/Faculty of Agriculture and Natural Resources/Aswan University/Egypt. https://agr.aswu.edu.eg/sections/animal-and-poultry-production/</p> <p>3. Department of Animal Production/College of Agricultural Engineering Sciences/University of Baghdad. Teaching lectures https://coagri.uobaghdad.edu.iq/?page_id=15013</p>



Course Description Form

1. Course Name:					
Principles of soil science					
2. Course Code:					
PRSS113					
3. Semester / Year:					
First (Autumn) semester 2023–2024					
4. Description Preparation Date:					
1 \ 9 \ 2023					
5. Available Attendance Forms:					
presence					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2 theoretical + 3 practical / 3.5 units					
7. Course administrator's name (mention all, if more than one name)					
Name: M. Yousif Hasan Yousif alnaseryousif10@uomosul.edu.iq M. Shaima Ghanem Daoud					
8. Course Objectives					
<p>1– Identify the physical and chemical properties of soil.</p> <p>2– Identify the factors and processes of soil formation</p> <p>3– Identify the types of soil water, field capacity, and wilting point.</p> <p>Identify the most important nutrients important for plant nutrition</p>					
9. Teaching and Learning Strategies					
<ul style="list-style-type: none"> – Interactive lecture –Brainstorming – Dialogue and discussion –Field Training –Practical exercises – Field project – Interactive lectures –Brainstorming –Self-education 					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	2 Theoretical	a1– The student explains the concepts of soil science	Introduction to soil science concepts	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	b2: The student distinguishes the depth of the soil	Move soil and collect samples from the field	Assigning report writing tasks	
2	2 Theoretical	A2: The student learns about the formation of soil	Origin and development of soil	Theoretical: audio methods and interactive dialogue Writing style on the blackboard	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	a A13: The student recognizes the description of the soil cross section	Description of soil section	Assigning report writing tasks	
3	2 Theoretical	C1: The student learns about the processes of soil formation	Soil formation processes	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	b3: The student determines the texture of the soil	Determine soil texture	Assigning report writing tasks	
4	2 Theoretical	A3: The student explains the physical properties of soil	Physical properties of soil	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	b4: The student measures the degree of soil interaction	Measuring soil pH	Assigning report writing tasks	
5	2 Theoretical	A4: The student learns about the structure of soil	– Soil structure	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	b5: The student measures the percentage of carbonates in the soil	Estimation of calcium carbonate in the soil	Assigning report writing tasks	
6	2 Theoretical	A5: The student learns about soil temperature	soil temperature	audio methods and interactive dialogue	Short daily exam (quiz) Assignment of duty

				Writing style on the blackboard Slideshow style	discussions
	3 Practical	b6: Measures the percentages of carbon and bicarbonate in moisture	Determination of carbonates and bicarbonates in soil	Assigning report writing tasks	
7	2 Theoretical	b1: The student distinguishes the type of soil water	Soil water classification	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	b7: The student measures the moisture content	Soil moisture content measurements	Assigning report writing tasks	
8	2 Theoretical	A6: The student distinguishes the chemical properties of soil	Colloids and soil chemical properties	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	b8: The student measures the ratio of sodium and potassium	Determination of sodium and potassium	Assigning report writing tasks	
9	2 Theoretical	A7: The student explains organic colloids	Organic colloids	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	b9: The student measures organic matter	Estimation of soil organic matter	assigning report writing tasks	
10	2 Theoretical	A8: The student is familiar with the biological properties of soil	Soil biological properties	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	C3: The student discovers humic compounds	Determination of humic compounds in soil	Assigning report writing tasks	
11	2 Theoretical	A9: The student learns about the salinity and alkalinity of soil	Salinity and alkalinity in the soil	audio methods and interactive dialogue Writing style on the blackboard	Short daily exam (quiz) Assignment of duty discussions

				Slideshow style	
	3 Practical	A14: The student determines soil salinity	Estimation of soil salinity	Assigning report writing tasks	
12	2 Theoretical	A10: The student is aware of the effect of salinity on agricultural production	The effect of soil salinity on agricultural production	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	b10: The student measures the cationic capacity of the soil	Estimation of soil cationic capacity	Assigning report writing tasks	
13	2 Theoretical	A11: The student is familiar with important nutritional elements	Phosphorus and potassium in the soil	audio methods and interactive dialogue Writing style on the blackboard	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	C4: The student discovers the extraction of ready-made elements from the soil	Extracting ready-made elements from the soil	Assigning report writing tasks	
14	2 Theoretical	A12: The student learns about phosphorus and potassium in the soil	Phosphorus and potassium in the soil	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	b11: The student measures phosphorus in the soil	Determination of phosphorus in soil	Assigning report writing tasks	
15	2 Theoretical	C2: The student is familiar with the classification of Iraqi soils	Classification of soils and lands in Iraq	audio methods and interactive dialogue Writing style on the blackboard Slideshow style	Short daily exam (quiz) Assignment of duty discussions
	3 Practical	b12: The student measures the smallest elements	Estimation of microelements	Assigning report writing tasks	

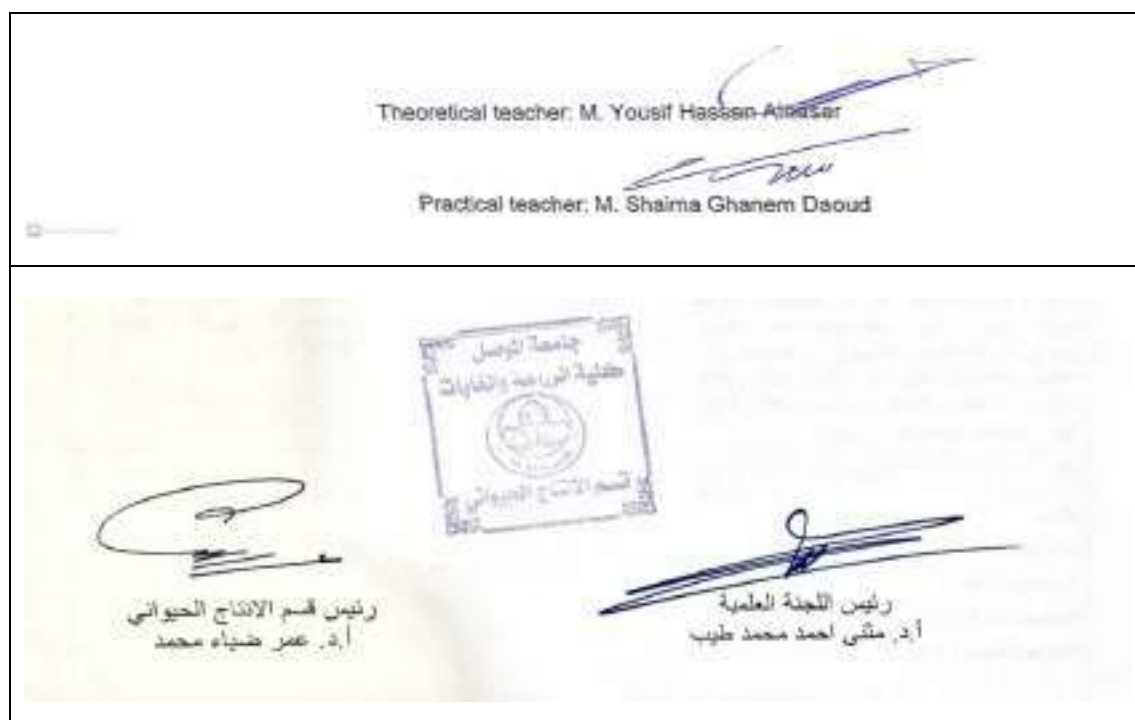
11. Course Evaluation

% 13	7 Theoretical 6 practical	Theory week 15 Practical 1–15 weeks	A theoretical final report on soil survey and classification A practical final report on practical lessons and field visits	1
% 6	4 theoretical + 2 practical	Week 3	Quiz (1)	2

% 15	10 theoretical + 5 practical	Week 9	Midterm exam (theoretical and practical)	3
%6	4 theoretical + 2 practical	Week 12	Quiz (2)	4
%20	20	Practical exam week	Final practical test	5
%20	40	Theory exam week	Final theoretical test	6

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Principles of soil science, Abdullah Al-Ani
Main references (sources)	Fundamentals of Pedology, Walid Al-Akidi
Recommended books and references (scientific journals, reports...)	Academic scientific journals, reports of international organizations
Electronic References, Websites	<ul style="list-style-type: none"> • Conservation Service in cooperation with The University of Hawaii Agricultural Experiment Station. U.S. Government Printing Office, Washington, D.C. • Service in cooperation with Hawaii Institute of Topical Agriculture and Human Resources. University of Hawaii at Manoa, Honolulu.



Course Description Form

1. Course Name:					
Surveying					
2. Course Code:					
SURV120					
3. Semester / Year:					
Autumn semester/ 2023-2024					
4. Description Preparation Date:					
1 / 9 / 2023					
5. Available Attendance Forms:					
Attendance					
6. Number of Credit Hours (Total) / Number of Units (Total)					
1 Theoretical + 3 practical / 2.5 units					
7. Course administrator's name (mention all, if more than one name)					
Name: Dr. Karam Ali Younus ALtaee Email: karam.youns@uomosul.edu.iq Name: Hamed Muhammad Ibrahim					
8. Course Objectives					
theoretical: - Developing the student's ability to deal with scientific and technical means - Developing the student's ability to deal with the Internet - Developing the student's ability to deal with multiple media. - Developing the student's ability to dialogue and discuss Developing the student's ability to deal economically in the field the job.			Practical : -Developing the student's ability to deal with multiple media. - Developing the student's ability to dialogue and discuss		
9. Teaching and Learning Strategies					
Strategy		-Interactive lecture, Brainstorming, - Dialogue and discussion, - Assigning tasks and reporting - Assigning group work to reveal leadership skills			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1 theoretical 3 Pract.	theoretical: a1: A historical overview of survey (the science of surveying is known - v are the types of surveying, surveying, units of measurement) practical : a9: Explains (settlement balance)	theoretical: : space and its importance practical : Identify surveying devices	theoretic -Auditor methods, -Style of writing c The blackboa	Exams, Homework, Reports

		a10: Explains (leveling screws) a11: Explains (the pillar) a12: Understand (endoscope)		-Direct dialogue style Practical Assignin tasks and repo	
2	1 theoretical 3 Pract	theoretical: a2: Familiar with drawing standards, t types, and methods of using them practical : b4: apply (use tape) b5: Use (the measuring wheel) b6: Explains (the use of signs)	Theoretical: drawing scales practical : Tools for direct measuring distances	Theory : -Auditor methods, -Style of writing o The blackboa -Direct dialogue style Practical Assignin tasks and repo	Exams, Homework, Reports
3	1 theoretical 3 Pract	theoretical: c1: Calculates (methods for estimating lengths of distances - sources of measu distances, direct measurement methods practical a13: Explains (the use of sig Explains (the use of signs) a14: Explains (the use of arrows) a15: Explains the use of wedges	theoretical: Direct measurement distances practical : Direct measuring tools accessories	theoretic -Auditor methods, -Style of writing o The blackboa -Direct dialogue style Practical Assignin tasks and repo	Exams, Homework, Reports
4	1 theoretical 3 Pract	theoretical: b1: The measurement of distances applied (what are the types of measu chain and tape - mention the accesso for direct measurement with the chain tape) practical : a16: Concerned with (measuring horizontal distance on flat land)	theoretical: Metal chain and ribbon practical : Measuring horizontal distances	theoretic -Auditor methods, -Style of writing o The blackboa -Direct dialogue style Practical Assignin tasks and repo	Exams, Homework, Reports
5	1 theoretical 3 Pract	theoretical: c2: Calculates (measuring horizo distances on flat land) practical : b7: Contributes to the application of	theoretical: Measuring horizontal distances practical : Measuring horizontal	theoretic -Auditor methods, -Style of writing o	Exams, Homework, Reports

		measuring horizontal distance on inclined lands (terraces).	distances on sloping terrain	The blackboard -Direct dialogue style Practical Assignments tasks and reports	
6	1 theoretical 3 Pract	theoretical: c3: Calculate the horizontal distance on sloping terrain (angle method - trigonometric method - right triangle method) practical : b8: Measures (an obstacle that prevents monitoring but does not prevent measurement (ground elevation))	theoretical: Measuring horizontal distances on sloping terrain practical : Measure distances across obstacles	theoretical: -Auditor methods, -Style of writing on the blackboard The blackboard -Direct dialogue style Practical Assignments tasks and reports	Exams, Homework, Reports
7	1 theoretical 3 Pract	theoretical: a7: Describes (what are its sources, number of types, mention its treatments) practical : b9: measures (an obstacle that prevents measurement, does not prevent monitoring, and cannot be circumvented (river, watercourse))	Theoretical: accuracy and error in measuring distances practical : Measure distances across obstacles	theoretical: -Auditor methods, -Style of writing on the blackboard The blackboard -Direct dialogue style Practical Assignments tasks and reports	Exams, Homework, Reports
8	1 theoretical 3 Pract	theoretical: A5: Explains (an obstacle that prevents monitoring but does not prevent measurement (ground elevation) - obstacle that prevents measurement does not prevent monitoring and can be circumvented (the wide hole, small lakes at the edges of large lakes and ponds)) practical : b10: measures (an obstacle that prevents measurement and monitoring and can be circumvented (rock, lake))	theoretical: Measure distances across obstacles practical : Measure distances across obstacles	theoretical: -Auditor methods, -Style of writing on the blackboard The blackboard -Direct dialogue style Practical Assignments tasks and reports	Exams, Homework, Reports
9	1 theoretical 3 Pract	theoretical: a6: Explains (an obstacle that prevents measurement, does not prevent monitoring)	theoretical: Measuring distances across obstacles	theoretical: -Auditor methods,	Exams, Homework, Reports

		monitoring, and cannot be circumvented (river, watercourse, trenches) - an obstacle that prevents measurement and prevents monitoring (building, protruding rock)) practical a17: Explains (exploring the area) a18: Explains (selection of stations) b11: applied (marking stations) b12: Apply to use (measure distances)	practical : Chain scanning steps	-Style of writing on The blackboard -Direct dialogue style Practical Assignments tasks and reports	
10	1 theoretical 3 Pract	theoretical: a7: Describes (control and investigation lines, survey steps, field notebook) practical : a19: Identify (a diagram of the survey lines and the name of the site) a20: Verify (date of field work carried out) a21: Write (the names of the field work team)	theoretical: Chain scanning practical : Contents of the field notebook	theoretical: -Auditor methods, -Style of writing on The blackboard -Direct dialogue style Practical Assignments tasks and reports	Exams, Homework, Reports
11	1 theoretical 3 Pract	theoretical: b2: I implement (series mapping method - a scientific visit to the Department Roads and Bridges) practical: b13: Draw (straight boundaries with obstacles within the space) b14: Draw (straight boundaries with obstacle inside the space) b15: Draw (non-straight boundaries with no obstacles within the space) b16: Draw (non-straight boundaries with an obstacle inside the space)	theoretical: Chain scanning practical : Chain scanning methods	theoretical: -Auditor methods, -Style of writing on The blackboard -Direct dialogue style Practical Assignments tasks and reports	Exams, Homework, Reports
12	1 theoretical 3 Pract	theoretical: c4: It works (the basis of measurement what are the optical devices) practical: a22: Learn (the board and the triple rule) a23: Learn (orientation ruler and draw board) a24: Rivet (leveling bubble and scale ruler)	theoretical: Indirect measurement distances practical : Plane plate parts	theoretical: -Auditor methods, -Style of writing on The blackboard -Direct dialogue style Practical Assignments tasks and reports	Exams, Homework, Reports

13	1 theoretical 3 Pract	theoretical: c5: implements (measurement by electronic devices) practical : c1: applied (use tachometer) c2: The use of (theodolite) is applied.	theoretical: Indirect measurement distances practical : Indirect measuring devices and tools	theoretical: -Auditor methods, -Style of writing on The blackboard -Direct dialogue style Practical Assigning tasks and reports	Exams, Homework, Reports
14	1 theoretical 3 Pract	theoretical: a8: Identify (definitions of leveling devices, uses of leveling devices) practical : a25: Learn (an error in the length of instrument and failure to adjust measurement times) a26: Identify (non-straightness of measuring line and non-straightness of measuring tool) a27: It records (an error in recording data a difference in the intensity of pulling or tightening the measuring instrument, and a difference in temperature)	theoretical: Settlement practical : Some sources of errors when measuring	theoretical: -Auditor methods, -Style of writing on The blackboard -Direct dialogue style Practical Assigning tasks and reports	Exams, Homework, Reports
15	1 theoretical 3 Pract	theoretical: b3: Apply (methods for calculating leveling) practical : b17: Applies (field visits to some agricultural departments, such as Nine Agriculture, to learn about their surveying tools and benefit from some real experiences about field measurements the obstacles they suffer from)	theoretical: Settlement practical : Field and field visits	theoretical: -Auditor methods, -Style of writing on The blackboard -Direct dialogue style Practical Assigning tasks and reports	Exams, Homework, Reports

11. Course Evaluation

	Evaluation Methods	Evaluation Date	Degree	Relative weight %
	Final report theoretical + pract. Report	theoretical 15 weeks Pract. 1-15 week	7 theoretical + 6 pract.	% 13
	Short exam (1)	Week (3)	4 theoretical + 2 pract.	% 6
	Half exam (theoretical + pract.)	Week (9)	10 theoretical + 5 pract.	% 15
	Short exam (2)	Week (12)	4 theoretical + 2 pract.	% 6
	Final exam (practical)	Exam pract.	20	% 20

	Final exam (theoretical)	Exam theoretical	40	% 40
			100	% 100
12. Learning and Teaching Resources				
Required textbooks (curricular books, if any)		Book on the foundations of plane space and topography. R Saleh Al-Khafaf		
Main references (sources)		Books related to flat space		
Recommended books and references (scientific journals, reports...)		All sites related to space and topography		

Theoretical subject teacher: Dr. Name: Dr. Karam Ali Younus
ALtaee



Practical subject teachers: M.M. Hamed Muhammad Ibrahim



Chairman of the Scientific Committee: Prof. Dr. Muthanna
Ahmed Muhammad Tayyib



Head of Animal Production Sciences: Prof. Dr. Omar Diaa
Muhammad

Course Description Form

1. Course Name:					
English Language 1					
2. Course Code:					
ENGL101					
3. Semester / Year:					
autumn/2023					
4. Description Preparation Date:					
01/02/2024					
5. Available Attendance Forms:					
presence					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2 Hours 2 Unit					
7. Course administrator's name (mention all, if more than one name)					
Name: Mostafa Abd Albaset Altaae Email: mostafa.altaae@uomosul.edu.iq					
8. Course Objectives					
Course Objectives		<ul style="list-style-type: none"> To going on studying the English language in special the scientific language Widening student mind about scientific and literature English vocabularies Helping the students to think and write in English 			
9. Teaching and Learning Strategies					
Strategy		Interactive lecture, brainstorming dialogue and discussion			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2hours Presence	The student should be able to know the basics of the English language	(a1)General Notes on Chapter Two	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussion quiz
2	2hours Presence	The student should be able to know the tenses of the English	(a2)Truths=Scientific Facts	Electronic lectures, videos, posters and	Exams - Repo Discussion

		language		other methods related to learning	quiz
3	2hours Presence	The student should be able to know the rules of the English language	(a3)Structure	Electronic lectures, videos, posters and other methods related to learning	Exams - Repo Discussion quiz
4	2hours Presence	The student should be able to know the basics of the English language	(a4)Negation	Electronic lectures, videos, posters and other methods related to learning	Exams - Repo Discussion quiz
5	2hours Presence	The student should be able to know the basics of the English language	(a5)Yes/No Questions	Electronic lectures, videos, posters and other methods related to learning	Exams - Repo Discussion quiz
6	2hours Presence	The student should be able to know the basics of the English language	(a6)WH- Questions Who- What-Where- When	Electronic lectures, videos, posters and other methods related to learning	Exams - Repo Discussion quiz
7	2hours Presence	The student should be able to know the basics of the English language	(a7)Subject unknown: animate subject	Electronic lectures, videos, posters and other methods related to learning	Exams - Repo Discussion quiz
8	2hours Presence	The student should be able to know the basics of the English language	(a8)The first examination.	Electronic lectures, videos, posters and other methods related to learning	Exams - Repo Discussion quiz
9	2hours Presence	The student should be able to know the basics of the English language	(a9)Inanimate Subject	Electronic lectures, videos, posters and other methods	Exams - Reports Discussions- quiz

				related to learning	
10	2hours Presence	The student should be able to know the basics of the English language	(a10)The scientific subject preparatory reading).	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions- quiz
11	2hours Presence	The student should be able to know the basics of the English language	(a11)Part of Complement is Unknown	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions- quiz
12	2hours Presence	The student should be able to know the basics of the English language	(a12)Verbs with Prepositions	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions- quiz
13	2hours Presence	The student should be able to know the basics of the English language	(a13)Statement with Verb Be.	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions- quiz
14	2hours Presence	The student should be able to know the basics of the English language	(a14)Yes/No Questions	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions- quiz
15	2hours Presence	The student should be able to know the basics of the English language	(b1)Thefinal examination of the sc. subject.	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions- quiz

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

No.	Evaluation Methods	Evaluation Date (Week)	Marks	Relative Weight (%)
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1	Quiz (1)	Week 4	Theoretical (5)	5
2	Monthly Exam (1)	Week 6	Theoretical (15)	15
3	Quiz (2)	Week 8	Theoretical (5)	5
4	Monthly Exam (2)	Week 13	Theoretical (15)	15
5	Quest rate.	Seasonal rates are announced at the end of the semester.	Theoretical: (40)	40
6	Final Theoretical Test.	The Week Of Theoretical Exams.	60	60
Total			100	100

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Rapid Review of English Grammar 2020–2021
Recommended books and references (scientific journals, reports...)	Rapid Review of English Grammar 2020-2021
Electronic References, Websites	



Course Description Form

1. Course Name:	
ANALYTICAL Chemistry	
2. Course Code:	
ANCH107	
3. Semester / Year:	
2024-2023	
4. Description Preparation Date:	
1-2-2024	
5. Available Attendance Forms:	
attendance	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 hours theoretical 3 hours practical /3.5 unit	
7. Course administrator's name (mention all, if more than one name)	
Name: ABDUSSAMED MOHAMMED ALI Email: abomas74@uomosul.edu.iq Name: Farah Sameer salh Email: farhsameer@uomosul.edu.iq ALAA TAHA AZEEZ Email: alaa.taha@uomosul.edu.iq	
8. Course Objectives	
Course Objectives Enabling students to know the principles of devices Identify the characteristics of the devices Accurately Finding the best methods for analysis Finding the appropriate and quick Method for analysis Enable the student to perform calculation To find concentrate the analyzed Materials and compare them with Standard methods Finding alternatives if the devices used Are not available	<ul style="list-style-type: none"> • Enabling students to know • The equipment in • Laboratories • Enabling the student • To conduct practical • Experiments enabling the • Student to use glassware • And knowing chemicals..... • •

9. Teaching and Learning Strategies

Strategy

Applying modern strategies for Education
Providing learners with many different skills and knowledge increase students ability to learn using effective modern strategies that help

1. Assigning group work to reveal
2. Leadership skills
3. Assigning tasks and reporting
For each experiment

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2h 3h	A1The student gets to know What is meant by b Chemistry Analytical /practical B6The student blames him On the app Measures related to the concept Ways and means To use devices	Introduction to chemistry Analytical Practical /guidelines About working in the laboratory	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions Kuzat
2	2h 3h	B1The student masters methods Expression About t focus and preparation Solutions Practical /b7 masters the laws used To prepare solutions	Ways of expression About focus and preparation Solutions Practical/laws used To prepare solutions Mathematical examples	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions Kuzat
3	2h 3h	B2Proficient in solving mathematical examples Practical preparation Solutions Practical /b8proficien solving examples Sports	And an introduction to Analytical chemistry Practical preparation Solutions Practical/mathematical examples Practical preparation Solutions	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions Kuzat
4	2h 3h	A2The student gets to know Break-even adjustments and	Break-even adjustments Practical Introduction to working methods	Lectures And Means Audio	Exams Reports Disucussions kuzat

		related matters With it Practical B9The student is familiar with work methods For equal settlements		And Reports And other method	
5	2h 3h	A3The student knows the most important things For applications Practical B10The student carries out a practical application To prepare standard acid	Break-even adjustments Applications on Break-even adjustments Practical acid preparation experiment standard	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions kuzat
6	2h 3h	A4The student gets to know Redox modifications Practical B11The practical application carries out a preparation experiment Standard base	Oxidation erosion And shorthand Practical/preparation experience Standard base	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions kuzat
7	2h 3h	A5The student gets to know Analysis of complex formation Practical B12A practical application carries out an estimation experiment Iron(II) with permanganate	Complex formation studies Practical / iron estimation experiment with Potassium permanganate	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions kuzat
8	2h 3h	A6The student gets to know Depositional facies Practical B13Performs a practical application Iron estimation experiment With potassium dichromate	Depositional facies Practical / iron estimation experiment With potassium dichromate	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions kuzat
9	2h 3h	A7The student learns about analysis Al-Wazani And the differences with Depositional delamination Practical A11 The student gets to know	Weight analysis And the differences with Depositional delamination PARTIAL / corrections Formation of complexes	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions kuzat

		Testimonials Formation of complexes			
10	2h 3h	A8The student learns about analysis The mechanism theories that She came for him Practical B14A practical Application implements a calcium Determination experiment In chalk Using corrections Formation of complexes	Instrumental analysis and theories that She came for him Practical/experiment for calcium determination In chalk Using corrections Formation of complexes	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions kuzat
11	2h 3h	A9The student learns about measurement methods chromatographic analysis Practical B15A practical Application implements an estimation experiment Total hardness o f water Using EDTA	Measurement methods in Color analysis Practical/ experience hardship assessment College water using EDTA	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions kuzat
12	2h 3h	B3He knows with appreciation Selected chemicals Practical B16A practical application implements estimation experiment Chloride by Moore's method in salt the food	To estimate Selected chemicals Practical/experiment for chloride estimation Murphy's table salt method	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions kuzat
13	2h 3h	A10The student gets to know Atomic Absorption spectrometry Practical B17A practical application implements estimation experiment Chloride by	Atomic absorption spectrometry Practical/ assessment experience Chloride by Moore's method Drinking water	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions kuzat

		Moore's method in drinking water			
14	2h 3h	B4The student is familiar with preparation methods Samples For chemical analysis Practical B18A practical application implements an estimation experiment Chloride by Volhard's method salt	Sample preparation methods For chemical analysis Practical /assessment experience Chloride by the Volhard method In table salt	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions kuzat
15	2h 3h	B5The student is proficient in solving open-ended questions Analytical chemistry Practical B19The student masters various questions about Practical chemistry and its experiments	Open questions in Analytical chemistry practical/ Various questions about Practical chemistry and its experiments	Lectures And Means Audio And Reports And other method	Exams Reports Disucussions kuzat


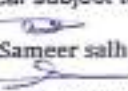
11. Course Evaluation

Relative weight%	class	Calendar appointment(week	Calendar methods
%13	practical6+theoretical7	Theoreticalweek15 Practical week1-15	Final report(experiments+practical)
%6	practical2+4theoretical	Week3	Short test1
%15	practical5+10theoretical	Week9	Midtermtheoretical+practicalexam
%6	practical2+4theoretical	Week12	Short test2
%20	20	Practical exam week	finalpracticaltest
%40	40	Theory exam week	Final theoretical test
%100	100		The total

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Quantitative of inorganic chemistry by Vogel,1973.،
Main references (sources)	الكيمياء العامة لطلبة كلية الزراعة والغابات ،تأليف د. سامي عبد علي ، د. سالم حامد ، د. معاذ عبد الله الحجار

Recommended books and references (scientific journals, reports...)	أسس الكيمياء التحليلية د. ثابت الغبشة ، د. مؤيد قاسم العبايجي
Electronic References, Websites	بعض المواقع العلمية الرصينة وخاصة للجامعات العراقية

Theoretical subject teacher Dr. Abdissamad MOHAMMEDALI 	practical subject teacher Farah Sameer salh  MRS. ALAA TAHA AZEEZ
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Course Description - Computer applications 1

1. Course Name:
Computer Applications 1
2. Course Code:
COMA103
3. Semester / Year:
First semester (Autumn) / first stage / 2023–2024
4. Description Preparation Date:
1/2/2024
5. Available Attendance Forms:
personally
6. Number of Credit Hours (Total) / Number of Units (Total)
30 hours / 1.5 units
7. Course administrator's name (mention all, if more than one name)
Name: Omar Shamil Ahmed Email: omarshamil@uom.edu.iq
8. Course Objectives
<ul style="list-style-type: none"> • Enabling the student to become familiar with the computer, its components, and its uses in agricultural experiments. • Enabling the student to know and understand computer systems and programs used in analyzes of agricultural experiments. • Enabling the student to understand and realize modern digital technologies for various agricultural and scientific experiments. • Providing the student with the skills to deal with types of operating systems. • Enable the student to disassemble and assemble parts of fixed and laptop computers. • Enabling the student to use all data input and output devices used to improve agricultural production.
9. Teaching and Learning Strategies
<ul style="list-style-type: none"> • Interactive lecture • Brainstorming • Dialogue and discussion • Practical exercises • Self-learning and assigning tasks and reports

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	A1: The student learns about the concept of computers and their role in the agricultural aspect	Introduction to computers and their importance in our daily lives The concept of computer systems and information technology	Interactive lecture, brainstorming, dialogue and discussion, assigning tasks and reporting	Evaluation of dialogue and discussion, quick questions, assignment of a report
2	2	B1: The student organizes computers according to their features, characteristics, and capabilities	Types of Computers Classifications of private and public computers	Interactive lecture, brainstorming, dialogue and discussion	Quiz, written test, homework
3	2	C1: The student connects the main parts of the motherboard, including the processor, memory, and buses	CPU components Computer Memory Primary Memory	Interactive lecture, brainstorming, dialogue and discussion, assigning tasks and reporting	Dialogue and discussion evaluation, quick questions, practical application
4	2	A2: The student compares the main types of memory (RAM, ROM, and Flash).	Main computer memory RAM, ROM, and flash memory	Interactive lecture, brainstorming, dialogue and discussion	Dialogue and discussion evaluation, Quiz, homework

5	2	A3: The student is familiar with the most important characteristics of stationary disks compared to hard disks and external disks	Secondary computer memory / Part One Internal, static and external hard disks	Interactive lecture, brainstorming, dialogue and discussion + scientific visit	Dialogue and discussion evaluation, quick questions, Semester exam 1
6	2	B2: The student documents the types of optical discs and the advantages of each type	Secondary computer memory / Part Two Optical discs and cloud storage	Interactive lecture, brainstorming, dialogue and discussion, assigning tasks and reporting	Dialogue and discussion evaluation, Quiz, homework
7	2	D1: The student analyzes the input units in the computer to employ them in supporting the agricultural field	Computer input units Types of code readers Audio and visual input units	Interactive lecture, brainstorming, dialogue and discussion	Dialogue and discussion evaluation, quick questions, practical application
8	2	D2: The student employs computer output techniques to display agricultural data and results	Computer output units Image, audio and text display units	Interactive lecture, brainstorming, dialogue and discussion	Quiz, written test, homework
9	2	C2: The student chooses the	The concept of software and its types	Interactive lecture, brainstorming,	Dialogue and discussion

		best application software to support work in the agricultural field	Systems software and application software	dialogue and discussion, assigning tasks and reporting	evaluation, quick questions, practical application
10	2	A4: The student learns about the Windows operating system and how to benefit from it	Windows operating system Desktop shortcut menu and PC icon	Interactive lecture, brainstorming, dialogue and discussion + scientific visit	Dialogue and discussion evaluation, semester exam 2, homework
11	2	A5: The student sorts the available choices into the desktop and PC shortcut menus	Shortlists Lists of folders and files	Interactive lecture, brainstorming, dialogue and discussion	Dialogue and discussion evaluation, quick questions, practical application
12	2	B3: The student extracts the important abbreviations included in the time, date, and language settings	Taskbar Part 1 Time, date and language settings	Interactive lecture, brainstorming, dialogue and discussion	Quiz, written test, homework
13	2	B4: The student determines the options available to ensure protection while the computer is connected to	Taskbar Part Two Communication and security settings	Interactive lecture, brainstorming, dialogue and discussion, assigning tasks and reporting	Evaluation of dialogue and discussion, quick questions, assignment of a report

		the network			
14	2	C3: The student analyzes the research methods available on the computer and uses them in designing reports	Taskbar menus and shortcuts Part 1 Search menus and design windows	Interactive lecture, brainstorming, dialogue and discussion	Dialogue and discussion evaluation, Quiz, homework
15	2	A6: The student classifies incoming notifications according to their source from the network, security, and applications	Taskbar menus and shortcuts Part 2 Notification lists	Interactive lecture, brainstorming, dialogue and discussion	Dialogue and discussion evaluation, quick questions

11. Course Evaluation

Seq.	Evaluation methods	Evaluation date (week)	Degree	Relative weight %
1	Report 1	Week 1	1	1
2	Report 2	Week 13	1	1
3	Quiz 1	Week 2	2	2
4	Quiz 2	Week 4	2	2
5	Quiz 3	Week 6	2	2
6	Quiz 4	Week 8	2	2
7	Quiz 5	Week 12	2	2
8	Quiz 6	Week 14	2	2
9	Practical application 1	Week 3	1.5	1.5
10	Practical application 2	Week 7	1.5	1.5
11	Practical application 3	Week 9	1.5	1.5
12	Practical application 4	Week 11	1.5	1.5
13	Semester exam 1	Week 5	10	10
14	Semester exam 2	Week 10	10	10
15	Final practical exam	Week 15	60	60
	Total	Final semester exams	100%	100%

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	The Lectures was prepared by computer lectures at the college based on several approved books
Main references (sources)	<ul style="list-style-type: none"> ▪ Fundamental ideas of computer science ▪ Resource usage of windows computer laboratories ▪ Defining computer program parts
Recommended books and references (scientific journals, reports...)	Introduction to computers (computer basics), prepared by: Abdullah Al-Shahrani
Electronic References, Websites	<ul style="list-style-type: none"> ▪ https://www.dawliatraining.com/training-packages-single/1025 ▪ https://edu.gcfglobal.org/en/tr_ar-misc/what-is-a-computer-/1/ ▪ https://www.edraak.org/programs/course-v1:Edraak+ICDL1+2019SP/

Practical subject teacher: Omar Shamil Ahmed

Chairman of the Scientific Committee:

Head of Department:



The image shows three handwritten signatures in blue ink. To the right of the signatures is a blue rectangular official stamp. The stamp contains the text 'جامعة القادسيه' (University of Al-Qadisiyah) at the top, 'كلية الزراعة والقطاعات' (Faculty of Agriculture and Related Fields) in the middle, and 'قسم الانتاج الحيواني' (Department of Animal Production) at the bottom. In the center of the stamp is a circular emblem featuring a building and a sun.

Course Description Form

1. Course Name:
General Zoology
2. Course Code:
GEZO123
3. Semester / Year:
autumnal fall semester / 2023-2024
4. Description Preparation Date:
1/4 /2024
5. Available Attendance Forms:
My presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical + 3 practical / 3.5 units
7. Course administrator's name (mention all, if more than one name)
Name: Abdul jabar kahlil and ammar manaf Email: jabar_obadi@uomosul.edu.iq ammar .manaf@ uomosul.edu.iq
8. Course Objectives
<ul style="list-style-type: none"> - Enabling the student to understand and assimilate the general animal subject - Knowing the importance of basic zoology - Enabling the student to become familiar with animal science sources - Enable the student to distinguish animals - Enable the student to diagnose and classify animals - Enabling the student to learn about the basic practical methods in studying zoology And ways to deal with zoology in a practical and applied way and learn about animals
9. Teaching and learning strategies
<ul style="list-style-type: none"> - Interactive lectures - Brainstorming - Dialogue and discussion - Assigning tasks and reports - Displaying models of animals and identifying them - Preparing reports and discussing with students - Work collectively - Preparing reports for each practical experience

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	Theoretical2	<p>a1: Learn about the concept of zoology, its benefits, introduction and definition of animals, and the historical development of zoology</p> <p>b1: He possesses the practical and mental knowledge and concepts that help him in studying animals</p> <p>c 3: Community members participate and work to educate them about the importance of animals</p>	Introduction to the importance and branches of zoology	<p>Auditory Methods</p> <p>Writing on the board</p> <p>Direct dialogue</p>	Semester exam 1, final exam
	practical 3	c 3: Uses the information the student needs and what is available to him to master how to use the microscope, its structure, and its function	Types of microscopes	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short Practical test1
2	Theoretical2	<p>a 2: The student explains the types of cells and the different foundations and elements of division and their types</p> <p>b1: The student writes the practical and mental knowledge and concepts that help him know the types of cells</p>	: Animal cell	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester 1, final exam
	Practical 3	c3: The student uses and discovers how to make and use microscopes	Use a microscope	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Direct Drawing of the parts of the microscope
3	Theoretical2	a 3: The student explains the different types of animal cell division and their importance in the field of zoology	Cell division	<p>theoretical: Auditory methods</p> <p>Writing on the board</p> <p>Direct dialogue</p>	Semester 1, final exam

	Practical 3	<p>b 1: Practicing thinking to solve work problems in preparation</p> <p>c 3: Uses important methods for preparing slides</p>	Preparing slides for examination	<p>Interactive lecture, brainstorming, dialogue and discussion,</p> <p>field training, and self-learning</p>	Practical evaluation
4	Theoretical2	<p>a 1: The student shows the different protoplasm and cytoplasm systems and their importance</p> <p>b3: Distinguish the protoplasm cytoplasm systems</p> <p>c 1 : The student designs methods to understand protoplasm and cytoplasm in the field of zoology</p>	Protoplasm and cytoplasm	<p>Interactive lecture, brainstorming, dialogue and discussion,</p> <p>field training, and self-learning</p>	Semester test 1, final test, report
	Practical 3	<p>C 3: The student uses the information he needs and what is available to him to master his work on the subject of animal ornaments</p> <p>C4: The student employs modern techniques to provide a practical explanation of animal cells</p>	Practical explanation of animal cells	<p>Interactive lecture, brainstorming, dialogue and discussion,</p> <p>field training, and self-learning</p>	Practical quiz 2, direct drawing

5	Theoretical2	<p>a 4: The student will be able to understand the theories of the origin of life</p> <p>b 3: Participates with community members and works to educate them about the importance of the origin of life</p>		<p>Interactive lecture, brainstorming, dialogue and discussion,</p> <p>field training, and self-learning</p>	Semester test 1, final test , report
	Practical 3	<p>C3: The student uses the information he needs in cell division</p> <p>b1: The student acquires coping skills in studying cell division</p>	Cellular division	<p>Interactive lecture, brainstorming, dialogue and discussion,</p> <p>field training, and self-learning</p>	Practical evaluation
6	Theoretical2	<p>a 2: The student explains the different types of tissues and their importance in studying animals</p> <p>b 4: The student demonstrates tissue identification skills</p>	Tissue	<p>Interactive lecture, brainstorming, dialogue and discussion,</p> <p>field training, and self-learning</p>	Short test , final test
	Practical 3	<p>C2: The student creates a study of the types of primary school division using modern computer applications</p> <p>C3: The student uses the information he needs and what is available to him in the subject of primary school</p>	Elementary Division	<p>Interactive lecture, brainstorming, dialogue and discussion,</p> <p>field training, and self-learning</p>	Direct Drawing And homework

7	Theoretical2	<p>b 3: The student evaluates methods for studying classification and naming</p> <p>c 1: The student designs methods for studying matters related to the classification of animals</p>	Classification and scientific nomenclature	<p>Interactive lecture, brainstorming, dialogue and discussion,</p> <p>field training, and self-learning</p>	Semester 2, final exam
	Practical 3	<p>C 1: The student innovates new methods for studying classification of animal species and modern computer applications for study</p> <p>c 3: The student uses the information he needs for classification and naming and what is available to him to master his work</p> <p>c 4: The student draws programs to develop the study of the classification of porosities in the field of zoology</p>	Porosity	<p>Interactive lecture, brainstorming, dialogue and discussion,</p> <p>field training, and self-learning</p>	Field project
8	Theoretical2	<p>b 1: The student practices skills to study the importance of invertebrates</p> <p>c 2: Applies modern techniques in the field of studying invertebrates in accordance with the requirements of zoology</p>	Invertebrates	<p>Interactive lecture, brainstorming, dialogue and discussion,</p> <p>field training, and self-learning</p>	Semester 2, final exam
	Practical 3	<p>c 2: The student invents new ways to study the cnidarians by hand, using modern computer applications, and has the ability to learn good ways to identify cnidarians.</p> <p>c3: The student uses the information he needs and what is available to him to master his work</p>	Cnidarians	<p>Interactive lecture, brainstorming, dialogue and discussion,</p> <p>field training, and self-learning</p>	Direct Drawing And homework
9	Theoretical2	<p>a 1: The student's knowledge of the importance of digestion and absorption in animals</p> <p>c 3: The student uses the information he needs and what is available to him to master his work in understanding the subject</p>	: Digestion and absorption	<p>Interactive lecture, brainstorming, dialogue and discussion,</p> <p>field training, and self-</p>	Semester 2, final exam

		of digestion and absorption		learning	
	Practical 3	<p>c2 : The student innovates new methods to study types of flatworms by hand and using modern computer applications</p> <p>c3: The student uses the information he needs and what is available to him to master his work</p>	Flatworms	<p>Interactive lecture, brainstorming, dialogue and discussion,</p> <p>field training, and self-learning</p>	Direct Drawing And homework
10	Theoretical2	<p>a 1: The student understands methods for studying the circulatory system of animals</p> <p>c 4: The student evaluates the use of methods to study the circulatory system in animals</p>	Circulatory device	<p>Interactive lecture, brainstorming, dialogue and discussion,</p> <p>field training, and self-learning</p>	Semester test2
	Practical 3	<p>c 1: The student designs new methods to study bagworms by hand and using computer applications</p> <p>c 3: The student uses the information he needs and what is available to him to master his work to understand the topic of bagworms</p>	Bagworms	<p>Interactive lecture, brainstorming, dialogue and discussion,</p> <p>field training, and self-learning</p>	Direct Drawing And homework
11	Theoretical2	<p>b2: The student expresses the importance of respiratory systems and types of breathing</p> <p>c1: The student will be able to use the computer in breathing methods and employ them in a way that is compatible with the study of zoology</p>	Breathing	<p>Interactive lecture, brainstorming, dialogue and discussion, self-learning</p>	Final test

	Practical 3	<p>c 2: The student invents new methods for species of the annelid phylum by hand and using modern computer applications</p> <p>c3: The student uses the information and resources available to him to master his work</p>	Annelids	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Direct Drawing And homework
12	Theoretical2	<p>a 1: The student is able to understand the importance of waste excretion systems in animals</p> <p>c 4: The student develops methods for studying the excretory system in zoology</p>	The excretory system	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Final test
	Practical 3	<p>C2: The student identifies the articular division of the leg</p> <p>C3: The student uses the information he needs and what is available to him to master his work</p>	Articulated feet	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Direct drawing homework
13	Theoretical2	<p>a2: The student explains the importance of the nervous system</p> <p>b3: The student discusses the information and what is available to him to master the work of studying the nervous system</p>	Nervous system	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Final test
	Practical 3	<p>C 2: The student identifies new methods for types of soft materials by hand and using modern computer applications</p> <p>C 3: The student prepares the information he needs in the Al-Nawaem Division and what is available to him to master his work</p>	mollusca	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Direct drawing homework
14	Theoretical2	<p>b 1: The student practices new methods for studying the phylum Echinodermata by hand and using modern computer applications</p>	Chemical coordination	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short test , final test

	Practical 3	<p>C3: The student prepares the information he needs about the phylum Echinodermata and what is available to him to master his work</p> <p>D17: He is proficient in the skills of communicating with modern technology efficiently, enabling him to accomplish his scientific and practical tasks</p>	Echinodermata	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short practical test3
15	Theoretical2	<p>a1: The student innovates new ways to study the skeleton by hand and using modern computer applications</p> <p>c4: The student develops his abilities to study the skeleton and use it in a manner consistent with the goals of zoology</p>	The skeleton and the rest of the themes	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short test , final test
	Practical 3	<p>b3: The student uses the information he needs and what is available to him to master his work on the subject of chordates and anatomy</p> <p>C 1: The student acquires skills in subject of anatomy</p>	Chordates and frog anatomy	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Practical Report

11. Course Evaluation

	Calendar methods	Evaluation date (one week)	Grade	Relative weight %
1	Report 1	fourth week	2.5	2.5
2	Report 2	The fifth week	2.5	2.5
3	Short test (1) Quiz	the sixth week	2	2
4	Short test (2) Quiz	The fourteenth week	2	2
5	Short test (3) Quiz	The fifteenth week	1	1

6	Semester test (1)	the sixth week	7.5	7.5
7	Semester test (2)	The eleventh week is difficult	7.5	7.5
8	Final theoretical test	Final semester exams	40	40
9	Report 3	The fifteenth week	5	5
10	Homework	The third and fifth week	2	2
11	Practical short test (1) Quiz	The first week	1	1
12	Short practical test (2) Quiz	fourth week	0.5	0.5
13	Short practical test (3) Quiz	The fourteenth week	1	1
14	Live graphics	Weeks 6, 8, 9, 10, 11, 12 and 13	5.5	5.5
15	Final practical test	Final semester exams	20	20
	the total		100	100%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Shlimon Najm and Zuhair Fattuhi (1989), General Zoology, Mosul University, Dar Al-Kutub Publishing House, 644 pages.
Main references (sources)	<p>- Abu Sunna Jamal and others (2003), Zoology, Dar Al-Fikr, Amman, 765 pages.</p> <p>2- Abu Tarbush Faisal and others (2002) Principles of Practical Zoology, King Saud University. Scientific Publishing, 189 pages.</p>
Recommended books and references (scientific journals, reports...)	Stephen A. and John P. (2007) Zoology, 7th Edition, published by McGraw-Hill Inc Avenue of America New York, 558 p
Electronic References, Websites	Scientific researcher and journals in zoology and Research gate.....

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Theoretical subject teacher : Dr. Abdul-Jabbar Khalil Ibrahim



Practical subject teacher: Ammar Manaf Muhammad

Head of the Scientific Committee in the Plant Protection Department.

Prof. Dr. Muthanna Ahmed Muhammad



Department Head: Prof. Dr Omar Diaa Muhammad

Course Description Form

1. Course Name:	
Organic Chemistry	
2. Course Code:	
ORCH105	
3. Semester / Year:	
Autum Semester /Academic Year 2023	
4. Description Preparation Date:	
1-9-2023	
5. Available Attendance Forms:	
Platform	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 hours Theoretical 3 hours practical /3.5 unit	
7. Course administrator's name (mention all, if more than one name)	
Name:, Lecturer Sura Salim Hamid, Lecturer Alaa Taha Azeez Email: surasaIimhamid74@uomosul.edu.iq	
8. Course Objectives	
<p>Theoretical:</p> <ul style="list-style-type: none"> ▪ Providing students with awareness of the importance of chemistry at the industrial, agricultural and environmental levels. ▪ Provide applications with a broad foundation and balance of knowledge and skills in organic chemistry. ▪ Developing the student's ability to apply their knowledge and professional skills in solving experimental problems in chemistry, which exceeds the goals of practical development. ▪ Developing the skills of valuable students in their field of specialization. ▪ Students gain from applying and employing their skills to serve society 	<p>Practical:</p> <ul style="list-style-type: none"> ▪ Introducing and informing the student about the most important devices and equipment ▪ Used in the laboratory ▪ Introducing the student to the most important conditions that must be met in an ideal laboratory ▪ Introducing the student to safety procedures while working in the laboratory. ▪ Teaching the student the best diagnostic methods. ▪ Finding the appropriate and quick method for diagnosis ▪ Enable the student to perform calculations to find the concentrations of substances and the percentages of the resulting substances. ▪ Finding alternatives if the devices used are not available.

9. Teaching and Learning Strategies					
Theoretical: ▪ Interactive lecture ▪ Brainstorming ▪ Dialogue and discussion ▪ Assignment of reports ▪ Conduct daily tests and monthly examinations			Practical: ▪ Interactive lecture ▪ Discussion, dialogue and brainstorming ▪ Conducting laboratory experiments ▪ Set reports ▪ Conduct daily tests and ▪ Monthly checks		
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2h 3h	A1: The student learns about the concept of organic chemistry and its importance in different areas of life. C1: Student sets the melting point	Theoretical: General principles of organic chemistry practical: Determination of melting point	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
2	2h 3h	A2: The student is familiar with the most important properties, names, reactions, and preparation of alkanes C2: The student determines the boiling point	Theoretical: Saturated Hydrocarbons (alkanes) practical: Determination of boiling point	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
3	2h 3h	A3: The student learns about the types of alkenes in terms of nomenclature and methods of preparing them A4: The student uses a distillation device for purification	Theoretical: Unsaturated Hydrocarbons (alkenes) practical: Purification of liquid organic compounds by simple distillation	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
4	2h 3h	A5: The student understands the types of reactions of alkenes and dienes A6: The student learns about the types of solvents used for recrystallization	Theoretical: Reactions of alkenes and types of dienes Practical: Recrystallization + Scientific visit	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions

5	2h 3h	A7: The student learns about the types of alkynes in terms of nomenclature, methods of preparing them, and their reactions A8: The student learns the procedure for purifying solid organic compounds by sublimation	Theoretical: Alkynes (acetylenes) practical: Sublimation	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
6	2h 3h	A9: The student learns about the chemical and physical properties of aromatic compounds and ways to name them practical: B1: The student carries out a practical application procedure on how to separate liquid or solid organic compounds by solvent extraction	Theoretical: Properties and nomenclature of aromatic compounds practical: Solvent extraction	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
7	2h 3h	A10: The student understands the methods of preparing aromatic compounds and the types of their reactions A11: The student learns how to prepare methane gas in the laboratory	Theoretical: Preparation and reactions of aromatic compounds practical: Preparation of methane gas	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
8	2h 3h	A12: The student learns about the properties and nomenclature of alcohols and phenols A13: The student learns how to prepare 1_Butene	Theoretical: Properties and nomenclature of alcohols and phenols practical: Preparation 1_Butene	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions

9	2h 3h	A14: The student is familiar with the methods of preparation and reactions of alcohols and phenols B2: The student carries out a practical application by preparing acetylene gas	Theoretical: Preparation and reactions of alcohols and phenols practical: Preparation of acetylene gas	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
10	2h 3h	A15: The student learns about ethers, how to prepare them, and the types of their reactions B3: The student carries out a practical application to detect types of alcohol	Theoretical: Ethers practical: Study of the properties of alcohols	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
11	2h 3h	A16: The student learns how to name, prepare and react aldehydes B4: The student carries out a practical application on how to distinguish between aldehydes and ketones	Theoretical: Preparation, naming and reactions of aldehydes practical: Reaction and detection of aldehydes and ketones	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
12	2h 3h	A17: The student learns about the names, preparation, and reactions of ketones B5: The student carries out a practical application on how to prepare acetone	Theoretical: Preparation, nomenclature and reactions of ketones practical: Preparation of acetone	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
13	2h 3h	A18: The student learns about carboxylic acids and studies their chemical properties D1: Experience a practical application on how to prepare Propanoic acid	Theoretical: Properties and nomenclature of carboxylic acids practical: Preparation of propanoic acid	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions
14	2h 3h	A19: The student understands the types of reactions and	Theoretical: Reactions and preparation of	Lectures And audio means	Exams Reports Discussion and

		methods for preparing carboxylic acids B6: The student applies how to prepare propionaldehyde	carboxylic acids practical: Preparation of propionaldehyde	And reports And conduct experiments	questions
15	2h 3h	A20: The student understands the importance of amines A21: The student is familiar with the methods of detecting theoretical elements: Amines Detect items	Theoretical; Amines practical: Detect items	Lectures And audio means And reports And conduct experiments	Exams Reports Discussion and questions

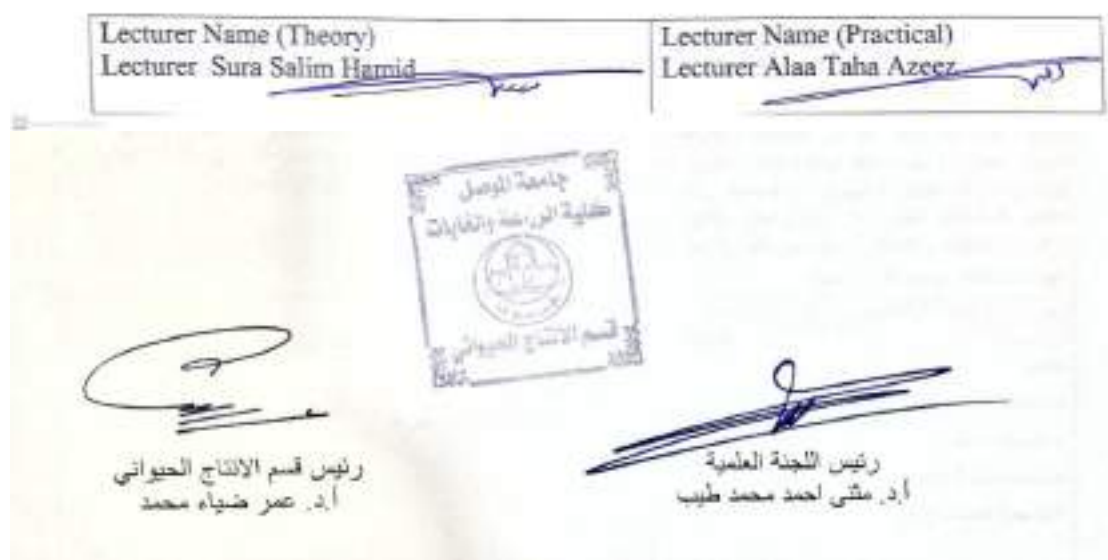
11.Course Evaluation

t	Evaluation methods	Evaluation date (one week)	Grade	Relative weight %
1	Final theoretical report + theoretical practical reports	Theoretical 15 weeks Practical 1-15 weeks	7theoretical + 6 practical	13%
2	Short test 1 Quiz	3 weeks	4theoretical + 2practical	6%
3	Midterm exam (theoretical and practical)	9 weeks	10theoretical + 5 practical	15%
4	Short test 2 Quiz	12 weeks	4 theoretical + 2 practical	6%
5	Final practical test	practical exams week	20	20%
6	Final theoretical exam	theoretical exams week	40	40%
			100	100

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Organic Chemistry book Authors: <ul style="list-style-type: none"> Prof. Dr. Salim Hamid Hussein Prof. Dr. Sami Abdul-Ali Khalid Fathi Al-Shahari University of Mosul 2013 Dar Al-Kutub for Printing and Publishing
Main references (sources)	Organic Chemistry Authors: <ul style="list-style-type: none"> Dr. Badie Aii Ahmed Dr. Salim Hamid Hussein Khalid Fathi Al-Shahari Published by Mosul University Press in 1991
Recommended books and references (scientific journals, reports...)	Principles of Organic Chemistry

	<p>Authors:</p> <ul style="list-style-type: none"> • Prof.Dr. Mohamed Magdy Wasel/Cairo <p>Fundamentals of Organic Chemistry</p> <p>Authors:</p> <p>Prof. Dr. Mohamed Wasel</p>
Electronic References, Websites	<p>https://arabian-chemistry.com/</p> <p>https://scholar.google.com/</p>



Course Description Form

1. Course Name:		
Principles of field crops		
2. Course Code : PRFC112		
3. Semester / Year:		
The second Spring /2023/2024		
4. Description Preparation Date:		
1/2 /2024		
5. Available Attendance Forms:		
Attended		
6. Number of Credit Hours (Total) / Number of Units (Total):		
(75 hours) (3.5 units)		
7. Course administrator's name (mention all, if more than one name)		
1- Name: Mohammed Ameen Haji Email: msc.mohammed.ameen@uomosul.edu.iq 2- Ammar Habeeb Mahmoud Email: Ammar.habeeb@uomosul.edu.iq		
8. Course Objectives		
Course Objectives (theoretical) 1- Enabling the student to understand and assimilate the scientific material of the program in terms of understanding, memorization, analysis and synthesis while acquiring practical skills in identification, diagnosis and discrimination and providing the student with theoretical information on how to follow modern methods of growing field crops. 2- Learn about the branches of field crop science. 3- Learn about the division of field crops.	(practical) 1- Learn about methods for distinguishing field crop seeds. 2- Learn about soil service processes. 3- Learn about crop service operations.	
9. Teaching and Learning Strategies		
Strategy	(theoretical) Interactive lecture Brainstorming Dialogue and discussion Assigning tasks and reporting He is assigned to prepare a report entitled from his diligence It is prepared for discussion with students	(practical) Assignment to team work Assigning tasks and reporting

100Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theoretical 3 practical	(theoretical) a1 : Learn about the branches of crop science Field (practical) b6 : Explains the morphological specifications For different crops	(theoretical) Field crops (practical) Distinctive botanical specifications	(theoretical) Auditory methods. Style of writing on the blackboard. Direct dialogue style. Electronic class Google Classroom. (practical) Assigning tasks and reporting.	Short exams, assignment of homework, discussions, student attendance
2	2Theoretical 3 practical	(theoretical) b1 : Explains the division of field crops (practical) c5 : Shows the different types of seeds	(theoretical) Division of field crops (practical) Differentiating crop seeds	(theoretical) Auditory methods. Style of writing on the blackboard. Direct dialogue style. Electronic class Google Classroom. (practical) Assigning tasks and reporting.	Short exams, assignment of homework, discussions, student attendance

3	2 Theoretical 3 practical	(theoretical) a2 : Explain plant families (practical) b7 : Explains the types of germination and the distinction between them Its types	(theoretical) Botanical description of the most important families Field crops (practical) Germination of field crop seeds	(theoretical) Auditory methods. Style of writing on the blackboard. Direct dialogue style. Electronic class Google Classroom. (practical) Assigning tasks and reporting.	Short exams, assignment of homework, discussions, student attendance
4	2 Theoretical 3 practical	(theoretical) b2 : Shows the natural and geographical distribution For the soil of Iraq (practical) c6 : See the types of tillage and their benefits	(theoretical) Environmental factors and their relationship to growth Field crops (practical) Soil service operations	(theoretical) Auditory methods. Style of writing on the blackboard. Direct dialogue style. Electronic class Google Classroom. (practical) Assigning tasks and reporting.	Short exams, assignment of homework, discussions, student attendance
5	2 Theoretical 3 practical	(theoretical) c1 : Establishes the factors that affect temperature Geographical location (practical) b8 : Explains the types	(theoretical) The relationship of environmental factors to growth Crops Field/temperature (practical)	(theoretical) Auditory methods. Style of writing on the blackboard.	Short exams, assignment of homework, discussions, student

		of machines and their purpose Use it	Machines used in plowing Smoothing and leveling	Direct dialogue style. Electronic class Google Classroom. (practical) Assigning tasks and reporting.	attendance
6	2 Theoretical 3 practical	(theoretical) b3 : Enumerate the harmful effects of temperature High and low crops Field (practical) c7 : Enumerates the benefits and symptoms of using fertilizers Lack of elements in plants	(theoretical) Temperature relationship With crops Field (practical) Fertilizers and fertilization	(theoretical) Auditory methods. Style of writing on the blackboard. Direct dialogue style. Electronic class Google Classroom. (practical) Assigning tasks and reporting.	Short exams, assignment of homework, discussions, student attendance
7	2Theoretical 3practical	(theoretical) a3 : Known as the photoperiod (practical) b9 : Explains methods of planting seeds	(theoretical) The relationship of environmental factors to growth Field/light crops (practical) application of planting seeds Different crops depending on date Cultivate it	(theoretical) Auditory methods. Style of writing on the blackboard. Direct dialogue style. Electronic class Google	Short exams, assignment of homework, discussions, student attendance

				Classroom. (practical) Assigning tasks and reporting.	
8	2 Theoretical practical 3	(theoretical) c2 : Enumerate aquatic plants (practical) c8 : Masters the importance of crop service operations	(theoretical) The relationship of environmental factors to growth Field crops/water (practical) Crop service operations	(theoretical) Auditory methods. Style of writing on the blackboard. Direct dialogue style. Electronic class Google Classroom. (practical) Assigning tasks and reporting.	Short exams, assignment of homework, discussions, student attendance
9	2Theoretical 3 practical	(theoretical) a4 : Knows soil air (practical) b10 : The type of irrigation is chosen according to the crop And the surrounding environment	(theoretical) The relationship of environmental factors to growth Field crops/soil (practical) Irrigation and drainage	(theoretical) Auditory methods. Style of writing on the blackboard. Direct dialogue style. Electronic class Google Classroom. (practical) Assigning tasks and reporting.	Short exams, assignment of homework, discussions, student attendance
10	2Theoretical 3 practical	(theoretical) b4 : He enumerates the	(theoretical) The relationship	(theoretical) Auditory	Short exams,

		<p>methods that can be followed with little effect</p> <p>Erosion, especially in agricultural areas (practical)</p> <p>c9 : Shows the types of jungles</p>	<p>of environmental factors to growth</p> <p>Field crops /air (practical)</p> <p>Jungle plants and how to Fight it</p>	<p>methods.</p> <p>Style of writing on the blackboard.</p> <p>Direct dialogue style.</p> <p>Electronic class</p> <p>Google Classroom. (practical)</p> <p>Assigning tasks and reporting.</p>	<p>assignment of homework, discussions, student attendance</p>
11	2Theoretical 3 practical	<p>(theoretical)</p> <p>a5 : Knows mutual benefit (practical)</p> <p>b11 : Applies the use of pesticides and their benefits</p>	<p>(theoretical)</p> <p>Life factors: plants And animals and their impact on production And distribution of field crops (practical)</p> <p>The use of pesticides to combat the jungle</p>	<p>(theoretical)</p> <p>Auditory methods.</p> <p>Style of writing on the blackboard.</p> <p>Direct dialogue style.</p> <p>Electronic class</p> <p>Google Classroom. (practical)</p> <p>Assigning tasks and reporting.</p>	<p>Short exams, assignment of homework, discussions, student attendance</p>
12	2Theoretical 3 practical	<p>(theoretical)</p> <p>a6 : Describes the structure of the seed (practical)</p> <p>c10 : Uses appropriate methods for operations Field</p>	<p>(theoretical)</p> <p>Seeds and their importance (practical)</p> <p>Field operations after planting (skinning and patching)</p>	<p>(theoretical)</p> <p>Auditory methods.</p> <p>Style of writing on the blackboard.</p> <p>Direct dialogue</p>	<p>Short exams, assignment of homework, discussions, student attendance</p>

				style. Electronic class Google Classroom. (practical) Assigning tasks and reporting.	
13	2Theoretical 3 practical	(theoretical) b5 : Enumerate the points to be taken into consideration Agricultural cycle design (practical) b12 : Chooses the appropriate date for operations harvest	(theoretical) Agricultural cycle (practical) Ripening, harvesting and threshing	(theoretical) Auditory methods. Style of writing on the blackboard. Direct dialogue style. Electronic class Google Classroom. (practical) Assigning tasks and reporting.	Short exams, assignment of homework, discussions, student attendance
14	2Theoretical 3 practical	(theoretical) c3 : Shows methods of breeding and improving crops Self-pollinating (practical) c11 : Tests seed samples for a purpose Checked it	(theoretical) Breeding and improving crops Field (practical) Grading of grains and seeds	(theoretical) Auditory methods. Style of writing on the blackboard. Direct dialogue style. Electronic class Google Classroom. (practical) Assigning	Short exams, assignment of homework, discussions, student attendance

				tasks and reporting.	
15	2Theoretical 3 practical	(theoretical) c4 : Enumerate grain crops (practical) b13 : Explains field operations after harvest	(theoretical) Main field crops In Iraq and the world (practical) Field practical application	(theoretical) Auditory methods. Style of writing on the blackboard. Direct dialogue style. Electronic class Google Classroom. (practical) Assigning tasks and reporting.	Short exams, assignment of homework, discussions, student attendance

11.Course Evaluation

	Evaluation methods	Evaluation date (week)	Degree	Percentage weight%
1	Report 1	fourth week	2.5	2.5
2	Report 2	fifth week	2.5	2.5
3	Short test Quiz (1)	sixth week	2	2
4	Short test Quiz (2)	fourteenth week	2	2
5	Short test Quiz (3)	fifteenth week	1	1
6	Semester test (1)	sixth week	7.5	7.5
7	Semester test (2)	eleventh week	7.5	7.5
8	Final theoretical test	Final semester exams	40	40
9	Practical field project	fifteenth week	5	5
10	Field evaluation	The third and fifth week	2	2
11	Practical short test Quiz (1)	first week	1	1
12	Practical short test Quiz (2)	fourth week	0.5	0.5
13	Practical short test Quiz (3)	fourteenth week	1	1
14	Live drawings and homework	Weeks 6, 8, 9, 10, 11, 12 and 13	5.5	5.5

15	Final practical test	Final semester exams	20	20
	Total	100	100%	100%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	(Principles of field crops (theoretical Dr. Majeed Mohsen Al-Ansari Dr. Abdul Majeed Ahmed Al-Younis Dr. Ghanem Saadallah Hasawi Dr. Wafqi Shaker Al-Shamaa (Principles of field crops (practical Dr. Majeed Mohsen Al-Ansari Dr. Abdul Majeed Ahmed Al-Younis Dr. Ghanem Saadallah Hasawi Dr. Wafqi Shaker Al-Shamaa
Main references (sources)	Field crop production Dr. Mohsen Ali Ahmed Al-Janabi
Recommended books and references (scientific journals, reports...)	All books, scientific journals, and reports specialized in field crops.
Electronic References, Websites	All references and websites concerned with field crops.

Theoretical subject teacher : Mohammed Ameen Haji

Practical subject teacher : Ammar Habeeb Mahmoud

Chairman of the Scientific Committee : Prof. Dr. Muthanna Ahmed Mohamed Tayeb

Head of the Animal Production Department : Prof. Dr. Omar Diaa Mohammed



Course Description of Principles of poultry

1. Course Name					
Principles of poultry					
2. Course Code					
PRPO125					
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		
Dr. Ahmed Mohamed Thabet Qasem			Email : ahmed.alniemy@uomosul.edu.iq		
8. Course Objectives					
theoretical 1- Enable the student to identify poultry, their types classification. 2- For the student to recognize the importance of poultry production. 3- Teaching the student the correct scientific foundations for raising and producing poultry. 4- Enabling the student to know how to make the most of production Poultry.			practical 1- Introducing the student to the types of poultry their breeds. 2- Teaching the student how to manage it. 3- Teaching the student modern means of production.		
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 poultry - the origin of poultry - the importance of poultry production - poultry science Practical: b6: The student is familiar with the scientific classification of poultry	theoretical poultry - the origin of poultry - the importance of poultry production - poultry science Practical: scientific classification of	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions

			poultry		
Second	2 Theoretical 3 Practical	Theoretical: a2: The student learns about the varieties and types of poultry - the classification of chickens - the scientific classification of chickens Practical: b7: The student is familiar with the reality of poultry meat production	Theoretical: varieties and types of poultry - the classification of chickens - the scientific classification of chickens Practical: reality of poultry meat production	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 economic classification of chickens - the geographical classification of chickens Practical: b8: The student is familiar with the geographical classification of domestic birds	Theoretical: classification of chickens - the geographical classification of chickens Practical: geographical classification of domestic birds	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 the advantages of raising and producing poultry - poultry products Practical: b9: The student is familiar with hatching	Theoretical: advantages of raising and producing poultry - poultry products Practical: The student is familiar with hatching	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 the poultry industry - poultry projects - poultry housing Practical: b10: The student shows the incubation of chicks	Theoretical: the poultry industry - poultry projects - poultry housing Practical: incubation of chicks	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
Sixth	2 Theoretical 3 Practical	Theoretical: a5: The student understands hatching - types of hatching - hatcheries - components of hatching Practical: b11: The student shows the types of poultry	Theoretical: hatching - types of hatching - hatcheries - components of hatching Practical: types of poultry	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
Seventh	2 Theoretical	Theoretical:	Theoretical:	Theoretical:	- Tests.

	3Practical	<p>b2: The student is familiar with the specifications of eggs suitable for hatching - examining eggs - hatching problems - a field project</p> <p>Practical: b12: The student is familiar with the types of poultry - a field project</p>	<p>specifications of eggs suitable for hatching - examining eggs - hatching problems - a field project</p> <p>Practical: the types of poultry - a field project</p>	<p>Visual and auditory methods Explanation and dialogue style</p> <p>Practical: Assignment and report</p>	Assignment Discussions
Eighth	2 Theoretical 3Practical	<p>Theoretical: a6: The student learns about quail birds - raising quails - producing eggs in quails</p> <p>Practical: c1: The student identifies the anatomy of a chicken</p>	<p>Theoretical: quail birds - raising quails - producing eggs in quails</p> <p>Practical: anatomy of a chicken</p>	<p>Theoretical: Visual and auditory methods Explanation and dialogue style</p> <p>Practical: Assignment and report</p>	- Tests. Assignment Discussions
Ninth	2 Theoretical 3Practical	<p>Theoretical: b3: The student is familiar with ducks - types of ducks - geese - types of geese</p> <p>Practical: c2: The student explains the conditions that must be met in poultry housing</p>	<p>Theoretical: ducks - types of ducks - geese - types of geese</p> <p>Practical: conditions that must be met in poultry housing</p>	<p>Theoretical: Visual and auditory methods Explanation and dialogue style</p> <p>Practical: Assignment and report</p>	- Tests. Assignment Discussions
Tenth	2 Theoretical 3Practical	<p>Theoretical: b4: The student is familiar with turkey chickens - raising and producing turkeys - requirements for caring for turkey chickens</p> <p>Practical: c3: Explains to the student of poultry nutrition</p>	<p>Theoretical: turkey chickens - raising and producing turkeys - requirements for caring for turkey chickens</p> <p>Practical: poultry nutrition</p>	<p>Theoretical: Visual and auditory methods Explanation and dialogue style</p> <p>Practical: Assignment and report</p>	- Tests. Assignment Discussions
Eleventh	2 Theoretical 3Practical	<p>Theoretical: a7: The student remembers the principles of poultry nutrition - formulating poultry diets - a field project</p> <p>Practical: c4: The student distinguishes how to calculate the diets of broilers and laying hens - a field project</p>	<p>Theoretical: principles of poultry nutrition - formulating poultry diets - a field project</p> <p>Practical: diets of broilers and laying hens - a field project</p>	<p>Theoretical: Visual and auditory methods Explanation and dialogue style</p> <p>Practical: Assignment and report</p>	- Tests. Assignment Discussions
Twelfth	2 Theoretical	<p>Theoretical: b5: The student reveals</p>	<p>Theoretical: fertility - factors</p>	<p>Theoretical: Visual and</p>	- Tests. Assignment

	3Practical	reproduction - fertility - factors affecting fertility Practical: b13: The student is familiar with poultry diseases	affecting fertility Practical: poultry diseases	auditory methods Explanation and dialogue style Practical: Assignment and report	Discussions
Thirteen	2 Theoretical 3Practical	Theoretical: a8: The student learns about poultry meat production - the factors affecting it Practical: b14: The student is familiar with poultry diseases	Theoretical: poultry meat production - the factors affecting it Practical: poultry diseases	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
fourteenth	2 Theoretical 3Practical	Theoretical: a9: The student learns about egg production in poultry - the factors affecting it Practical: b15: The student is familiar with poultry slaughterhouses	Theoretical: egg production in poultry - the factors affecting it Practical: poultry slaughterhouses	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
Fifteenth	2 Theoretical 3Practical	Theoretical: a10: The student learns about health care - the most important diseases that affect poultry Practical: b16: The student is familiar with raising laying hens	Theoretical: health care - the most important diseases that affect poultry Practical: raising laying hens	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions

11. Course Evaluation

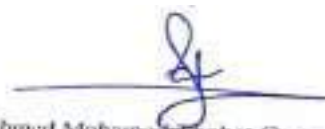
This service allows customers to issue a permit	Evaluation Methods	Calendar Appointment (Week)	Degree	Relative Weight%
1	Theoretical Final Report + Practical Experience Reports	Theoretical Week 15 Practical Week 1-15	7Theoretical +6Practical	13%
2	Quiz (1)	Week (3)	4Theoretical +2Practical	6%
3	Midterm 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 of scientific foundations in the care and production of poultry birds
Key References (Sources)	
Recommended supporting books and references (scientific journals, reports...)	
E-References , Websites	



Dr. Khaleel Hadi Mustafa

Instructor of theoretical subject



Dr. Ahmed Mohamed Thabet Qassem

Instructor of practical subject



Course Description Form

1. Course Name:					
Mathematics					
2. Course Code:					
MATH104					
3. Semester / Year:					
Autumn semester / 2023-2024- First stage					
4. Description Preparation Date:					
1/2/2024					
5. Available Attendance Forms:					
Attendance					
6. Number of Credit Hours (Total) / Number of Units (Total):					
30 practical hours/2 units					
7. Course administrator's name (mention all, if more than one name)					
Name: Mustafa Nadhim Salim mustafa.nadhim@uomosul.edu.iq					
8. Course Objectives					
<ul style="list-style-type: none"> -Recognize the ideas behind different mathematical equations, the associated conditions, and the methods for solving them. -Gaining expertise in addressing partial derivatives in mathematical situations. -Giving the learner the opportunity to learn about mathematics in general and how it's used in various experiments -Giving the learner the ability to comprehend mathematics, apply it to situations, and follow the right procedures -Equipping the learner with the knowledge and abilities to handle diverse mathematical topics and applications. -Giving the student the ability to tackle challenging issues and a range of applications in diverse domains -Improving the student's proficiency using contemporary mathematical techniques. -Improving the student's proficiency with mathematics on websites for academic communication and the Internet. -Improving the student's capacity for discussion and conversation. 					
9. Teaching and Learning Strategies					
<ul style="list-style-type: none"> - Scientific lectures, brainstorming, self-learning - Giving exercises and solutions to the exercises to students in various areas of general mathematics - Assigning students to prepare reports on various mathematics topics - Giving an assignment on the topic at the end of each lecture to solve mathematical problems 					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 practical	A1 :The student should be able to know and understand groups of numbers and divide groups on a number line	numbers in mathematics	Lectures, giving exercises and solutions to exercises to students, daily exams, homework	Quizzes, Homework, Discussion and solving exercises within the lecture, student interaction
2	2 practical	B1 :The student should be able to know and understand	Groups in mathematics	Lectures, giving exercises and solutions to	Quizzes, Homework, Discussion and

		groups and operations on groups		exercises to students, daily exams, homework	solving exercises within the lecture, student interaction
3	2 practical	C1 :The student should be able to know and understand the basic the fundamental matrix definitions and theorems.	Matrices, operations on matrices, orthogonal matrix	Lectures, giving exercises and solutions to exercises to students, daily exams, homework	Quizzes, Homework, Discussion and solving exercises within the lecture, student interaction
4	2 practical	C1 :The student should be able to know and understand the basic the fundamental matrix definitions and theorems.	Square, diagonal, rectangular matrix.	Lectures, giving exercises and solutions to exercises to students, daily exams, homework	Quizzes, Homework, Discussion and solving exercises within the lecture, student interaction
5	2 practical	C1 :The student should be able to know and understand the basic the fundamental matrix definitions and theorems.	Conjugate matrix, inverse matrix.	Lectures, giving exercises and solutions to exercises to students, daily exams, homework	Quizzes, Homework, Discussion and solving exercises within the lecture, student interaction
6	2 practical	C1 :The student should be able to know and understand the basic theorems and definitions related to determinants	Determinants, defined from the first, second, third, and fourth order.	Lectures, giving exercises and solutions to exercises to students, daily exams, homework	Quizzes, Homework, Discussion and solving exercises within the lecture, student interaction
7	2 practical	A2 :The student should be able to know and understand the basic theorems and definitions related to determinants	Cramer's rule.	Lectures, giving exercises and solutions to exercises to students, daily exams, homework	Quizzes, Homework, Discussion and solving exercises within the lecture, student interaction,
8	2 practical	C2 :The student should be able to know and understand the basic theorems and definitions related to derivatives	Derivatives, laws of derivatives.	Lectures, giving exercises and solutions to exercises to students, daily exams, homework	Quizzes, Homework, Discussion and solving exercises within the lecture, student interaction,
9	2 practical	A3 :The student should be able to know and understand the basic theorems and definitions related to trigonometric functions	Trigonometric functions	Lectures, giving exercises and solutions to exercises to students, daily exams, homework	Quizzes, Homework, Discussion and solving exercises within the lecture, student interaction
10	2 practical	A3 :The student should be able to know and understand the basic theorems and definitions related to exponential functions	Exponential functions.	Lectures	Quizzes, Homework, Discussion and solving exercises within the lecture, student interaction

11	2 practical	A3 :The student should be able to know and understand the basic theorems and definitions related to logarithmic functions	Logarithmic functions.	Lectures, giving exercises and solutions to exercises to students, daily exams, homework	Quizzes, Homework, Discussion and solving exercises within the lecture, student interaction
12	2 practical	B2 :The student should be able to know and understand the basic theorems and definitions related to integration and the laws of integration.	Integration, laws of integration.	Lectures, giving exercises and solutions to exercises to students, daily exams, homework	Quizzes, Homework, Discussion and solving exercises within the lecture, student interaction
13	2 practical	B2 :The student should be able to know and understand the basic theorems and definitions related to the integration of trigonometric functions	Integration of trigonometric functions.	Lectures, giving exercises and solutions to exercises to students, daily exams, homework	Quizzes, Homework, Discussion and solving exercises within the lecture, student interaction
14	2 practical	B2 :The student should be able to know and understand the basic theorems and definitions related to the integration of exponential functions	Integration of exponential functions.	Lectures, giving exercises and solutions to exercises to students, daily exams, homework	Quizzes, Homework, Discussion and solving exercises within the lecture, student interaction
15	2 practical	B2 :The student should be able to know and understand the basic theorems and definitions related to the integration of logarithmic functions	Integration of logarithmic functions.	Lectures, giving exercises and solutions to exercises to students, daily exams, homework	Quizzes, Homework, Discussion and solving exercises within the lecture, student interaction

11.Course Evaluation

Week		Grade
3	Quiz	%1
5	Quiz	%1
6	First Semester Exam	%15
7	Quiz	%1
9	Quiz	%1
11	Quiz	%1
14	Second Semester Exam	%15
1-15	Assignments	%4
1-15	Attendance	%1
Pursuit Score		%40
Final Exam		%60
Final Grade		%100

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Mathematics for Machine Learning author M. P.
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	Deisenroth, A. A. Faisal and C. S. Ong
Main references (sources)	Mathematical Handbook of Formulas and Table
Recommended books and references (scientific journals, reports...)	1300 Math Formulas
Electronic References, Websites	https://mathblog.com/mathematics-books/





رئيس اللجنة العلمية
 رئيس القسم
 مدرس المادة
 م.م مصطفى ناظم سائق

Course description form

Course Name .1	
Statistical	
Course Code .2	
STAT109	
Semester/ year .3	
Second (spring) semester 2023–2024	
Date this description was prepared .4	
2024/2/1	
A. Available attendance forms .5	
My presence	
Number of study hours (total)/number of units (total) .6	
theoretical + 3 practical / 3.5 units 2	
Name of the course administrator (if more than one name is .7 (mentioned	
M. Raghad Naseer Walid :Name M. M. Nahid Sharif Omar	
objectives Course .8	
<p style="text-align: right;">:Practical</p> <p>abling the student to identify the most important data that controls he method of collecting them, tabulating them, d placing them in a frequency distribution table ddition to the most important statistical laws in calculating results know its significance or not, based on the null .and alternative theory</p>	<p style="text-align: right;">Objectives of the study subject :theoretical</p> <p>abling the student to understand and – comprehend what is related to statistics hematical relations and their relationship to scientific .experiments</p> <p>able the student to know the nature of data, its – components and features .In the method of collecting data</p> <p>abling the student to become familiar with – methods of collecting and classifying data .And put it in a frequency distribution table</p> <p>powering the student with his ability to know – most important mathematical standards in calculating data student can judge the significance of the results</p>

	according to the statistical hypotheses
Teaching and learning strategies .9	
<p>:Practical</p> <p>aptation through teamwork to reveal –</p> <p>.leadership skills –</p> <p>apt tasks and reports to learn about –</p> <p>their mental skills</p>	<p>:My theory</p> <p>Interactive lecture –</p> <p>Brainstorming –</p> <p>Dialogue and discussion –</p> <p>Adapt tasks and reports –</p> <p>conducting a scientific visit to -</p> <p>private research centers</p> <p>With statistical data</p> <p>The strategy</p>

Course structure .10					
Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	hours	the week
Short exams, assignments, discussions	<p>:My theory</p> <p>auditory methods</p> <p>Writing style on the blackboard</p> <p>Dialogue style</p> <p>Direct</p> <p>:practical</p> <p>Assigning tasks</p> <p>And report</p>	<p>:My theory</p> <p>Introduction to statistics</p> <p>:practical</p> <p>nature of statistical data</p> <p>and symbols</p> <p>Statistics</p>	<p>oretical: The student is familiar with an ...introduction to statistics by definition of statistics</p> <p>ables, sections, and history of science</p> <p>Statistics</p> <p>Practical: recognizes data</p> <p>Statistics</p>	2	1
Short exams, assignments, discussions	<p>:My theory</p> <p>auditory methods</p> <p>e of writing on the blackboard</p> <p>Dialogue style</p> <p>Direct</p> <p>:practical</p> <p>Assigning tasks</p> <p>And report</p>	<p>:My theory</p> <p>e nature of statistical data</p> <p>:Practical</p> <p>nature of statistical data</p> <p>and symbols</p> <p>Statistics</p>	<p>oretical: Explains the nature of the data statistics in identifying data</p> <p>ulation, sample, and statistical symbols</p> <p>tical: learns the most important</p> <p>Statistical symbols</p>	2	2

			And give examples		
Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	oretical: tabular entation and graphical representation :Practical nature of statistical data and symbols Statistics	oretical: Learn about tabular presentation graphical presentation by identifying types rules and some important definitions a frequency distribution table ctical: He is familiar n the most important rules istical symbols and their application	2 eoretical Practical	3
Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	oretical: frequency distribution table Relative :Practical phical representation and tabular display	oretical: Master the quency distribution table ios by explaining the e and graphical representation the relative frequency distribution table a cluster frequency table ctical: Familiar with	2 eoretical Practical	4

ns			graphical representation ular display consists of a quency distribution table and its representation		
Short exams, assignme nts, discussio ns	:My theory auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	oretical: Measures of ncentration or mediation :Practical asures of concentration or mediation	oretical: He masters measures of concentration or diation by defining standards and recognition the most important dards and application of the mean hmetic, median, and de for classified and unclassified values ctical: Familiar with positioning standards diation by applying examples of mediation hmetic calculation of sified and unclassified values	2 eoretical Practical	5
Short exams, assignme nts,	:My theory auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	oretical: Measures of dispersion or difference :Practical asures of concentration or mediation	oretical: Proficient in dispersion metrics ference in definition of standards and recognition the most important rics and estimation of variance e standard deviation and the mean deviation	2 eoretical Practical	6

discussion ns			ssified and unclassified .values :Practical familiar with positioning standards mediation by applying examples of mediation ssified and unclassified values		
Short exams, assignme nts, discussion ns	:My theory auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	oretical: Principles of probability theory :Practical asures of concentration or mediation	oretical: Explains theoretical principles babilities by defining probabilities most important terms used discrete probability distributions and properties Binomial distribution ctical: Familiar with positioning standards mediation by applying examples along the lines ssified and unclassified values	2 eoretical Practical	7

Short exams, assignments, discussions	<p>:My theory</p> <p>auditory methods</p> <p>Writing style on the blackboard</p> <p>Dialogue style</p> <p>Direct</p> <p>:practical</p> <p>Assigning tasks</p> <p>And report</p>	<p>oretical: testing hypotheses</p> <p>:Practical measures of dispersion or difference</p>	<p>oretical: proficient in identifying hypotheses through identification</p> <p>the most important statistical hypotheses</p> <p>And make decisions</p> <p>ctical: Familiar with dispersion standards</p> <p>ference by applying examples to the term</p> <p>iance, mean and standard deviation</p>	heoretical Practical	8
Short exams, assignments, discussions	<p>:My theory</p> <p>auditory methods</p> <p>Writing style on the blackboard</p> <p>Dialogue style</p> <p>Direct</p> <p>:practical</p> <p>Assigning tasks</p> <p>And report</p>	<p>oretical: Chi- square distribution</p> <p>:Practical principles of probability theory</p>	<p>oretical: Identify the square distribution by definition of chi square and steps</p> <p>t and apply an example distribution</p> <p>Chi square</p> <p>ctical: mastering theoretical principles</p> <p>sibilities by taking applications on Possibilities</p>	heoretical Practical	9

Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	heoretical: statistical tests :Practical Hypothesis testing	heoretical: Familiar with statistical tests Learning about the most important steps Statistics for tests ctical: demonstrates hypothesis testing imating hypotheses after solving an example On that	heoretical Practical	10
Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	heoretical: normal distribution :Practical Statistical tests	heoretical: Learn about the normal distribution ining normal distribution and methods for estimating it actical: suggests methods e most important statistical tests Chi – square test	heoretical Practical	11
Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	mples of : Theoretical normal distribution :Practical Statistical tests	heoretical: Experiments a examples of distribution ural by applying an mple to the distribution Natural actical: suggests methods e most important statistical tests (t) distribution	heoretical Practical	12
Short exams,	:My theory Auditory methods Writing style on the blackboard	z test :Theoretical :Practical	heoretical: Familiar with By definition z test the e test and its estimation methods	heoretical Practical	13

assignments, discussions	Dialogue style Direct :practical Assigning tasks And report	Statistical tests	practical: suggests methods the most important statistical tests (z) test		
Short exams, assignments, discussions	:My theory auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	distribution :Theoretical :Practical Statistical tests	theoretical: familiar with t distribution the definition t test and its estimation methods practical: Master the normal distribution applying applications on normal distribution	theoretical Practical	14
Short exams, assignments, discussions	:My theory auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	theoretical: Correlation and regression :Practical correlation and regression	theoretical: familiar with correlation and regression definition of correlation and regression methods Appreciate it practical: Explains relation and regression solving examples of correlation and regression	theoretical Practical	15


Course evaluation .11


Distribution of the grade out of 100 according to the tasks assigned to the student, such as .daily preparation, daily, oral, monthly, written exams, reports, etc


Relative % weight	Class	Calendar date (week)	Calendar methods	T
%13	7 theoretical +1 6 practical	My theory for a week (15) My work week (15)	A theoretical final report + a final report on the subject the operation	1
%6	4	week (3)	Quiz Short test (1)	2


	Theoretic + al 2Practic al			
%15	10 theoretica +l 5 practical	week (9)	Midterm test (theoretical and (practical	3
%6	4Theoret + ical 2Practic al	week (12)	Quiz Short test (2)	4
%20	20	Practical exams week	Final practical test	5
%40	40	The week of theoretical exams	Final theoretical test	6
%100	100		the total	
Learning and teaching resources .12				
Principles of Statistics book		Required textbooks (methodology, if any)		
		Main references (sources)		
atures and books published in universities Iraqi		Recommended supporting books and references (scientific journals, reports....)		
bsites specialized in statistics principles		Electronic references, Internet sites		

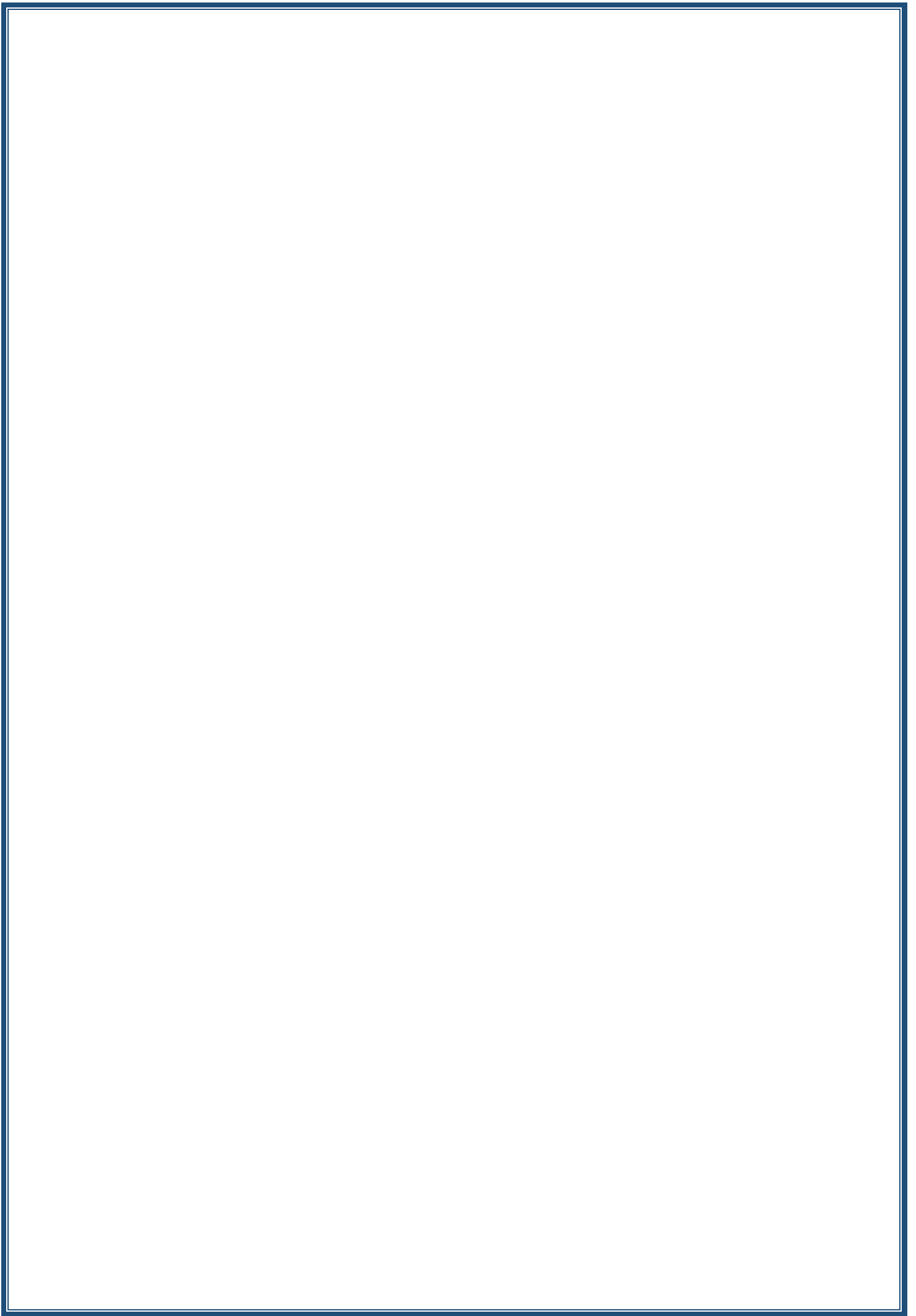



School of theoretical subject: M. Raghad Naseer Walid


Practical subject teacher: Lecturer Nahid Sharif Omar


Muthanna Ahmed Muhammed ,Head of the Scientific Committee :
Prof .Dr , Tayyab


Prof Dr , omar Diaa AL-Malla Head of the Animal Production Department



School of theoretical subject: M. Raghad Naseer Walid Practical subject teacher:
Lecturer Nahid Sharif Omar

Head of the Scientific Committee: Prof. Dr. Muthanna Ahmed Muhammad
Tayyeb, Head of the Animal Production Department . Mr. Dr . age Daa Al-
Mallah

Course description template for fish principles

1. Course Name:	
Principles of fish	
2. Course Code:	

3. Semester / Year:	
Autumn semester 2023–2024	
4. Description Preparation Date:	
1/9/2023	
5. Available Attendance Forms:	
My presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 theoretical + 3 practical/3.5 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Nidhal Tahseen Taha Al-Taee Email: nidhal_tahseen@uomosul.edu.iq Hani hashim Mohammed haniap@uomosul.edu.iq	
8. Course Objectives	
Course Objectives theoretical: 1- We enable the student to understand and comprehend what fish science is 2- Enabling the student to know the types and varieties of fish 3- Enabling the student to know fish science and the sciences related to it 4- Enabling the student to learn about the life of fish 5- Enabling the student to learn about the fish environment 6- Enable the student to know the livelihood and growth of fish	practical: 1– Enabling the student to learn about fish classification methods 2– Enable the student to estimate the growth and age of fish 3– Enabling the student to know the influences on the fish environment 4– Enable the student to know the characteristics of fish living water
9. Teaching and Learning Strategies	
theoretical: - Interactive lecture - Brainstorming - Dialogue and discussion - Assigning tasks and submitting reports - Displaying pictures and shapes of fish through the smart board	practical: - Assigning work in groups to reveal leadership skills - Assigning tasks and reports for each practical lesson

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theoretical 3 practical	The student learns what fish are, ichthyology, related sciences, and their types	Theoretical: Introduction - Ichthyology - the science specialized in the study of fish. Practical: classification of fish, external appearance of fish.	Theoretical: the methods used Audio explaining the topic Visual mediated presentation via Power Point Writing on the board Direct dialogue Practical: Student assignment Practical tasks in the laboratory Write a report on the lesson	Exams, reports, discussions, quizzes, preparing reports by students about the lecture and assigning them to solve questions about the lecture. Assign each student to prepare a seminar on classification. Assigning each student to prepare a lecture within the curriculum
2	2 Theoretical 3 practical	What groups of organisms in the aquatic environment it includes Classify fish	Theoretical: The general groups of living animals included in the definition of fish - the shape of fish and fins - internal characteristics - the main classes of fish - the jawless class - the cartilaginous fish class - the bony fish class. Practical: Body parts of a fish	Theoretical: the methods used Audio explaining the topic Visual mediated presentation via Power Point Writing on the board Direct dialogue Practical: Student assignment Practical tasks in the laboratory Write a report on the lesson	Exams, reports, discussions, quizzes, preparing reports by students about the lecture and assigning them to solve questions about the lecture. Assign each student to prepare a seminar on the division of fish in the aquatic environment. Assigning each student to prepare a lecture within the curriculum.
3	2 Theoretical 3 practical	The effect of water quality characteristics includes the physical water characteristics affecting the life of fish in the aquatic environment	Theoretical: Relationships between fish and living and non-living factors. Firstly, fish adaptations to non-living environmental factors 1. Density and pressure in water. 2. Salinity. 3. Water temperature. 4. Dissolved gases. 5. Light. 6. Water movement and turbidity. 7. Sound and its transmission in aqueous medium.	Theoretical: the methods used Audio explaining the topic Visual mediated presentation via Power Point Writing on the board Direct dialogue Practical: Student assignment Practical tasks in the laboratory Write a report on the lesson	Exams, reports, discussions, quizzes, preparing reports by students about the lecture and assigning them to solve questions about the lecture. Assign each student to prepare a seminar on the division of fish in the aquatic environment. Assigning each student to prepare a lecture within the curriculum.

			Practical: fish body openings.		
4	2 Theoretical 3 practical	Teach the student about the living relationships between the same species and other species that live in the same aquatic environment.	<p>Theoretical: Relationships between fish and living and non-living factors</p> <p>8. Electrical and electromagnetic currents in aqueous media.</p> <p>9. The nature of the bottom.</p> <p>Second: Live relationships between fish:</p> <p>1. Relationships within a single species.</p> <p>2. Relationships between different species of fish.</p> <p>a. Predation b. Intrusion c. Competition d. Eating E. Mutual benefit.</p> <p>Practical: respiratory system</p>	<p>Theoretical: the methods used</p> <p>Audio explaining the topic</p> <p>Visual mediated presentation via PowerPoint</p> <p>Writing on the board</p> <p>Direct dialogue</p> <p>Practical: Student assignment</p> <p>Practical tasks in the laboratory</p> <p>Write a report on the lesson</p>	<p>Exams, reports, discussions, quizzes, preparing reports by students about the lecture and assigning them to solve questions about the lecture.</p> <p>Assign each student to prepare a seminar on the relationships between fish and living and non-living factors.</p> <p>Assigning each student to prepare a lecture within the curriculum.</p>
5	2 Theoretical 3 practical	The student learns the types of foods you eat based on your nutritional habits	<p>Theoretical: Food and feeding habits: Feeding habits - the locations of the different organisms that fish feed on in the aquatic environment - the rate of food seeking - the rate of food conversion - methods of studying feeding habits -</p> <p>1. Predators. 2. Grazer 3. Filter 4. Absorbent 5. Parasitoid.</p> <p>Practical: Circulatory device</p>	<p>Theoretical: the methods used</p> <p>Audio explaining the topic</p> <p>Visual mediated presentation via PowerPoint</p> <p>Writing on the board</p> <p>Direct dialogue</p> <p>Practical: Student assignment</p> <p>Practical tasks in the laboratory</p> <p>Write a report on the lesson</p>	<p>Exams, reports, discussions, quizzes, preparing reports by students about the lecture and assigning them to solve questions about the lecture.</p> <p>Assign each student to prepare a seminar on food and eating habits.</p> <p>Assigning each student to prepare a lecture within the curriculum.</p>
6	2 Theoretical 3 practical	Identify the natural food that fish eat in their natural environment, including the food chain within the water body	<p>Theoretical: The nutritional and other relationships of fish - phytoplankton and zooplankton - the nutritional nature of fish and their relationship to the</p>	<p>Theoretical: the methods used</p> <p>Audio explaining the topic</p> <p>Visual mediated presentation via PowerPoint</p> <p>Writing on the board</p> <p>Direct dialogue</p>	<p>Exams, reports, discussions, quizzes, preparing reports by students about the lecture and assigning them to solve questions about the lecture.</p> <p>Assign each student</p>

			<p>environmental environment - examples of the diversity of the dietary pattern of fish according to the environment - the food pyramid - enemies of fish.</p> <p>Practical: digestive system.</p>	<p>Practical: assignment Practical tasks in the laboratory Write a report on the lesson</p>	<p>to prepare a seminar on the nutritional and other relationships of fish. Assigning each student to prepare a lecture within the curriculum.</p>
7	2 Theoretical 3 practical	The student learns about the digestive process carried out by fish based on their eating habits, which is linked to the shape of the digestive canal	<p>Theoretical: The process of digestion and excretion of waste in fish: Digestion - parts of the digestive canal - digestion process - excretion of wastes - excretion of nitrogenous substances in lungfish.</p> <p>Practical: muscular system</p>	<p>Theoretical: the methods used Audio explaining the topic Visual mediation presentation via PowerPoint Writing on the board Direct dialogue</p> <p>Practical: assignment Practical tasks in the laboratory Write a report on the lesson</p>	<p>Exams, reports, discussions, quizzes, preparing reports by students about the lecture and assigning them to solve questions about the lecture. Assign each student to prepare a seminar on the process of digestion and excretion of waste in fish. Assigning each student to prepare a lecture within the curriculum.</p>
8	2 Theoretical 3 practical	Explain to the student what is meant by fish growth and what are the internal and external factors affecting it.	<p>Theoretical: Growth: Definition of growth - Metabolic energy - Factors affecting growth: 1. Internal growth factors</p> <p>Practical: skeletal system</p>	<p>Theoretical: the methods used Audio explaining the topic Visual mediation presentation via PowerPoint Writing on the board Direct dialogue</p> <p>Practical: assignment Practical tasks in the laboratory Write a report on the lesson</p>	<p>Exams, reports, discussions, quizzes, preparing reports by students about the lecture and assigning them to solve questions about the lecture. Assign each student to prepare a seminar on growth and define growth. Assigning each student to prepare a lecture within the curriculum.</p>
9	2 Theoretical 3 practical	To determine the extent of students' understanding of the curriculum by setting questions that take into account the different levels of students' level.	<p>2. External growth factors are: 1. Environmental factors that affect growth, such as water temperature, oxygen, ammonia, salinity, and photoperiod. 2. Degree of competition 3. Quantity and quality of food consumed. 4. The age and state of</p>	<p>Theoretical: the methods used Audio explaining the topic Visual mediation presentation via PowerPoint Writing on the board Direct dialogue</p> <p>Practical: assignment Practical tasks in the laboratory Write a report on the lesson</p>	<p>Exams, the first monthly exam, reports, discussions, quizzes, preparing reports by students about the lecture and assigning them to solve questions about the lecture. Assign each student to prepare a seminar on external growth factors. Assigning each student to prepare a</p>

			maturity of the fish Practical: nervous system		lecture within the curriculum.
10	2 Theoretical 3 practical	Fish live in different environments, including salty, brackish, and fresh. Introducing the student to the most important strategies that they follow to maintain their osmotic pressure so that they can survive.	Theoretical: Osmotic pressure: Osmoregulation - Osmoregulation in marine gillfish fish - Osmoregulation in marine fully ossified fish - Osmoregulation in freshwater fish - Dimigratory fish. Practical: excretory (urinary) system	Theoretical: the method used Audio explaining the topic Visual mediated presentation via PowerPoint Writing on the board Direct dialogue Practical: Student assignment Practical tasks in the laboratory Write a report on the lesson	Exams, reports, discussions, quizzes, preparing reports by students about the lecture and assigning them to solve questions about the lecture. Assign each student to prepare a seminar on osmotic pressure and osmoregulation in fish. Assigning each student to prepare a lecture within the curriculum.
11	2 Theoretical 3 practical	Introducing the student to the methods followed by fish species to be able to maintain their neutral weight in the environment in which they live.	Theoretical: Buoyancy mechanism in fish - Specific density - Gas bladder - Lipids - Types of buoyancy found in fish 1. Squalene 2. Wax esters. Practical: Reproductive system and reproduction	Theoretical: the method used Audio explaining the topic Visual mediated presentation via PowerPoint Writing on the board Direct dialogue Practical: Student assignment Practical tasks in the laboratory Write a report on the lesson	Exams, reports, discussions, quizzes, preparing reports by students about the lecture and assigning them to solve questions about the lecture. Assign each student to prepare a seminar on the mechanism of buoyancy in fish. Assigning each student to prepare a lecture within the curriculum.
12	2 Theoretical 3 practical	The student learns about the methods followed by fish in reproduction, which vary according to the type of fish and are called reproductive strategies.	Theoretical: Reproductive reproduction: reproductive strategy and its requirements - environmental conditions stimulating fish reproduction - physiological response of fish for the purpose of reproduction - stages of life history after hatching of fish 3. Aging - terms used in the history of fish - male sex cells - shape and size of fish eggs - places where eggs are laid in the	Theoretical: the method used Audio explaining the topic Visual mediated presentation via PowerPoint Writing on the board Direct dialogue Practical: Student assignment Practical tasks in the laboratory Write a report on the lesson	Exams, reports, discussions, quizzes, preparing reports by students about the lecture and assigning them to solve questions about the lecture. Assign each student to prepare a seminar on reproduction and reproductive strategy. Assigning each student to prepare a lecture within the curriculum.

			<p>aquatic environment - Collective method of ablation.</p> <p>Practical: method of collecting fish samples.</p>		
13	2 Theoretical 3 practical	The student learns about reproductive strategies in fish. The negative effects of pollutants on aquatic organisms and the extent of their transmission through the food chain to humans consuming these meats.	<p>Theoretical: 1- Advantages of keeping eggs, internal incubation, and the birth of young - Characteristics of oviparous fish - Modifications of reproductive organs in ovoviviparous fish - Examples of ovoviviparous fish - Nutrition of embryos in viviparous fish - Sexual differentiation and sexual differences - Hermaphrodite fish - Simultaneous or sequential hermaphrodite fish.</p> <p>2- Pollution: Definition of pollution - types of pollution.</p> <p>Practical: Animal geography, some important definitions</p>	<p>Theoretical: the methods used Audio explaining the topic Visual mediated presentation via PowerPoint Writing on the board Direct dialogue</p> <p>Practical: Student assignment Practical tasks in the laboratory Write a report on the lesson</p>	<p>Exams, reports, discussions, quizzes, preparing reports by students about the lecture and assigning them to solve questions about the lecture.</p> <p>Assign each student to prepare a seminar on pollution: definition of pollution - types of pollution.</p> <p>Assigning each student to prepare a lecture within the curriculum.</p>
14	2 Theoretical 3 practical	The student learns about the behaviors of fish in their environment	<p>Theoretical: Fish behaviors according to the environment in which they live, such as electric fish.</p> <p>Practical: Mechanics of light production in luminous organisms in fish.</p>	<p>Theoretical: the methods used Audio explaining the topic Visual mediated presentation via PowerPoint Writing on the board Direct dialogue</p> <p>Practical: Student assignment Practical tasks in the laboratory Write a report on the lesson</p>	<p>Exams, reports, discussions, quizzes, preparing reports by students about the lecture and assigning them to solve questions about the lecture.</p> <p>Assigning each student to prepare a seminar on fish behavior within the environment</p> <p>Assigning each student to prepare a lecture within the curriculum.</p>
15	2 Theoretical 3 practical	To know the reasons for fish migration in	Theoretical: Fish migration and the	Theoretical: the methods used	Exams, second month exam, reports,

		the aquatic environment, and the behavior of fish swarms	purpose of migration in water bodies Practical: migration, swarm behavior	Audio explaining the topic Visual media presentation via PowerPoint Writing on the board Direct dialogue Practical: Student assignment Practical tasks in the laboratory Write a report on the lesson	discussions, quizzes, preparing reports on the motivation leading to fish migration in the aquatic environment. Assign each student to prepare a seminar on the division of fish in the aquatic environment. Assigning each student to prepare a lecture within the curriculum.
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11. Course Evaluation

1	Evaluation methods	Evaluation date (one week)	Degree	
2	A theoretical final report Practical experience reports	Week 15 Week from 1 to 15	7 theoretical + 6 practical	%13
3	Short test (1) Quiz	Week 3	Theoretical 4 + Practical 2	%6
4	Midterm Exam	Week 9	Theoretical 10 + 5 practical	%15
5	Short test (1) Quiz	Week 12	Theoretical 4 + Practical 2	%6
6	Final practical test	Practical exam week	20	%20
7	Final theoretical test	The week of theoretical exams	40	%40
8	The total		100	%100

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Fish breeding and production / Mahfouz Hussein Salman / University of Mosul
Main references (sources)	Fish breeding and production / Muhammad Adel et al Breeding and management of fish farms / Kazem Abdel Amir Fish diseases and parasites / Farhan Damad Muhaisen
Recommended books and references (scientific journals, reports...)	Lectures published by Iraqi universities Al-Rafidain Agriculture Journal / College of Agriculture and Forestry Agricultural magazines issued by agricultural colleges
Electronic References, Websites	International Agriculture Organization (FAO) Website Environment Organization (UNDP).

فك
د.م.د. فضال حسن طه
م.م. مادة النظم

م.م. هاني هاشم كرم
م.م. مادة المبادئ



Course Description of the Principles of microbiology

1.Course Name					
Principles of microbiology					
2.Course Code					
PRMB205					
3.Term / Year					
First Semester 2023–2024					
4.Description Preparation Date:					
1/2/2024					
5.A. Available Attendance Forms					
learning in presence					
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. Hanan Waleed Kasim Agwaan Alaa Shamil Fakhri Al-Allaf					
8.Course Objectives					
1– Classification of microorganisms that infect field animals 2– Identify the different microorganisms that infect field animals 3– Knowledge of diseases caused by microorganisms in large animals					
9.Teaching and Learning Strategies					
<ul style="list-style-type: none"> – Methods of using appropriate disinfectants to disinfect animal fields – The use of various vaccines to prevent infection with microorganisms (germs, viruses) – Diagnosis of microorganisms under the microscope 					
10.Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject Name	Learning method	Evaluation Method
1	2 Theoretical	A1: the student gets to know Microbiology and the stages of its development	Definition of microbiology and the stages of its development	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B5: The student learns about the microscope and its uses	The microscope and its uses	Laboratory work.	Exams , assignment, discussions.

2	2 Theoretical	A2: The student understands morphological properties of microorganisms	Morphological properties of microorganisms	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B 6: The student understands the types of agricultural media	Cultivation media	Laboratory work.	Exams , assignment, discussions.
3	2 Theoretical	C1: Explains to the student what it is Agricultural media	Microbial stains and bacterial anatomy	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B7: The student learns methods of Sterilization	Sterilization methods	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
4	2 Theoretical	2C: Explains to the student what it is External structures of bacteria	External structures of bacteria	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A6: The student learns about doing With simple staining	simple staining	Laboratory work.	Exams , assignment, discussions.
5	2 Theoretical	B1: Student film What are the internal structures of bacteria	Internal structures of bacteria	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

	3 Practical	B8: The student knows how Staining with gram dye	Staining with gram dye	Laboratory work.	Exams , assignment, discussions.
6	2 Theoretical	A3: The student gets to know non-essential parts of bacteria scientific trip	Non-essential parts of bacteria	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A7: The student recognizes Staining of Bacterial Spores	Staining of Bacterial Spores	Laboratory work.	Exams , assignment, discussions.
7	2 Theoretical	C3: The student explains how the bacteria growth	Bacterial growth	The student writes a report About what he saw in Scientific trip	Exams , assignment, discussions.
	3 Practical	A8: The student learns about negative staining	Negative staining	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
8	2 Theoretical	B2: Explains to the student what are bacteria nutritional agar	Bacteria nutritional agar	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C7: Shows the student how Bacteria move	Study of bacterial movement Field practice	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
9	2 Theoretical	C4: Explains to the student the methods Used in bacterial growth	Methods used in bacterial growth	Auditory styles, writing style on the board, direct dialogue	Exams , assignment, discussions.

				style.	
	3 Practical	C8: Explains to the student what mold is	Study of mold	visit to the fields	Exams , assignment, discussions.
10	2 Theoretical	B3: The student understands the methods for quantitatively measuring bacterial growth	Methods for quantitative measurement of bacterial growth	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A9: The student understands what yeasts are	Study of yeasts	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
11	2 Theoretical	C5: Explains to the student the Chemicals factors affecting bacterial growth	Chemical factors affecting bacterial growth	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C9: Shows the student direct counting for bacteria	direct bacterial count	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
12	2 Theoretical	A4: Explains to the student Physical factors effects on bacterial growth	Physical factors affecting bacterial growth	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B9: The student learns about counting With standard	Counting in standard dishes	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

13	2 Theoretical	B4: The student learns about viruses	Viruses	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C10: The student explains what water tests mycobiology	Water tests mycobiology	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
14	2 Theoretical	A5: The student understands how The virus multiplies	The virus multiplies	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C11: Explain to the student what is the effect of Physical factors on bacteria	Study the effect of physical factors on bacteria	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
15	2 Theoretical	C6: Explains to the student the methods of cultivating viruses	Methods of cultivating viruses Field practice	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B10: The student learns about diagnostic tests for bacteria/allergy testing	Diagnostic tests for bacteria/allergy testing	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

11.Course Evaluation

No.	evaluation methods	Calendar Appointment (Week)	Score	Relative Weight%
1	Midterm test (theoretical and practical)	Week 9	25 Theoretical + 15 Practical	40 %
2	Final Practical Test	Practical Exams Week	20	20%

3	Final theoretical test	Theoretical Exam Week	40	40 %
4	Total		100	100%

12.Learning and Teaching Resources

Required textbooks (methodology if any)	Principles of Microbiology, written by Dr. Fayez Aziz A. Ani and Dr.. Amin Suleiman Badawi
Key References (Sources)	
Recommended supporting books and references (scientific journals, reports...)	
E-References , Websites	



Alaa Shamil Fakhri Al-Allaf

Instructor of practical subject



Dr. Hanan waleed kasim Agwaan

Instructor of theoretical subject



Head Of Department




Chairperson of the Scientific Committee

Course Description

1.Course Name					
Animal Production Health					
2.Course Code					
ANPH222					
3.Term / Year					
First Semester 2023–2024					
4.Description Preparation Date:					
1/2/2024					
5.A. Available Attendance Forms					
learning in presence					
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. Hanan Waleed Kasim Agwaan Alaa Shamil Fakhri Al-Allaf					
8.Course Objectives					
<p>1– Learn about the examinations before and after slaughter</p> <p>2– Identify methods of animal slaughter and forced slaughter</p> <p>3– Knowledge of diseases caused by microorganisms in large animals that affect the meat of carcasses</p> <p>Skills objectives for the course</p> <p>1– Ways to preserve meat for long periods</p> <p>2– Using different vaccines to maintain the health of animal meat</p> <p>3– Diagnosing the different microorganisms in meat and how to treat them</p>					
9.Teaching and Learning Strategies					
<ul style="list-style-type: none"> – Theoretical lectures – Practical lessons – Scientific reports and use of the Internet – Field visits to animal fields 					
10.Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject Name	Learning method	Evaluation Method
1	2 Theoretical	A1: The student understands an introduction to the health of animal products	(Introduction) Health of animal products	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

	3 Practical	A7: The student understands the definition of health Meat.	Definition of the health of meat	Laboratory work.	Exams , assignment, discussions.
2	2 Theoretical	A2: The student learns methods of dealing animals before slaughter	Dealing of animals before slaughter	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B8: The student is familiar with Inspection methods of animals before slaughter	Inspection of animals before slaughter	Laboratory work.	Exams , assignment, discussions.
3	2 Theoretical	C1: Explains to the student how to slaughter meat animals	Slaughtering meat animals	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B9: The student is familiar with Inspection methods of animals after slaughter	Slaughter and the most important checks after slaughter	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
4	2 Theoretical	A3: The student knows how Bleeding from animals happened	Bleeding from animals	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A8: The student learns about examination of Carcass parts	Examination of carcass parts	Field practice	Exams , assignment, discussions.
5	2 Theoretical	B1 : Shows the student the tests Health after slaughter	Health examinations after slaughter	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

	3 Practical	B10: The student understands how to estimate age by teething of cows and calves	Estimating age by teething for cows and calves	Laboratory work.	Exams , assignment, discussions.
6	2 Theoretical	A4: The student understands the changes that It appears on the carcass	Changes that appear on the carcass	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C3: The student understands age estimation by Teething in sheep	Estimating age by teething in sheep	Laboratory work.	Exams , assignment, discussions.
7	2 Theoretical	A5: The student understands pathological changes in animals meat producer Field practice	Pathological changes in meat-producing animals	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C4 : Shows the student the age estimate: other animals	Age Estimation: Other animals	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
8	2 Theoretical	B2: The student gets to know Skinny animals and immature animals	Skinny animals and immature animals	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C5: Explains to the student the study of the suitability of meat	Study of the suitability of meat	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
9	2 Theoretical	A6: The student learns about the	The suitability of meat from animals infected	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

		suitability of meat from animals suffering from fever	with fever		
	3 Practical	C7: Shows the student the health labels on meat after examining it	Health visas on meat after examination Field practice	A visit to the fields	Exams , assignment, discussions.
10	2 Theoretical	B3: The student understands the physical properties of milk	Non-pathological changes of milk	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A9: The student learns about the health of milk-producing animals	The health of milk-producing animals	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
11	2 Theoretical	B 4: The student understands the sources of milk contamination before and after production	Sources of milk contamination before and after production	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C7: Explains to the student the udder examination and the most important type of mastitis	Examination of the udder and the most important types of mastitis	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
12	2 Theoretical	B5: The student recognizes non-pathological changes in milk	Non-pathological changes in milk	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A10: Learn about the properties of milk practically	Studying the properties of milk practically	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
13	2 Theoretical	B6: The student understands the methods of examining milk (physically and	Methods of examining milk (physical and chemical)	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

		chemically)			
	3 Practical	C8: Explains to the student the examination of milk With the echo device	Checking milk with an echo device	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
14	2 Theoretical	7B: The student learns about eggs and their chemical and physical properties	Eggs and their chemical and physical properties Field practice	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C9: Explains to the student methods of examination egg and their properties	Methods of examining eggs and their properties	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
15	2 Theoretical	C2: Explain to the student egg contamination and transmission of infectious diseases	Egg contamination and transmission of infectious diseases	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A11: The student learns about transition Infectious diseases through Leather and wool	Transmission of infectious diseases	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

11.Course Evaluation

No.	evaluation methods	Calendar Appointment (Week)	Score	Relative Weight%
1	Midterm test (theoretical and practical)	Week 9	25 Theoretical + 15 Practical	40 %
2	Final Practical Test	Practical Exams Week	20	20%
3	Final theoretical test	Theoretical Exam Week	40	40 %
4	Total		100	100%

12.Learning and Teaching Resources

Required textbooks (methodology if any)	1- Animal health, written by Dr. Abdel Moez Ahmed Ismail and Dr. Mahmoud Abdel Rahman Metwally
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	2- Meat production and preservation, written by Dr. Zuhair Fakhri Al-Jalili and Dr. Atallah Saeed and Salwa Lilo Aziz
Key References (Sources)	
Recommended supporting books and references (scientific journals, reports...)	
E-References , Websites	



Alaa Shamil Fakhri Al-Allaf

Instructor of practical subject



Dr. Hanan waleed kasim Agwaan

Instructor of theoretical subject



Head Of Department




Chairperson of the Scientific Committee

Course Description Form

1. Course Name:

Gardening principles

2. Course Code:

PRHS116

3. Semester / Year:

First semester (autumn)/2023-2024

4. Description Preparation Date:

1/9/2023

5. Available Attendance Forms:

Attendance lesson

6. Number of Credit Hours (Total) / Number of Units (Total): units

2 theoretical + 3 practical / 3.5 units

7. Course administrator's name (mention all, if more than one name):

Name: Dr. Aysar mohammed salim saeed - M.M. Zuhoor Fouad Al-Obaidi

Email: aysaralsalim@uomosul.edu.iq

8. Course Objectives

The learner should be able to understand and comprehend what is related to the subject of principles horticulture and its relationship to other sciences
Their selection of important agricultural processes in horticultural plants
Differentiating between different planning systems and the appropriate ones
Understand the basics and concepts of horticulture
Distinguish between processes that are suitable for fruit vegetable and ornamental crops

Familiarity with the information the farmer need and what is available to him to understand the science of horticulture and its divisions
Agricultural awareness of the factors affecting yield
Determine methods of producing seeds in horticultural crops and methods of caring for them in terms of storage and marketing
A comprehensive study on how to establish vegetable farms or fruit orchards and establish nurseries for horticultural plants.

9. Teaching and Learning Strategies

Interactive lecture

Brainstorming

Dialogue and discussion

Field Training

Practical exercises

Field project

Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes	Name of Unit or subject	Learning method	Evaluation method
First	2Theoretical	A1: Learn about the concept of horticulture, its divisions and definition B1: He possesses practical and mental knowledge and concepts that help him to apply his knowledge of the divisions of horticulture D3: Community members participate in work to educate them about the economic and nutritional importance of vegetable crops E1: Contributes to knowing the number of divisions of vegetable crops	An overview of the concept of horticulture, its benefits, and an introduction and definition of horticulture	Interactive lecture, brainstorming, dialogue discussion, self-learning	Interactive lecture, brainstorming, dialogue discussion, self-learning
	3Practical	C3: Uses the information the farmer needs and what is available to him to master his work	Learn about practical concepts and agricultural operations related to horticulture principles	Interactive lecture, brainstorming, dialogue and discussion, field training, and self-learning	Short practical test 1
Second	2Theoretical	A2: Determines the factors affecting the growth of vegetable crops B1: He possesses the practical and mental knowledge and concepts that help him to carry out the necessary agricultural operations C5: Successfully balances the investment and use of fruit, vegetable and ornamental plants and employs them in a way that is compatible with the important agricultural operations carried out on crops.	Factors affecting the growth of vegetable crops	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Scientific tour of horticultural facilities
	3Practical	C3: It uses the information the farmer needs to divide vegetable crops to facilitate studying the production of these crops A2 Determines methods of growing horticultural crops	How to identify horticultural facilities and detect agricultural environments	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, and self-learning	Scientific tour of horticultural facilities
Third	2Theoretical	A2: Determines methods of propagation of vegetable crops and their specifications	Sexual reproduction and its specifications	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester exam 1, final exam
	3Practical	C3: Uses the information the farmer needs and what is available to him to master his work A1: List the most prominent methods of vegetative propagation with plant examples D1: Acquire the communication skills necessary to deal with confidence and certainty on all topics related to crop production	How to train to carry out some important agricultural operations to increase and improve production	Interactive lecture, brainstorming, dialogue and discussion, field training, and self-learning	Short test
Fourth	2Theoretical	A2: It defines a definition of regionalization, what its methods are, how it is conducted C4: Draw plans and methods for planting hybrid seeds D3: Community members participate in the economic importance of vegetable crops E1: It contributes to enhancing the benefits of conducting important agricultural operations and their benefit in increasing and improving production	The general foundations and principles used in carrying out agricultural operations	Identify the benefits of acclimatization and its effect on plants and their resistance to harsh environmental conditions	Semester test 1, final test report
	3Practical	C3: Uses the information the farmer needs and what is available to him to master his work C4: Draws up plans and programs for development in the field of irrigation and the application of its various methods C5: Successfully balances investment and use of vegetable and fruit crops and employs them in accordance with market requirements	Identify the benefits of acclimatization and its effect on plants and their resistance to harsh environmental conditions	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, and self-learning	Short practical test 2

Fifth	2Theoretical	C4: Draws up plans and programs for reproductive divisions and their benefits D3: Community members participate and work to educate them about the importance of solving all problems related to vegetable production in Iraq E1: It contributes to enhancing the economic importance of vegetable and fruit crops by increasing economic returns	Climatic conditions and their impact on garden landscaping, the choice of plants, and the factors on which garden design depends	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester test 1, final test report
	3Practical	C3: Uses the information the farmer needs and what is available to him to master the work C4: Draw a diagram and a brief overview of the hierarchical shape of trees D1: Acquiring the communication skills necessary to deal with confidence and certainty at the individual and collective levels between the farmer and the beneficiary of the crop	Different methods of raising trees and pruning	Interactive lecture, brainstorming, dialogue and discussion, self-learning	writing a report
Sixth	2Theoretical	A2: Determines flowering systems in vegetable crops C4: Draw plans and programs to determine flowering systems in vegetable crops D1: Acquiring the communication skills necessary to deal with confidence and certainty at the individual and group levels D3: Community members participate and work to educate them about the importance of plant crops and increase the level of production E1: It contributes to mentioning the factors influencing the success of the transplantation process	Nutritional value of vegetable crops	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short test, final test
	3Practical	C2: Innovates methods for breeding and improving different types of varieties designed for harsh environmental conditions C3: Uses the information the farmer needs and what is available to him to master the work C4: Draws up plans and programs for development in the field of agriculture	The basic factors that increase the quality of the yield	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Write a report and homework
Seventh	2Theoretical	A3: It employs structural and technical facilities to divide the fruit into several distinct areas C4: Draws up plans and programs for development in the field of applying important agricultural operations to fruit and vegetable trees	Uses of greenhouses and wooden canopies in the production of various crops	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester exam 2, final exam
	3Practical	C3: Uses the information the farmer needs and what is available to him to master the work C5: Successfully balances the effects of harmful low temperatures and beneficial low temperatures D1: Acquiring farmers' communication skills necessary to deal with confidence and certainty at the individual and collective levels	A scientific visit to one of the horticultural facilities	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short test
eighth	2Theoretical	A3: Employs horticultural facilities to conduct agricultural operations C4: Draws up plans and programs for development in the field of crop cultivation of fruit trees, vegetables, and ornamental plants	Available horticultural facilities and surrounding weather conditions	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester exam 2, final exam
	3Practical	C3: Uses the information the farmer needs and what is available to him to master the work C4: Draws up plans and programs for development in the field of crop cultivation, fruit trees, vegetables, and ornamental plants C5: Successfully balances investment and employment of fruit trees to suit agricultural service operations	Practical steps on how to plant fruit trees	Interactive lecture, brainstorming, dialogue and discussion, self-learning	writing a report

Ninth	2Theoretical	E4 determines the difference between the rest phase and the rest phase C3: Uses the information the farmer needs and what is available to him to master work	The concept of the effect of temperature on the growth of fruit trees	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester exam 2, final
	3Practical	C3: Uses the information the farmer needs and what is available to him to master work C4: Draws up plans and programs for development in the field of agricultural operations important for crop production C5: Successfully balances how to design semi-intensive cropping cycle	Designing an agricultural cycle to improve production and crop visit	Interactive lecture, brainstorming, dialogue and discussion, self-learning	short exam
Tenth	2Theoretical	A2: Determines what are the effects of weather factors on growing fruit trees C5: Successfully balances the investment use and employment of facilities with service operations	Types of horticultural facilities	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester test2
	3Practical	C3: Uses the information the farmer needs and what is available to him to master work C4: Draws up plans and programs to produce seedlings in the nursery C5: Successfully balances the conditions for successful nursery production	Practical steps for designing and establishing a nursery	Interactive lecture, brainstorming, dialogue and discussion, self-learning	short exam
Eleventh	2Theoretical	A2: Determines what are the effects of weather factors on growing fruit trees C5: Successfully balances the investment use and employment of facilities with service operations	Types of horticultural facilities	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester test2
	3Practical	C3: Uses the information the farmer needs and what is available to him to master work C4: Draws up plans and programs to produce seedlings in the nursery C5: Successfully balances the conditions for successful nursery production	Practical steps for designing and establishing a nursery	Interactive lecture, brainstorming, dialogue and discussion, self-learning	short exam
Twelveth	2Theoretical	A2: Determines the reproductive system between sexual reproduction and vegetative reproduction C5: Successfully balances the division of Iraq in terms of planting fruit trees and their divisions	Divisions of areas in terms of growing fruit trees	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Final test
	3Practical	C3: Uses the information the farmer needs and what is available to him to master work C4: Draws up plans and programs on the most prominent methods of growing vegetable crops in Iraq	Practical steps for growing vegetable crops	Interactive lecture, brainstorming, dialogue and discussion, self-learning	writing a report
Thirteenth	2Theoretical	A2: Defines the difference between pruning and layering C3: Uses the information the farmer needs and what is available to him to master work	How to carry out agricultural operations, including thinning and pruning	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Final test
	3Practical	C3: Uses the information the farmer needs and what is available to him to master work C4: Draws up plans and programs for development in the field of cultivation of deciduous and perennial fruit trees C5: Successfully balances investment and employment of facilities to suit agricultural operations	Methods of growing vegetable crops in Iraq	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Wooden canopy tour
Fourteenth	2Theoretical	C3: Uses the information the farmer needs and what is available to him to master work C5: Successfully balances investment use of horticultural facilities and employs them appropriately to the crops grown within the facility.	Designing an agricultural cycle for vegetable crops	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short test, final test
	3Practical	C3: Uses the information the farmer needs and what is available to him to master work C4: Draws up plans and programs for	Designing an agricultural cycle for fruit trees	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short practical test3

		development in the field of growing vegetables, fruits, and ornamental plants C5: Successfully balances investment and employment of facilities to suit agricultural operations D2: Dealing with modern technology efficiently enables it to produce high yields			
Fifteenth	2Theoretical	C4: Draws up plans and programs for development in the field of growing vegetable, fruit and ornamental crops within horticultural facilities C5: Successfully balances investment and employment of facilities to suit agricultural operations	Practical steps for dividing the nursery and distributing the plants within it	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short test, final test
	3Practical	C3: Uses the information the farmer receives and what is available to him to master his work C4: Draws up plans and programs for development in the field of cultivation and production of trees and various plants C5: Successfully balances investment and employment of facilities to suit agricultural operations D1: Acquiring the communication skills necessary for the farmer to deal with confidence and certainty at the individual and collective levels with the labor market and product disposal. D2: Dealing with modern technology efficiently that enables him to accomplish his scientific and practical tasks	The effects of environmental conditions on yield	Interactive lecture, brainstorming, dialogue and discussion, self-learning	A tour of the canopy at greenhouse inside the university

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, and reports.

12. Learning and Teaching Resources

Required textbooks (methodology, if any)	Learning and teaching resources Gardening principles book, Part 1 and Part 2
Main references (sources)	Scientific references specialized in fruit trees, vegetables, greenhouses, and books related to nurseries
Recommended books and references (scientific journals, reports...)	Principles of horticulture Dr. Karim Saleh Al and Dr. Saad Zaghloul Principles of Horticulture written by Dr. Faisal Rashid Nasser
Electronic References, Websites	https://exa.unne.edu.ar/ Principles of Horticultural Science



Theoretical subject teacher
Dr. Dr. Aysar mohammed salim saeed



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



Course Description Form

1. Course Name:	
Mechanization of Animal Production	
2. Course Code:	
ANPM224	
3. Semester / Year:	
Fall / 2023-2024	
4. Description Preparation Date:	
5. Available Attendance Forms:	
Attendance	
6. Number of Credit Hours (Total) / Number of Units (Total)	
5 hours / 3.5 unit	
7. Course administrator's name (mention all, if more than one name)	
Name: Khalid E. Ahmed Email: khalid.allaf@uomosul.edu.iq	
8. Course Objectives	
<p>1- Enabling the student to understand and comprehend what is related to mechanization of animal production And it 's impact on increasing animal production</p> <p>2- Enabling the student to know the types of this equipment and their uses in order to provide an optimum animal breeding environment</p> <p>3-</p>	<p>Informing the student about maintenance and repair for the equipment</p>
9. Teaching and Learning Strategies	
Strategy	<p>Theoretical: - Interactive lecture / brainstorming / dialog and discussion / assignment of tasks and reports presentation of explanatory videos about the equipment operation, its components and uses</p> <p>Practical:- Assigning reports and seminars</p>

we	Hours	Required	Unit or subject	Learning	Evaluatio
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ek		Learning Outcomes	name	method	n method
1	2therotical 3practical	A1 Knows the importance and role of ventilation in animal shelters B3 Practical:- Learn the operation of ventilation systems and the distribution of openings in walls	Controlling environmental conditions inside barns	Theoretical : - The audio-visual method uses the Date show Practical:- Watching the equipment and using it	Quiz and midterm exam
2	2therotical 3practical	A2 Recognizes the importance and types of cooling and heating systmes in barns practical:- using the cooling system in the fields by student	Heating and cooling in barn	Theoretical : - The audio-visual method uses the Date show Practical:- Watching the equipment and using it	Quiz and midterm exam
3	2therotical	B1 Enumerates the means of transporting and delivering water in the farm and inside barns	Providing the farm with water	Theoretical : - The audio-visual method uses the Date show Practical:- Watching the equipment	Quiz and midterm exam

9	2therotical 3practical	A5 The student learns about the principle and method of working of all kinds of grinders B3 Controls the operation, and maintenance of feed mills	Dry feed preparation equipment	Theoretical : - The audio-visual method uses the Date show Practical:- Watching the equipment and using it	Quiz and midterm exam
10	2therotical 3practical	A6 The student learns about the operation of the wool shearing mechanism B3 Controls the operation, calibration and maintenance of the wool shearing machine	Shearing wool	Theoretical : - The audio-visual method uses the Date show Practical:- Watching the equipment and using it	Quiz and midterm exam
11	2therotical 3practical	B3 The student enumerates the waste collection and handling machines in farm B3 operation and maintenance of waste collecting equipment in the field	Theoretical: Animal waste disposal equipment	Theoretical : - The audio-visual method uses the Date show Practical:- Watching the equipment and using it	Quiz and midterm exam
12	2therotical	A7 The	incubators and	Theoretical	Quiz and

	3practical	student learns how incubators work B3 incubator is preparing for work and maintained before operation	egg packing equipment	: - The audio-visual method uses the Date show Practical:- Watching the equipment and using it	midterm exam
13	2therotical 3practical	C3 The student prepares a report on the operation of the machines and equipment he saw in the field during the visit B The student describes in his report the machines he was saw	Field visit	Theoretical : - The audio-visual method uses the Date show Practical:- Watching the equipment and using it	Quiz and midterm exam
14	2therotical 3practical	C4 he student understands how Slaughterhouse operate and the mechanisms available in them B3 operation, maintains and repair the equipment	Equipment for slaughtering animals and preparing their meat	Theoretical : - The audio-visual method uses the Date show Practical:- Watching the equipment and using it	Quiz and midterm exam
15	2therotical	C5 The	Refrigeration	Theoretical	Quiz and

	3practical	student understands how cooling devices work B3 Practical:- how the cooling system works and maintains	devices and the uses on the farm	: - The audio-visual method uses the Date show Practical:- Watching the equipment and using it	midterm exam
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1. Course Evaluation

No.	Test type	date	grade	Rate
1	Theoretical quiz + practical quiz	All week	5 theoretical +5 practical	10%
2	Midterm Exam (Theoretical+Practical)	Week 8	20 theoretical +10practical	30%
3	Final Theoretical Examination	Final term examination	40	40%
4	Final Practical Examination	Final term examination	20	20%
	Summation		100	100%

10. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Mechanization and equipment animal production
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Vedio from Youtub websit



Description of the crimes of the defunct Baath regime

1. : Course Name					
Crimes of the defunct Baath Party					
2. : Course Code					
CBAP200					
3. Semester / Year : Annual					
2/second stage/023First semester-2024					
4. Date this description was prepared					
2024/2/1					
5. Available forms of attendance:					
My presence					
6. :Number of study hours (total)/number of units (total)					
hours 15 /units 1					
7. Name of the course administrator (if more than one name is mentioned)					
Assistant teacher, Mohamed Abdel-Majoud Ahmed					
8. Course objectives					
<ul style="list-style-type: none"> The learner should know what crime is and what its types are will be able to explain and clarify the crimes committed by the Baath regime in Iraq For students to be familiar with international and local laws that criminalize the actions carried out by the Baath regime in Iraq The student's awareness of the extent of the crimes committed by the Baath regime in Iraq by highlighting those crimes .should be able to give examples of these crimes and the places where they occur The learner should know the psychological and social effects of the crimes committed by the Baath regime on the personality of the Iraqi citizen The learner should know the environmental effects of the crimes committed by the Baath regime on the environment of Iraq The learner will know the graves left behind by the defunct Baath regime, specifying their location and time of occurrence 					
9. Teaching and learning strategies					
<ul style="list-style-type: none"> - Interactive lecture - Brainstorming - Dialogue and discussion - Self- education 					
10. Course structure					
Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	hours	the week

Semester exam 1 , final exam	Interactive lecture, brainstorming, dialogue and discussion, self-learning	First: The concept of crimes and their categories	(a1)1 Learn about the concept of crime and its : definitions He possesses practical and mental knowledge :2 and concepts that help him understand the meaning of imams and their divisions Participates with community members and :3 works to make them aware of the danger of crime to society	2	1
Semester exam 1 , final exam	Interactive lecture, dialogue and discussion, self-learning	The crimes of the Baath regime as documented by the Iraqi Criminal Court Law of 2005	(a2)1Knowing the most prominent cases dealt : with by the court against symbols of the defunct Baath regime Knowing the rulings issued by the court :2 against the convicts Knowing the texts of Iraqi laws according to : 3 which sentences were issued against convicts	2	2
Semester exam 1 , final exam	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Militarization of society	(a3)1 Recognizes the negative effects resulting : from the militarization of society 2 : Learn about the methods used to militarize society	2	3
Semester exam 1 , final exam report ,	Interactive lecture, brainstorming, dialogue and discussion, self-learning	The Baath regime's position on religion and its violations of Iraqi laws	(a4)Knowledge of political assassinations of : 1 religious scholars Knowledge The most prominent religious : 2 scholars who were pursued and arrested because of their hostile position to the Baath regime	2	4
Semester exam 1 , final exam report ,	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Some decisions regarding political and military violations of the Baath regime Defunct	(a5)1Enumerates the most prominent political : violations committed by the defunct Baath regime It works to educate community members about :2 the political and military violations of the Baath regime Defunct and its negative impact on Iraqi society	2	5
Short test, final test	Interactive lecture, dialogue and discussion, self-learning	Prison and detention places of the Baath regime in Iraq	(a6)1Knowing the locations of secret prisons : and private detention centers where opponents of the Baath regime were kept	2	6
Semester exam 2 , final exam	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Environmental crimes of the Baath regime	(a7)1An introduction to knowing the most : prominent environmental violations committed by the Baath regime in Iraq	2	7
Semester exam 2 , final exam	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Military and .1 radiological pollution and mine explosions Destruction of cities .2 and villages (scorched earth policy	(a8)1Clarifying the most prominent areas that : were exposed to military and radioactive contamination, such as the cities of Halabja and Basra 2 A presentation of the scorched earth policy : followed by the Baath regime against villages .and cities that rejected the defunct Baath regime	2	8
Semester exam 2 , final exam	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Drying the marshes in southern Iraq And bulldozing orchards, palm trees, trees and crops	(a9)1Draining of the marshes in southern Iraq : during the Shaabaniya uprising in 1991 2 Razing orchards, palm trees, trees and crops :	2	9
Semester test 2	Interactive lecture, dialogue and discussion, self-learning	Mass grave crimes	(a10) 1 review of the mass graves committed A : by the Baath regime in Iraq	2	10
Final test	Interactive lecture, brainstorming, dialogue	The events of 1963 and their relationship to mass	(a11)1 A presentation of the events of 1963 and :	2	11


	and discussion, self-learning	graves	the accompanying killings against the regime of Abdul Karim Qasim and their relationship to .mass graves		
Final test	Interactive lecture, brainstorming, dialogue and discussion, self-learning	1 The events of 1979 to : 1988 and their relationship to mass graves 2 The events of 1987 to : 1988 and their relationship to mass graves	(a12) 1 A review of mass graves during the : .Iran-Iraq war 2 of the events of the Anfal Presentation : massacre in 1987 to 1988 and their relationship . to mass graves	2	12
Final test	Interactive lecture, dialogue and discussion, self-learning	The events of the Shaabani uprising in and its relationship 1991 to mass graves	(a13) 1 A presentation of the events of the : Shaabaniya Uprising in 1991 and the mass graves committed by the Baath regime after its .elimination against its participants	2	13
Short test, final test	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Chronological classification of mass graves and genocide in Iraq from 1963 to 2003	(a14) 1 Classification of mass graves according : to the date of their occurrence from 1863 until .the fall of the Baath regime in 2003	2	14
Short test, final test	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Mass graves against :1 the Kurds 1983 Anfal massacre 1987- :2 1988 Cemeteries of the :3 Shaabani uprising in Iraq 1991	(a15) 1 Clarifying the locations and numbers of : mass graves committed by the Baath regime .against the Kurds in 1983 2 A presentation of the most important events of : the Anfal massacre in 1987-1988 and the .university cemeteries that accompanied it 3 the most important mass A presentation of : graves committed by the Baath regime against .participants in the 1991 Shaabaniya uprising	2	15

11. Course evaluation


Relative % weight	Class	Calendar date (week)	Calendar methods	T
5	5	fourth week	Report 1	1
5	5	The fifth week	Report 2	2
5	5	the sixth week	Short test (1)Quiz	3
5	5	The eighth week	Short test (2)Quiz	4
10	10	The tenth week	Semester test (1)	5
10	10	The fourteenth week	Semester test (2)	6
60	60	Final semester exams	Final test	7
%100	%100	100	the total	

12. Learning and teaching resources

Crimes of the Baath regime in Iraq, 2023	Required textbooks (methodology, if any)
.Ihsan Hindi, Military Occupation .1 Jundi Abdul Malik, Criminal Encyclopedia .2 Mass graves in Iraq by Human Rights Watch .3	Main references (sources)
.Journal of Human Rights and Public Liberties . .Antonio Cassese, International Criminal Law.2	Recommended supporting books and references (scientific journals, (....reports
The Iraqi Center for Documentation of Extremist Crimes https://iraqicenter-fdec.org/archives/5146	Electronic references, Internet sites



Head of the Department of
Horticulture and Landscape
Architecture
Dr. Omar Zia



Subject teacher
assistant teacher : **Muhammad Abdel-Majoud Ahmed**



Chairman of the Scientific Committee

Dr. Muthanna Ahmed Muhammad Tayyib

Course Description Form Biochemistry

1. Course Name:	
Biochemistry	
2. Course Code:	
BICH204	
3. Semester / Year:	
First semester (fall) / 2023–2024 \ 2st	
4. Description Preparation Date:	
2023\9\1	
5. Available Attendance Forms:	
Presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 theoretical hours + 3 practical hours (75 hours) / 3.5 units	
7. Course administrator's name (mention all, if more than one name)	
Dr.Qaswaa yousif jameel dr.qaswaa_yousif@uomosul.edu.iq Afkar yahya ahmed	
8. Course Objectives	
Theoretical –Enabling the student to understand and comprehend the science of biochemistry –Enable the student to know the chemical composition of carbohydrates, proteins, and lipids – Enabling the student to be familiar with the most important sources of carbohydrates, proteins and fats –Empowering the student with the ability to detect different types of vital components in the organism's body District	Practical Enabling the student to become familiar with the principles and modern methods in... Study of biochemical sciences as well as study Synthesis of proteins, carbohydrates, and fats and the tests performed on them
9. Teaching and Learning Strategies	
Theoretical: - Interactive lecture - Brainstorming - Dialogue and discussion	Practical: Interactive lecture -Discussion, dialogue, brainstorming -Conducting laboratory experiments

- Assigning reports -Conducting monthly and daily examinations	-Assigning reports -Conducting daily and monthly examinations
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theoretical 3Practical	Theoretical: B1: Explains to the student the concept of chemistry Biotechnology and the study of water properties Practical: B2: Shows the student how to apply Laboratory safety rules	THEORETICAL the study of water and its properties Practical: safety rules and specifications in Laboratories	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
2	2Theoretical 3Practical	THEORETICAL C1: Explains to the student the most important differences in the chemical composition of carbohydrates practical: a2: Explains to the student how to detect Carbohydrates and their types	THEORETICAL Theoretical: auditory methods, Writing on the board Dialogue style Direct Practical: Assigning tasks Short exam reports and assignments for discussion	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
3	2Theoretical 3Practical	THEORETICAL :b2 The student is familiar with the factors affecting amino acids and peptides practical: : b3 The student is familiar with the most important tests General carbohydrates	THEORETICAL CARBOHYDRATES Practical: Carbohydrates and their types	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
4	2Theoretical 3Practical	THEORETICAL A1: The student learns about the mechanism of action of proteins, their properties, and their structure	THEORETICAL auditory methods, Writing on the board Dialogue style Direct	THEORETICAL audio methods, Writing on the board Direct dialogue Style	Shortexams, assignments, discussions

		practical: b4: The student learns about the reduction tests carbohydrates	Practical: Assigning tasks And reports Short exams, assignments discussions	PRACTICAL Assigning tasks and reports	
5	2Theoretical 3Practical	THEORETICAL C2: Explains to the student the changes that occur in lipids, their composition and properties. practical: b5: Explains the tests to the student Description of carbohydrates	Theoretical Amino acids and peptide Practical: solubility test and Molsch test.	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
6	2Theoretical 3Practical	THEORETICAL C3: Proposes to the student a method suitable for the natural and chemical properties of neutral fats practical: a3: Tests related to fats as suggested to the student	Theoretical: audio methods Writing on the board Dialogue style Direct Practical: Assigning tasks Short exam reports, assignments, and discussions	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
7	2Theoretical 3Practical	THEORETICAL C4: The student is familiar with the most important changes that occur in phosphorylated fats (phospholipids). practical: a4: The student is familiar with screening tests Glycerol	THEORETICAL Proteins practical Reductive tests for carbohydrates	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
8	2Theoretical 3Practical	THEORETICAL A2 :The student recognizes the most important changes Which occurs in enzymes and restriction Its agents practical: a5: The student learns how to examine The pH of many solutions the organization	THEORETICAL auditory methods, Writing on the board Dialogue style Direct Practical: Assigning tasks Short exam reports, assignments, and discussions	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions

9	2Theoretical 3Practical	<p>THEORETICAL B3 :The student judges h competence Nucleotides and nucleic acids In the metabolic process of living organisms</p> <p>Practical: A6: The student is given general and descriptive tests for amino acids</p>	<p>THEORETICAL Lipids</p> <p>Practical: Descriptive tes For carbohydrates</p>	<p>THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports</p>	Shortexams, assignments, discussions
10	2Theoretical 3Practical	<p>THEORETICAL A3: The student learns about the most important chemical structures of nucleic acids (polynucleotides).</p> <p>practical: b6: Explains to the student methods for detecting amino acids containing sulfur</p>	<p>Theoretical: auditory methods, Writing on the board Dialogue style Direct</p> <p>Practical: Assigning tasks Short exam reports, assignments, and discussions</p>	<p>THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports</p>	Shortexams, assignments, discussions
11	2Theoretical 3Practical	<p>THEORETICAL B4 : The student masters method and types of nucleic acids</p> <p>practical: a1: The student takes the Millon test and the xanthoproteic test</p>	<p>THEORETICAL Physical and chemical properties of neutral fats</p> <p>Practical: special tests for lipids</p>	<p>THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports</p>	Shortexams, assignments, discussions
12	2Theoretical 3Practical	<p>THEORETICAL E1: The student determines the mode of action and the importance of vitamins in the body of a living organism</p> <p>practical: c7: The student mentions descriptive tests for proteins</p>	<p>THEORETICAL · audio methods, Writing on the board Dialogue style Direct</p> <p>Practical: Assigning tasks And reports Short exams, assigned assignments and discussions</p>	<p>THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports</p>	Shortexams, assignments, discussions
13	2Theoretical 3Practical	<p>THEORETICAL A4: The student learns about the types of fat-soluble vitamins and common diseases resulting from their deficiency in the organism's body.</p>	<p>THEORETICAL Common diseases result from vitamin deficiency</p> <p>Practical: protein precipitation With heavy metal salts,</p>	<p>THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks</p>	Shortexams, assignments, discussions

		practical: a 8: The student learns about a test Biuret		and reports	
14	2Theoretical 3Practical	THEORETICAL B3 :The student learns about the types of fat-soluble vitamins and common diseases resulting from their deficiency in the organism's body. practical: a6: Characterizes the precipitation of proteins with salts Heavy metals	THEORETICAL Theoretical: auditory methods, Writing on the board Direct dialogue style Practical: Assigning tasks Short exam reports, assignments and discussions	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
15	2Theoretical 3Practical	THEORETICAL C5: The student is familiar with how to write reports Result of field visit to laboratories Biochemistry practical: C8: The student is familiar with how to write reports Result of field visit to laboratories Biochemistry	THEORETICAL biochemistry laboratories audio methods, Writing on the board Direct dialogue style Practical: Assigning tasks And reports Short exams, assigned assignments and discussions	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions

11. Course Evaluation

No.	Evaluation methods	Evaluation date (one week)	Grade	Relative weight %
1	Report 1	fourth week	2.5	2.5
2	Report 2	fifth week	2.5	2.5
3	(1)Quiz	sixth week	2	2
4	(2)Quiz	fourteenth week	2	2
5	(3)Quiz	fifteenth week	1	1
6	Mid 1	sixth week	7.5	7.5
7	Mid2	Eleventh week	7.5	7.5
8	theoretical exams Final	Final semester exams	40	40
9	Practical field project	The fifteenth week	5	5

10	Seminars	The third and fifth week	2	2
11	Practical (1) Quiz	The first week	1	1
12	Practical (2) Quiz	fourth week	0.5	0.5
13	Practical (3) Quiz	The fourteenth week	6.5	6.5
15	Final practical test	Final semester exams	20	20
	Total	100	%100	%100

11. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	Many articles and research published in Springer, Elsevier, SPRINGER NATURE
Electronic References, Websites	


Assistant Professor
Qaswaa yousif jameel


Assistant Lecturer
Afkar yahya ahmed


Head Of Department




Chairperson of the Scientific Committee

Course Description Form

1. Course Name: Principles of Agricultural Extension

2. Course Code: **PAEX206**

3. Semester / Year: First season,2023-2024.

4. Description Preparation Date: 01/09/2023

5.Available Attendance Forms: attendance learning (theoretical in-person)

6.Number of Credit Hours (Total) / Number of Units (Total) 5 hours

Total 30 hours / 2 hours per week. / 2 units .

7.Course administrator's name (mention all, if more than one name)

Name: Anhar Mohammed Ali Hasan Email: anhar2007@uomosul.edu.iq

8.Course Objectives

Course Objectives:

1. Improving the family's standard of living.
2. Increasing the agricultural income of rural families.
- 3 Developing the social development of rural individuals.
- 4.Improving the marketing aspects of rural producers.
.Promoting positive attitudes of rural people towards agriculture and love of work.
5. Developing the leadership spirit among rural individuals.
- 6..Developing the idea of rural people's participation in the decision-making process of rural society.
- 8.. Developing a sense of responsibility towards the family and the rural community.
- 9.. Developing the cognitive and skill aspects of counseling work.
10. Establishing social and humanitarian rules among members of rural society.
11. Developing farm management among rural individuals..
12. Developing rural women and rural development as they are basic pillars of the rural family.

9.Teaching and Learning Strategies

Strategy	1. Divide students into groups. 2. Quarterly activities. 3. Students' papers recording their ideas to solve a problem. 4. A statement of the websites used by students to learn agricultural extension. 5. Scientific reports and research. 6. Results of students' practical experiments. 7. Field visit reports. 8. Student results in field training.
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10.Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 ST	Theoretical 2	a1 By the end of the course, the student must be to familiar with the concept of agricultural extension and the difference between Agricultural education and agricultural extension.	The concept of agricultural extension: The difference between agricultural education and agricultural extension	Lecture, audio aids, blackboard.	Quizzes, Assignments, Discussions
2 nd	Theoretical 2	a2 By the end of the course, student must be to distinguish between agricultural education and agricultural extension the role of the agricultural extension worker in extension work.	Agricultural guide: qualifications of the agricultural guide and extension specialist and importance of agricultural extension.	Lecture, audio aids, blackboard.	Quizzes, Assignments, Discussions
3 rd	Theoretical 2	b1 By the end of the course, student must be to know the objectives of agricultural extension and the importance of agricultural extension in sustainable development.	The importance of agricultural extension: objectives of agricultural extension, importance of agricultural extension in sustainable development.	Lecture, audio aids, blackboard.	Quizzes, Assignments, Discussions
4 th	Theoretical 2	a3 By the end of the course, student must be to learn about coordination between agricultural extension and agricultural research agencies and its relationship to economic and social development.	Principles of agricultural extension: communication between agricultural extension and agricultural research systems. relationship of agricultural extension to economic and social development.	Lecture, audio aids, blackboard.	Quizzes, Assignments, Discussions

5 th	Theoretical 2	a4 By the end of the course, the student must be to understand the philosophy of agricultural extension and its goals.	Agricultural extension philosophy: Introduction and definition of agricultural extension philosophy, philosophical ideas related to work. Agricultural extension philosophy: Introduction and definition of agricultural extension philosophy, philosophical ideas related to work guidance. .	Lecture, audio aids, blackboard.	Quizzes, Assignments, Discussions
6 th	Theoretical 2	b2 By the end of the course the student must be to know social change, its levels and causes.	Social change, levels of social change, causes of social change Adult education, its characteristics and principles.	Lecture, audio aids, blackboard.	Quizzes, Assignments, Discussions
7 th	Theoretical 2	b3 By the end of the course, the student must be to learn about coordination between agricultural extension and agricultural research agencies and its relationship to economic and social development.	Principles of agricultural extension: communication cooperation between agricultural extension agricultural research systems. The relationship agricultural extension to economic and social development.	Lecture, audio aids, blackboard.	Quizzes, Assignments, Discussions
8 th	Theoretical 2	a5 By the end of the course, student must be to understand counseling communication, types and elements.	Communication agricultural extension elements of communication process types of the communication process.	Lecture, audio aids, blackboard.	Quizzes, Assignments, Discussions
9 th	Theoretical 2	a6 By the end of the course, the student should be to understand adoption and the factors influencing adoption.	Adoption: definition of adoption, stages of the adoption process, factors affecting adoption, categories of adopters, Factors affecting the transfer and adoption of new technologies.	Lecture, audio aids, blackboard.	Quizzes, Assignments, Discussions
10 th	Theoretical 2	a7 By the end of the course, student must be to know counseling of communication, its elements and types.	Agricultural extension communication: element the extension communication process, types of extension	Lecture, audio aids, blackboard.	Quizzes, Assignments, Discussions

			communication process.		
11 th	Theoretical 2	a8 By the end of the course, student must be to disting between heuristic methods.	Agricultural extension methods: classification of agricultural extension methods, individual extension methods, group extension methods: (extension meetings, extension trips).	Lecture, audio aids, blackboard.	Quizzes, Assignments, Discussions
12 th	Theoretical 2	b4 By the end of the course, student must be to know methods of public guida publications, newspaper periodicals.	Public guidance meth publications, newspaper periodicals.	Lecture, audio aids, blackboard.	Quizzes, Assignments, Discussions
13 th	Theoretical 2	a9 By the end of the course, student must be to k leadership, its types elements, standards of leaders and characteristics of leaders.	Leadership and its ty elements of leaders standards of leaders characteristics of leaders.	Lecture, audio aids, blackboard.	Quizzes, Assignments, Discussions
14 th	Theoretical 2	b5 By the end of the course, the student must be to know the management extension: the functions and specifications of the extension administration Extension administration, role and tasks of the leader in extension work.	Extensive management: management functions and management specifications, the role tasks of the leader in extension work.	Lecture, audio aids, blackboard.	Quizzes, Assignments, Discussions
15 th	Theoretical 2	b6 At the end of the course, a scientific visit is organized for the students to the Nineveh Agriculture Directorate in order to learn about the goals and importance of field, laboratory and office visits.	Extension visits: field visits, organizing a scientific visit for students to the Nineveh Agriculture Directorate, office telephone calls. and personal letters.	Lecture, audio aids, blackboard.	Quizzes, Assignment s, Discussions

11.Course Evaluation:


No.	Evaluation methods	Evaluation date (week)	marks	Relative weight (%)
1	The first short test Quiz. Theoretical:	Week 4: Theoretical: Short test (1) Quiz.	Theoretical: 2.5	2.5%
2	Monthly exam (1).	Week 9: Theoretical test (1).	Theoretical: 15	15%
3	Second short test Quiz.	Week 11: Theoretical: Short Test (2) Quiz.	Theoretical: 5	2.5%
4	Monthly exam (2).	Week 13: Theoretical test (2).	Theoretical: 15	15%

5	Reports	Week 15 : Submit reports.	Theoretical: 5	5%
6	Quest rate.	Seasonal rates are announced at end of the semester.	Theoretical: 40	40%
7	Final theoretical test.	The week of theoretical exams.	60	60%
8	Total	The final score of the theoretical of final exam at the end of academic year.	100	100%

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12.Learning and Teaching Resources

Required textbooks (curricular books any)	Principle of Agricultural Extension, The author (Prof. Dr. Zaki Hassan Al-Laila Dr. Samir Abdel Azim Othman, 1987). Dar Al Kutub for Printing Press,University of Mosul/Iraq.
Main references (sources)	1.Agricultural extension book between philosophy and application: Author (Abdul Ghaffar Taha Abd al-Ghaffar, 1976). New Publications House/Alexandria-Egypt. 2. Introduction to agricultural extension, philosophy and application. Author (Muhammad Abd Rabbuh Mohammad and Hassain Al-Zubaidi),2015. Al-Mukhtar University Publications. 3. Agricultural extension, science, organization and work, 2014. Farha Publishing House. Authors: Prof. Dr. Mukhtar Muhammad Abdulla. Prof. Dr. Essam Muhammad Al-Ali. Dr. Ahmed Maher Al-Gohary.
Recommended books and references (scientific journals, reports...)	1.Journal of the Scientific Society for Agricultural Extension/Agricultural Extension Department/College of Agriculture,-Cairo University/Egypt. https://mgiz.journals.ekb.eg/ 2.Agricultural Extension Journal/Central Administration for Agricultural Extension and Environment/Egypt. https://kenanaonline.com/users/Caaes/topics/152357
Electronic References, Websites	Directorate of Agricultural Guidance and Training/Ministry of Agriculture Iraqi. https://www.facebook.com/100057077876612/posts/3567521473356612 The importance of agricultural extension in sustainable development 2.General Administration of Agricultural Guidance/Ministry of Environment, Water and Agriculture/Kingdom of Saudi Arabia. https://mewa.gov.sa/ar/Ministry/Agencies/AgencyofAgriculture/Departments/Pages/dept4.aspx


Lecturer Anhar Mohammad Ali Hasan
Instructor of Theoretical subject



Course Description Form

1. Course Name:	
Genetics	
2. Course Code:	
GENT212	
3. Semester / Year:	
Second Semester – spring 2023-2024	
4. Description Preparation Date:	
1/2/2024	
5. Available Attendance Forms:	
Presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 theoretical + 3 practical / 3.5 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Muthanna Fathi Abdullah	Amar Raeed Mohamed Thmer
Email: muthanna.f.a@uomosul.edu.iq	amar.raeed@uomosul.edu.iq
8. Course Objectives	
<p>Course Objectives</p> <p>theoretical:</p> <ul style="list-style-type: none"> - Enabling the student to understand genetics, its scientific and practical importance, and its relationship to other sciences. - Enable the student to learn about Mendel's laws, types, matings, cross-breeding, and methods for solving genetic cross-fertilization. - Enabling the student to become familiar with the types of complete sovereignty, incomplete sovereignty, co-dominance, and supra-dominance. -Enabling the student to understand the modifications of Mendelian ratios, the effect of multiple alleles, lethal factors, the inheritance of blood groups, sex determination, and sex-linked inheritance. - The student can understand the chemical and engineering basis of inheritance and understand the nature of replication and cloning of genetic material and modern techniques in genetic engineering. 	<p>practical:</p> <ul style="list-style-type: none"> -Enable the student to understand the structure of the living cell and compare between animal cells and plant cells. - Enabling students to identify chromosomes, their shapes and characteristics, as well as genes and their characteristics. -The student will be able to learn about the cell life cycle, mitosis, and meiosis. -The student can know Mendel's first and second laws - Enable the student to identify the inheritance of blood groups in humans and animals
9. Teaching and Learning Strategies	

Strategy theoretical: -Interactive lecture -Brainstorming -Dialogue and discussion -Assigning tasks and reports -Presentations of models of some modern devices and techniques in genetic engineering	practical: - Assignment to team work - Assigning tasks and reports for each experiment
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theoretical 3practical	theoretical: A1: The student learns about the development of genetics, its theories, and its scientific and practical importance. practical: A10: The student remembers the animal cell and its structure	theoretical: The development of genetics and its theories, and the definition of genetics and its branches. practical: An illustrative study of the structure of a living cell	theoretical: Audio methods, writing style on the blackboard , direct dialogue method. practical: Assigning tasks and reporting	Short exams, assignments, discussions
2	2 Theoretical 3practical	theoretical: A2: The student knows Mendel's laws and their applications in genetics. practical: A11: The student learns	theoretical: Mendel's laws and their modifications: Mendel's experiments - the first law of isolation - phenotypic type and genotype -	theoretical: Audio methods, writing style on the blackboard , direct dialogue method.	Short exams, assignments, discussions

		about chromosomes and genes	homogeneous genotype (purebred) - heterogeneous genotype (mixture) - pure strain - hybrid - symbol for genes. practical: Chromosomes and their characteristics, the latest information about chromosomes and genes	practical: Assigning tasks and reporting	
3	2 Theoretical 3practical	theoretical: C1: The student explains the purpose of test and cross pollination and the types of dominance. practical: A12: The student explains the cell cycle and its divisions	theoretical: Test pollination - cross-pollination - modifications of Mendelian ratios 1:3 - complete dominance - incomplete dominance - co-dominance and over-dominance. practical: The cell cycle and its divisions: mitosis and meiosis	theoretical: Audio methods, writing style on the blackboard , direct dialogue method. practical: Assigning tasks and reporting	Short exams, assignments, discussions
4	2 Theoretical 3practical	theoretical: A3: The student explains the effect of lethal factors on different types of organisms. practical: A13: The student lists	theoretical: Lethal factors: color trait in mice - crawling trait in chickens - similar genetic structure in humans and dominant lethal genetic	theoretical: Audio methods, writing style on the blackboard , direct dialogue method. practical:	Short exams, assignments, discussions

		Mendel's laws	factors. practical: Mendel's laws and examples, and back and test pollination	Assigning tasks and reporting	
5	2 Theoretical 3 practical	theoretical: A4: The student understands the law of free distribution and some important terms in genetics. practical: A14: The student applies exercises on the inheritance of one pair of genes	theoretical: The law of free distribution (Mendel's second law) - test hybrid multiplication - methods for solving genetic crosses - the Point Square method - the bifurcation method - the triple hybrid - hypotheses of Mendel's second law. practical: Inheritance of two pairs of genes and examples	theoretical: Audio methods, writing style on the blackboard , direct dialogue method. practical: Assigning tasks and reporting	Short exams, assignments, discussions
6	2 Theoretical 3 practical	theoretical: A5: The student finds the ratios of genotypic and phenotypic structures resulting from cross-matching of traits. practical: A15: The student applies exercises on the inheritance of two pairs of genes	theoretical: The first semester test - modifications of the Mendelian ratios of dihybrid hybrids. practical: Modifications of Mendelian ratios and examples of inheritance of two pairs of genes	theoretical: Audio methods, writing style on the blackboard , direct dialogue method. practical: Assigning tasks and reporting	Short exams, assignments, discussions
7	2 Theoretical	theoretical:	theoretical:	theoretical:	Short exams,

	3practical	C2: The student explains the type of superiority and its effect on the appearance of the resulting traits, the traits resulting from multiplication. practical: A16: The student learns about the Mendelian ratio modifications of a pair of genes	Interaction between genes: complementary factors - interaction of genes with similar effect - recurrent factors - superiority: recessive superiority - dominant superiority - dominant inhibitory genetic factor. practical: Mutations of Mendelian ratios and examples of lethal factors	Audio methods, writing style on the blackboard , direct dialogue method. practical: Assigning tasks and reporting	assignments, discussions
8	2 Theoretical 3practical	theoretical: C3: The student explains the effect of multiple alleles and the genetic and phenotypic ratios resulting from crossbreeding between different alleles. practical: A17: The student understands the Mendelian ratio mutations of two pairs of genes	theoretical: Multiple alleles and false alleles: fur color of rabbits - skin color of mice - platinum fur color of foxes. practical: Modifications of Mendelian ratios in the case of two pairs of genes	theoretical: Audio methods, writing style on the blackboard , direct dialogue method. practical: Assigning tasks and reporting	Short exams, assignments, discussions
9	2 Theoretical 3practical	theoretical: A6: The student	theoretical: Blood groups in humans and	theoretical: Audio methods,	Short exams, assignments, discussions

		understands the nature of inheritance of blood groups in humans and animals as one of several alleles. practical: A18: The student understands sex-linked genetics	animals - ABO group - H antigen - M-N blood group - Histological harmony - Inheritance of Rhesus blood groups in humans - Inheritance of blood groups in animals. practical: Sex-linked genetics and sex chromosome systems. Sex-linked traits in humans and insects	writing style on the blackboard , direct dialogue method. practical: Assigning tasks and reporting	
10	2 Theoretical 3practical	theoretical: A7: The student explains the sex systems in different organisms and the stages of sexual differentiation. practice: A19: The student understands sex-linked and sex-influenced genetics	theoretical: Sex determination and sex-linked inheritance - XX-XO system - XX-XY system - ZZ-ZW system - sexual differentiation. practical: Sex determination and genetics associated with Sex chromosomes in humans and animals	theoretical: Audio methods, writing style on the blackboard , direct dialogue method. practical: Assigning tasks and reporting	Short exams, assignments, discussions
11	2 Theoretical 3practical	theoretical: A8: The student explains the phenomenon of genetic linkage and crossing over and some aspects of chiasma.	theoretical: Linkage and crossing over - linked genes - complete linkage - incomplete linkage - crossing over and chiasma formation -	theoretical: Audio methods, writing style on the blackboard , direct dialogue method. practical:	Short exams, assignments, discussions

		practical: A20: The student understands sex-linked and sex-specific inheritance	linkage groups. practical: Determining sex, the genetics associated with it, and lethal sex-linked genes	Assigning tasks and reporting	
12	2 Theoretical 3 practical	theoretical: C4: The student uses genetic maps to determine the locations of genes. practical: A21: The student learns about multiple alleles And blood groups in humans and animals, as well as the RH factor	theoretical: The cellular basis of crossing - double crossing - genetic maps - three-point test multiplication - overlap and compatibility - use of genetic maps - genomes. practical: Multiple alleles, their characteristics and examples Blood groups in humans and animals. RH factor and inheritance of blood groups in humans and animals	theoretical: Audio methods, writing style on the blackboard , direct dialogue method. practical: Assigning tasks and reporting	Short exams, assignments, discussions
13	2 Theoretical 3 practical	theoretical: A9: The student learns about the nature and structure of genetic material. practical: A22: The student learns about chromosomal abnormalities, some	theoretical: The chemical and engineering basis of inheritance: genetic material - composition of genetic material - sources of change Cytoplasmic genetics.	theoretical: Audio methods, writing style on the blackboard , direct dialogue method. practical: Assigning tasks and reporting	Short exams, assignments, discussions

		syndromes, and their symptoms	practical: Chromosomal abnormalities Duane's malformation and Patau's syndrome		
14	2 Theoretical 3 practical	theoretical: C5: The student enumerates the shapes of the chromosome and its parts. practical: C7: The student learns about chromosomal abnormalities Differences in the size and composition of chromosome parts and pieces	theoretical: Mutation and structure of genetic material - structure of nucleic acids (DNA and RNA) and similarities and differences between them - replication of genetic material - cloning of genetic material. practical: Chromosomal abnormalities Differences in the size and composition of chromosomal parts and pieces	theoretical: Audio methods, writing style on the blackboard , direct dialogue method. practical: Assigning tasks and reporting	Short exams, assignments, discussions
15	2 Theoretical 3 practical	theoretical: C6: The student connects modern technologies with genetic engineering. practical: C8: The student remembers cytoplasmic genetics	theoretical: Genetic material and genetic engineering Scientific practical: Cytoplasmic inheritance and	theoretical: Audio methods, writing style on the blackboard , direct dialogue method. practical: Assigning tasks and reporting	Short exams, assignments, discussions

			its comparison with nuclear inheritance, maternal influence		
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11. Course Evaluation

S	Calendar methods	Calendar appointment (week)	degree	Relative weight %
1	Theoretical final report + practical experience reports	theory week 15 practical week 1-15	7 theoretical + 6 practical	13%
2	Short test (1) Quiz	Week (3)	4 theoretical + 2 practical	6%
3	Midterm Exam (theoretical and practical)	Week (10)	10 theoretical + 5 practical	15%
4	Short test Quiz (2)	Week (12)	4 theoretical + 2 practical	6%
5	Final practical test	Practical exams week	20	20%
6	Final theoretical test	theoretical exams week	40	40%
	total		100	100

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Basics of genetics
Main references (sources)	The methodological book specified by the Ministry
Recommended books and references (scientific journals, reports...)	Lectures published by Iraqi universities
Electronic References, Websites	

Theoretical subject teacher: Dr. Muthanna Fathi Abdullah

Practical subject teacher: M. Ammar Raed Muhammad Thamer

Chairman of the Scientific Committee: A. Dr. Muthanna Ahmed Muhammad Tayyib

Head of Department: A. Dr. Omar Dhiaa Muhammad



Course Description Form

1.	: Course Name	
		Democracy and human rights
2.	: Course Code	
		DEHR100
3.	Semester / Year : Annual	
		First semester/ first stage/2023-2024
4.	Date this description was prepared	
		1 /2 /2024
5.	Available forms of attendance:	
		Attendance lesson
6.	:Number of study hours (total)/number of units (total)	
		15 hours /1 units
7.	Name of the course administrator (if more than one name is mentioned)	
		Name: Mohammed Zuhair Abdulkareem Email: mohamedzuhair87@uomosul.edu.iq
8.	Course objectives	
		1- Understanding, assimilating and giving students the skill to apply the ideas of democracy and human rights 2- Expanding the skills of reading , dialogue and discussion of democracy and human rights topics 3- Clarifying the most important modern ideas and global, regional and local examples on the topics of . democracy and human rights 4- Enabling students to understand and defend civil and political rights, and introducing students to .democratic practice and its types as a basis for exercising political rights 5- Creating an understanding and aware generation by enabling it to understand rights and freedoms of all kinds, being able to know democratic practice, and encouraging political participation in election, While enhancing the culture of dialogue and discussion as a method .nomination, and other political rights among students
9.	Teaching and learning strategies	
		- Interactive lecture - Brainstorming - Dialogue and discussion - Self- education - .Education strategy collaborative concept planning
10.	Course structure	

the week	hours	Required learning outcomes	Name of the unit or subject	Learning method	Evaluation method
First	2Theoretica	C3: The student should be able to explain phenomena related to the history and development of human rights D1: The student should be able to present information related to human rights and their development D9: Enabling the student with the capabilities of self- and continuous education to develop concepts related to the development of human rights	History of human rights	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester test 1, short test , final test
Second	2Theoretica	C3: Enabling the student to understand and interpret human rights in heavenly religions D1: Enable the presentation and understanding of information related to human rights D9: Enable the student to present information from several sources on human rights to develop his own concepts	Human rights in heavenly religions	nteractive lecture, brainstorming, dialogue and discussion, self-learning	Semester test 1, short test , final test
Third	2Theoretica	C3:Enabling the student to interpret and distinguish between types and forms of human rights D1: The student should be able to present information related to human rights issues D9: The student should be able to present information related to forms of human rights to develop his own concepts D11: The student must be able to defend his rights after knowing them	Forms of human rights	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester test 1, short test, final test,
Fourth	2Theoretica	C3:Enabling the student to understand and interpret modern human rights D1: Enable the student to present information related to modern human rights D11: That the student be able to defend his new rights and take risks	New or modern human rights	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester test 1, short test, reports, final test
Fifth	2Theoretica	C3:The student should be able to understand	Human rights in international governmental	Interactive lecture, brainstorming,	Semester test 1, short test,

		the interpretation of phenomena related to human rights in international governmental organizations D1: The student should be able to present information related to international organizations D9: To be able to develop his information related to international organizations	organizations	dialogue and discussion, self-learning	reports, final test
Sixth	2Theoretica	C3:The student should be able to understand and explain phenomena related to how non-governmental organizations deal with human rights D1: The student should be able to present information related to human rights in non-governmental organizations D11: That the student be able to defend his new rights with the help of non-governmental organizations	Human rights in non-governmental organizations	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester test 1, short test, reports, homework, final test
Seventh	2Theoretica	C3:The student should be able to understand and interpret what is related to human rights and freedoms in the Iraqi Constitution in 2005. D9: To be able to develop his information related to international organizations D11: Enabling the student to defend his rights by resorting to responsible authorities and using peaceful means	Human rights in the Iraqi constitution in 2005	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester test 2, short test, final test
eighth	2Theoretica	C3:The student should be able to understand and distinguish the types of governments D1: The student should be able to present information related to the types of governments D9: To be able to develop his information related to types of governments	Types of governments	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester 2 test, short test homework assignments and final test
Ninth	2Theoretica	C3The student should be able to understand, explain and distinguish democratic government D1: The student should be able to present information related to democratic government	Democratic government	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester 2 test, short test homework, final test

		D9: To be able to develop his knowledge related to democratic government			
Tenth	2Theoretica	C3:The student should be able to understand and explain the characteristics of democratic government D9: Enable the student to develop his knowledge related to the characteristics of democracy	Characteristics of democracy	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester 2 test, short test homework assignments and final test
Eleventh	2Theoretica	C3:The student should be able to understand, interpret and distinguish images of democratic government D1: The student should be able to present information related to democratic government	Pictures of democratic government	Interactive lecture, brainstorming, dialogue and discussion, self-learning	A short test, a semester test, 2 homework assignments, and a final tes
Twelveth	2Theoretica	C3:The student should be able to understand the interpretation and distinction of indirect democracy D1: The student should be able to present information related to democratic government D9: Enable the student to develop his knowledge related to indirect democracy	Indirect democracy	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short test, homework, final test
Thirteenth	2Theoretica	C3:The student should be able to understand the interpretation and distinguish the types of ballots D1: The student should be able to display information related to the types of ballots D9: Enable the student to develop his knowledge related to the types of voting D11: Enabling the student to defend his rights related to his participation in universal suffrage by peaceful means,	Types of ballots	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short test, reports, final exam
Fourteenth	2Theoretica	C3:The student must be able to understand the interpretation and knowledge of the preparatory procedures for the election D1: The student should be able to present information related to election procedures D9: Enable the student to develop his knowledge related to election procedures D11: The student must	procedures Preliminary elections	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short test, final test

		be able to publicly defend his rights to participate in the elections			
Fifteenth	2Theoretica	C3:The student should be able to understand, distinguish and explain the types of elections D1: The student should be able to present information related to the types of elections D9: Enabling the student to develop his knowledge related to the types of elections D11: The student must be able to publicly defend his rights to participate in the elections	Types of election	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short test, final test

11. Course evaluation:

The grade distribution is out of 100, as the tasks assigned to the student, such as daily preparation, oral, monthly or daily written exams, reports to...etc., are out of 40, which is the semester pursuit rate for the subject. The final theoretical exam is 60 out of 60, as follows:

Number	Calendar methods	Calendar date (week)	degree	Relative weight %
1	Report 1	fourth week	1	1
2	Report 2	The fifth week	1	1
3	Short test (1) Quiz	sixth week	2	2
4	Short test (2) Quiz	The fourteenth week	2	2
5	Short test (3) Quiz	The fifteenth week	2	2
6	Semester test (1)	the sixth week	8.5	8.5
7	Semester test (2)	The eleventh week	8.5	8.5
8	Short test (4) Quiz	The thirteenth week	2	2
9	Report3	The eighth week	1	1
10	Homework	6,8,9,10,11,12,13	3	3
11	Participations in lectures	All weeks	4	4
12	Short test (5) Quiz	The ninth week	2	2
13	Report (4)	The twelfth week	1	1
14	Short test	The tenth week	2	2
15	Final theoretical test	Final semester exams	60	
	the total	100	100%	100%

12. Learning and teaching resources

Required textbooks (methodology, if any)	<p>a- Relying on the prescribed curricula issued by the Ministry. Among them: The book on human rights, written by: Hafez Alwan Hammadi Al-Dulaimi. 2010</p> <p>B- Relying on the curricula prepared by the subject teacher.</p> <p>There is no prescribed book for the subject, but rather there is a set of preparations prepared by the subject teacher based on practical sources related to the subject of human rights, and the lectures were given to the students</p>
Main references (sources)	<p>1. Human Rights, written by: Hafez Alwan Hammadi Al-Dulaimi.</p> <p>2. Universal human rights between theory and practice, written by Jack Donnelly.</p>

	<p>3. Human Rights, Children and Democracy, written by: Maher Saleh Allawi Al-Jubouri others.</p> <p>4. Human Rights and Public Freedoms, written by: Ramez Muhammad Ammar.</p> <p>5. The Genesis of Human Rights, written by: Lynn Hunt, translated by: Fayqa Girgis Hanna.</p> <p>6. The Philosophy of Human Rights, written by: Ansam Amer Al-Sudani.</p> <p>7. The Concept of Contemporary Democracy, written by: Ali Khalifa Al Kuwari.</p> <p>8. Democracy, written by Charles Tilly , translated by: Muhammad Fadel.</p> <p>9. Rooted Democracy and the Problem of Implementation, written by: Muhammad Al-Ahmari</p> <p>10. Parliamentary Governments, written by : John Stuart Mill, translated by: Emile Al-Ghour</p> <p>11- Electoral Systems, written by: a group of authors.</p>
Recommended supporting books and references (scientific journals, reports....)	<p>1- The Genesis of Human Rights, written by: Lynn Hunt, translated .by: Fayqa Girgis Hanna</p> <p>2- The Philosophy of Human Rights, written by Ansam Amer Al-Sudani</p> <p>3- Human Rights in the Western Religious Heritage and Islam , written by: Muhammad Jalaa Idris and Amal Muhammad Abd al-Rahman Rabie.</p>
Electronic references, Internet sites	<p>1- The United Nations website: https://www.un.org/ar/global-issues/human-rights</p> <p>2- The website of the Office of the High Commissioner, United Nations H Commissioner for Human Rights: https://www.ohchr.org/ar/hr-bodies/hrc/home</p> <p>3- Amnesty International website: https://www.amnesty.org/</p> <p>4- UNICEF website: https://www.unicef.org/ar/</p> <p>5- International Committee of the Red Cross website: https://www.icrc.org/</p>



Chair of scientific committee
Pr.dr. Muthanna Ahmed Tayyib



جامعة القادسية
كلية الزراعة والبيطرية
قسم الانتاج الحيواني



Subject teacher
Mohammed Zuhair Abdulkareem



Head of the Animal production animal
prf.dr. Omar Diaa Muhammed

Course Description Form

1.	2. Course Name:					
	Forage Crops					
3.	Course Code:					
	FOCP225					
5.	Semester / Year:					
	The second course 2023-2024					
7.	Description Preparation Date:					
	2024 1-2					
9.	Available Attendance Forms:					
	My presence					
11.	Number of Credit Hours (Total) / Number of Units (Total)					
	Two hours my theory , Two hours of work					
13.	Course administrator's name (mention all, if more than one name)					
	<div style="display: flex; justify-content: space-between;"> <div> Name: salim abdulla Saddam Ibrahim alobaidi salimalghazal@uomosul.edu.iq </div> <div> Email: saddam.alobaidi@uomosul.edu.iq </div> </div>					
15.	16. Course Objectives					
	practical: Enabling the student to identify the most important pastoral plants The types of natural pastures and methods protecting and appreciating them Its payload and exploitation		Theoretical Enable understanding and assimilation of pasture management material Enabling the student to know the most important ways to protect natural pastures Enabling the student to become familiar with the most important types of natural pastures Enabling the student to detect and know the palatability of pasture plants The student can judge the quality of pasture plants			
17.	18. Teaching and Learning Strategies					
	Practical: Assigning group work to reveal leadership skills Assigning tasks and a report for each field visit		-Theoretical Enable understanding and assimilation of pasture management material Enabling the student to know the most important ways to protect natural pastures Enabling the student to become familiar with the most important types of natural pastures Enabling the student to detect and know the palatability of pasture plants The student can judge the quality of pasture plants			
19.	20. Course Structure					
W	Hours		Required Learning	Unit or subject	Learning	Evaluation

Week			Outcomes	name	method	method
1	2 theoretical 3 practical	a1 a6	Determines the positive and negative relationship of leguminous fodder crops and soils Compares samples of feed	Theoretical: The importance of fodder crops And its importance Practical: dividing fodder crops/Naceae family	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasks And report	Short exams, assignments, discussions
2	2 theoretical 3 practical	a2 a7		theoretical: Alfalfa crop Practical botanical description For the Alfalfa crop	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasks And report	Short exams, assignments, discussions
3	2 theoretical 3 practical	a3 a8	they remember their feed sources checks the types of toxins and their quantities in the feed	theoretical: The yield of ics (Bur clover is about practical: ics (Bur clover Botanical description of a crop around	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasks And report	Short exams, assignments, discussions
4	2 theoretical 3 practical	a4 a9	it explains the most important factors affecting the production of fodder crops and compares different types of	theoretical: Egyptian clover crop	Auditory methods Writing style On the board Dialogue style	Short exams, assignments, discussions

			fodder crops compares samples of feed contaminated with toxins	Practical: botanical description For the Egyptian clover crop	Direct practical: Assigning tasks And report	
5	2 theoretical 3 practical	a5	theoretical vetch crop practical: botanical description of the vetch crop	theoretical vetch crop practical: botanical description of the vetch crop	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasks And report	Short exams, assignments, discussions
6	2 theoretical 3 practical	b1 b6	applies the ideas for cultivating traditional fodder crops, whether leguminous or non-leguminous finds which feed samples are the most poisonous	theoretical clover crop sweet Practical: botanical description of sweet clover crop	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasks And report	Short exams, assignments, discussions
7	2 theoretical 3 practical	C1 B6	it encourages the cultivation of the most important fodder crops from other families distinguishes between types of toxins and their quantities found in feed	Theoretical: corn Practical: botanical description For corn	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasks And report	Short exams, assignments, discussions
8	2 theoretical 3 practical	D2 B8	determines the most important streptococcal bacteria and their relationship to fodder crops and soil it carries out	Theoretical : sorghum practical: botanical description	Auditory methods Writing style On the board Dialogue style Direct	Short exams, assignments, discussions

			the cultivation of fodder crops		practical: Assigning tasks And report	
9	2 heoretical 3 practical	c2 b9	it distinguishes between the most important fodder crops that increase soil fertility applies different types of fertilizers	theoretical: sudanese grass practical: botanical description for sudanese grass	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasks And report	Short exams, assignments, discussions
10	2 heoretical 3 practical	D2 B10	identifies the most important fodder crops that maintain soil maintenance he examines various samples of feed to determine their suitability for feeding the animal	Theoretical: fodder crops Winter Poaceae Practical: botanical description For winter fodder crops	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasks And report	Short exams, assignments, discussions
11	2 heoretical 3 practical	D3 c3	explains the most important pros and cons of fodder crops distinguish between different types of toxic substances in feed	theoretical: forage mixtures practical: methods of growing foerag mixtures	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasks And report	Short exams, assignments, discussions
12	2 heoretical 3 practical	D4 C4	shows the extent of response to saline soils evaluates which samples are the most poisonous	Theoretical: HAY Practical: a way of working HAY	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasks	Short exams, assignments, discussions

					And report	
13	2 heoretical 3 practical	D5 C5	it shows the importance of fodder crops and their relationship to soil fertility suggests other methods for examining feed	Theoretical: silage Practical: How make silage	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasks And report	Short exams, assignments, discussions
14	2 heoretical 3 practical	E1 E3	it analyzes the toxin found in some fodder crops and their impact on animal health selects the best fodder crops for cultivation	Theoretical: field visit For fodder crop fields My job: getting to know each other Fodder crops	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasks And report	Short exams, assignments, discussions
15	2 heoretical 3 practical	E2 E4	identify a suitable method of how fodder crops resist drought and can be applied in farmers' fields experiment with different types of stress tolerant crops	Theoretical field visit For one of the feed factories And report on the quality Feed practical: Solve the problem	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasks And report	Short exams, assignments, discussions
21. 22. Course Evaluation						
Relative weight	degree	Calendar appointment one week	is	Calendar methods	Sequence	
%13	7 Theoretical 6 practical	My theory week 15	is	A theoretical final report Practical experience reports	1	

%6	7 Theoretical 6 practical	Practical 1-15	Short test 1 Quiz	2	
%15	4 Theoretical 2 practical	Week 3	Midterm Exam	3	
%6	10 Theoretical 5 practical	Week 4	Short test 1 Quiz	4	
%20	20	Week 9	Final practical test	5	
%40	40	Practical exams week	Final theoretical test	6	
%100	100	The week of theoretical exams			
23.	24. Learning and Teaching Resources				
	Required textbooks (curricular books any)	Fodder crops and pastures, Muhammad Sa Radwan and Abdullah Qasim Al-Fakhri			
	Main references (sources)				
	Recommended books and references (scientific journals, reports...)	Cops and Forage Archives			
	Electronic References, Websites	ICARDA, Arab Organization Agricultural Development			


Theoretical subject teacher
Dr. Salim Abdulah Younis


Practical subject:
Khaleel Ibrahim Khaleel


Head Of Department




Chairperson of the Scientific
Committee

Course Description Form

1. Course Name:	
Computer applications2	
2. Course Code:	
COMA203	
3. Semester / Year:	
Second semester/Second stage/2023–2024	
4. Description Preparation Date:	
2024/2/1	
5. Available Attendance Forms:	
Blended learning (Attendance + Electronic)	
6. Number of Credit Hours (Total) / Number of Units (Total):	
45 working hours/1.5 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Ahmed Nazar Hassan Email: ahmadccniit@uomosul.edu.iq	
8. Course Objectives	
Course Objectives	<ul style="list-style-type: none"> Teaching the student the fundamentals of utilizing a computer and its apps (Word, Excel), as well as expanding his understanding of these tools to apply the methods and steps needed to use them in analyses of agricultural experiments. Enhancing his service program management, helping him to finish tasks and reports, and fixing any grammatical or language faults that crop up. The learner gains the ability to handle various data kinds, print, prepare statistics, and identify pre-made functions, graphs, chart designs, etc. at the same time. The student can thus read, comprehend, and evaluate program outputs and outcomes, including Excel. On the other hand, the availability of Internet connection has made it imperative that students acquire computer skills and knowledge of essential service applications.
9. Teaching and Learning Strategies	
Strategy	- Interactive lecture

- Brainstorming
- Dialogue and discussion
- Field Training
- Practical exercises
- Field project
- Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3 practical	A1: Introducing the student to the Word program and the importance of using it in writing reports and reports in terms of explaining the basic elements that make up its windows as well as understanding its function, including the launch bar, learning how to create a new document and adding text inside, how to store and retrieve information, and learning how to form letters in the Arabic language, And select or select text. The new and deleted version and other definitions such as the font type and how to change its appearance	What is WORD program? The basic elements that make up the rose window	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.

2	3 practical	B1: The ability to know, understand and apply equations in a practical way, as well as how to use counters and digital counts, knowledge of documentaries, levels, the importance of spacing principles, as well as paragraph and line spacing, search and replace, and the steps to insert a page and a blank page.	Explanation of the command bar for menus	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
3	3 practical	C1: Ability to know, understand and apply practical application to explain how to insert a table into a document How to convert text into a starting table that can be run on.	Tables and shortcuts in Word	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
4	3 practical	D1: Ability to know, understand and practically apply how to include predictive results to display results and an attractive link, as well as how to insert technical texts and create signatures in the document.	Charts, links and technical texts	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
5	3 practical	D2: Capable of knowledge, understanding and practical application to explain the method of inserting caps and	Insert, date and print operations	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.

		Date, how to prepare the index, and print with file types			
6	3 practical	D3: The ability to know, understand and practically apply the image to be inserted from the Internet and recognize its symbols	Processes of inserting an image from the Internet and its patterns	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
7	3 practical	D4: Able to know, understand and practically apply skeleton inserts, artistic stills and video films	Insert diagrams, snapshots and movies	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
8	3 practical	D5: Able to know, understand and practically apply c insert with evidence and examples as well as write and learn how to convert text into columns and what the margins are for their settings and occasions.	Header, footer, margins and page settings	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
9	3 practical	A1: Able to know, understand and practically apply to explain the basic elements that make up an Excel window, what is dynamic, selection shortcuts, how to edit rows and columns, and the usefulness of the Auto box.	An introductory introduction to Excel	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
10	3 practical	B1: Able to know, understand and apply base rates practically How to add core	Mathematical equations and basic states	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
11	3 practical	C1: Able to know, understand and practically apply the use of functions in Excel	Types of basic functions	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
12	3 practical	D1: Able to know, understand and apply the use of Excel's grammar count function in practice	Conditional counting function	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
13	3 practical	D2: The ability to know, understand and	Search, replace and manage worksheets	Interactive lecture, brainstorming,	Quiz, practical test,

		apply special or distinct data in a practical way and replace it with worksheets in Excel.		dialogue and discussion, practical exercises, and self-learning.	Homework, semester test, Final test.
14	3 practical	D3: Ability to know, understand and apply four fast and reliable ways to deal with a set of data by learning the sorting and filtering methods in Excel.	Sorting and filtering data	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
15	3 practical	D4: Able to know, understand and practically apply printable chart insertion and page layout in Excel	Chart and printing	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.

11. Course Evaluation

t	Evaluation methods	Evaluation date (one week)	Grade	Relative weight %
1	Final theoretical report + theoretical practical reports	Theoretical 15 weeks Practical 1-15 weeks	7theoretical + 6 practical	13%
2	Short test 1 Quiz	3 weeks	4theoretical + 2practical	6%
3	Midterm exam (theoretical and practical)	9 weeks	10theoretical + 5 practical	15%
4	Short test 2 Quiz	12 weeks	4 theoretical + 2 practical	6%
5	Final practical test	practical exams week	20	20%
6	Final theoretical exam	theoretical exams week	40	40%
	The total		100	100

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Basic computer and software skills Prof. Dr. Muhammad Bilal Al-Zoghbi Prof. Dr. Ahmed Al-Sharay'a (University of Jordan)
Main references (sources)	1. Introduction to Computer and Information Systems / L.Long / Forth Edition-Prentice-Hall , 1944. 2.Projects for DOS 6 & Windows 3.1 / Fox , Metzeelaer and Scharpf / Benjamin / Cummings Pub. 1995. 3. Different websites
Recommended books and references (scientific journals, reports...)	lectures from the university library available to other British universities
Electronic References, Websites	Numerous scientific websites on the web

Theoretical and Practical subject teacher:

Dr. Ahmed Nazar Hassan


Chairman of the Scientific Committee
Dr. Muthanna Ahmed Muhammad Al-Tayeb




Head of the Department:
Dr. Omar Diaa Muhammad

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 				

		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	
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 Tayeh

Head of the Animal Production Department
Prof. Dr. Omar Dias Muhammad

Course Description Form

1. Course Name:					
English Language 2					
2. Course Code:					
ENGL 201					
3. Semester / Year:					
Spring 2024					
4. Description Preparation Date:					
01/02/2024					
5. Available Attendance Forms:					
Presence					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(30 Hours) (2 Unit)					
7. Course administrator's name (mention all, if more than one name)					
Name: L. Mohammed Nadher Mahmood Yamman2013@uomosul.edu.iq					
Name: A.L. Sarmed Hashim Taha sarmed.almaula@uomosul.edu.iq					
8. Course Objectives					
Course Objectives		<ul style="list-style-type: none"> To going on studying the English language in special the scientific language Widening student mind about scientific and literature English vocabularies Helping the students to think and write in English 			
9. Teaching and Learning Strategies					
Strategy		Interactive lecture, brainstorming dialogue and discussion			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2hours Presence	(a1)The student should be able to know the basics of the English language	Definition of the best ways to study English	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
2	2hours Presence	(a2)The student should be able to know the tenses of the English language	Definition of the best ways of studying and tenses English	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz

3	2hours Presence	(a3)The student should be able to know the rules of the English language	Definition of the best ways to study English	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
4	2hours Presence	(a4)The student should be able to know the basics of the English language	Definition of the best ways to study English	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
5	2hours Presence	(a5)The student should be able to know the basics of the English language	Definition of the best ways to study English	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
6	2hours Presence	(a6)The student should be able to know the basics of the English language	Definition of the best ways to study English	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions- quiz
7	2hours Presence	(a7)The student should be able to know the basics of the English language	Definition of the best ways to study English	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
8	2hours Presence	(a8)The student should be able to know the basics of the English language	Definition of the Best ways to study English	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
9	2hours Presence	(a9) The student should be able to know the basics of the English language	Definition of the Best ways to study English.	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
10	2hours Presence	(a10) The student should be able to know the basics of the English language	Definition of the Best ways to study English	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
11	2hours Presence	(a11) The student should be able to know the basics of the English language	Definition of the Best ways to study English.	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
12	2hours Presence	(a12)The student should be able to know the basics of the English language	Definition of the Best ways to study English.	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
13	2hours Presence	(a13)The student should be able to know the basics of the English language	Definition of the Best ways to study English	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
14	2hours Presence	(a14)The student should be able to know the basics of the English language	Definition of the Best ways to study English	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
15	2hours Presence	(b1)The student should be able to know the basics of the English language	Definition of the Best ways to study English.	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

No.	Evaluation Methods	Evaluation Date (Week)	Marks	Relative Weight (%)
1	Quiz (1)	Week 4	Theoretical (5)	5
2	Monthly Exam (1)	Week 6	Theoretical (15)	15
3	Quiz (2)	Week 8	Theoretical (5)	5
4	Monthly Exam (2)	Week 15	Theoretical (15)	15
5	Quest rate.	Seasonal rates are announced at the end of the semester.	Theoretical: (40)	40
6	Final Theoretical Test.	The Week Of Theoretical Exams.	60	60
Total			100	100

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Rapid Review of English Grammar 1957
Recommended books and references (scientific journals, reports...)	New Headway - English course English in agriculture 1985 oxford bookworms
Electronic References, Websites	translate.yandex.com www.reverso.net /The Library Genesis junkbooks / cole13 / pdfdrive


 A.L. Sarmed Hashim Taha


 L. Mohammed Nadher Mahmood


 Head Of Department


 Chairperson of the Scientific Committee



Course Description Form

1. Course Name:	
Principles of dairy	
2. Course Code:	
PRPD227	
3. Semester / Year:	
Second semester/second stage/2023-2024	
4. Description Preparation Date:	
2024/2/1	
5. Available Attendance Forms:	
Attendance lesson	
6. Number of Credit Hours (Total) / Number of Units (Total): units	
75 hours/3.5 units	
7. Course administrator's name (mention all, if more than one name):	
Name: dr. Azhar Ibrahim shukur Email: azhar.Ibrahim@uomosul.edu.iq Name : M.M. Waed allah hashim Email: masterwaad@uomosul.edu.iq	
8. Course Objectives	
Theoretical: - Enabling the student to understand what is related to cheese making and its types * Enabling the student to know the most important types of cheese that are widespread in the world and in Iraq in particular * Enabling the student to become familiar with the most important defects of cheese * The student can judge the types of cheese	practical: Enabling the student to become familiar with the most important laboratory methods in studying and making cheese
9. Teaching and Learning Strategies	
Theoretical:	practical:

Interactive lecture with the use of presentations – dialogue Discussion - brainstorming - assigning tasks and reporting.	Assigning group work and revealing students' skills - assignment Assignments to write a report for each experiment.
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10. Course Structure

Week	Hours	Required Learning Outcomes	Name of Unit or subject	Learning method	Evaluation method
First	2Theoretical 3Practical	b 1 : Shows the definitions of milk and the factors affecting it Milk composition b 7: Examines different sample Of milk	Definitions of milk - factors affecting the composition of milk Sampling methods	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Second	2Theoretical 3Practical	C 1/ Explains the physical properties of milk b 8/ List the types of preservatives	Physical properties of milk Sampling method	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Third	2Theoretical 3Practical	b 2/ Familiar with the composition of fat and essential fatty acids b9: Explains sensory tests of milk	Milk ingredients Water-fat-lactose Sensory tests and milk judging	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Fourth	2Theoretical 3Practical	b 3/ Milk Protein Judges / The importance of proteins in the body b 10/ : Shows the factors that are related to sensory tests of milk	Protein Sensory tests and milk judging Tender .	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Fifth	2Theoretical 3Practical	d 1/ Enumerate the enzymes found in milk b 11: Applies the method for estimating the percentage of fat in milk	Enzymes - mineral salts – vitamins Estimating the percentage fat in milk	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions

Sixth	2Theoretical 3Practical	A 1/ Identify the most important microorganisms common in... Milk, which causes spoilage of milk and beneficial bacteria Used as starter b 12/ Distinguish between fat percentages in different types of milk	Microorganisms in milk Estimating the percentage of fat in milk	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Seventh	2Theoretical 3Practical	A2: Identify microbiological characteristics For milk products B13: Prove the method of adulterating milk	Transmitted diseases Milk road Milk adulteration	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
eighth	2Theoretical 3Practical	C2/Explains the importance of knowing the Pearson square method b 14/ Documents the distinction between types of fraud	Adjusting the percentage of fat in milk (Pearson square) Milk adulteration	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Ninth	2Theoretical 3Practical	a 3/Familiar with routine qualitative examinations C3/ examines the bacteriological tests of the milk	Various milk tests Bacteriological examination of milk	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Tenth	2Theoretical 3Practical	a 4/ Learn about the importance of the milking process / the mechanics of milking / cleaning and disinfecting the milking machine C4/ The student organizes each examination individually	Preparing milk on the farm and receiving the milk Bacteriological examination of milk	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Eleventh	2Theoretical 3Practical	b 4/ Learn about the sorting method, the types of cream, and purposes for which the cream is used C5/ Measures the amount of chemicals needed to measure the acidity of milk	Milk sorting and cream manufacturing Estimation of milk acidity	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Twelveth	2Theoretical 3Practical	e1/ It judges the thermal treatment of milk, including pasteurization, sterilization, and boiling, and the effect on the milk d 2/ Shows the types of acidity	Thermal parameters of milk	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and	Short exams, assignments, or discussions


		milk	Estimation of milk acidity	reporting	
Thirteenth	2Theoretical 3Practical	e 2/ Explains the method making fermented milk d 3/ Try to detect mastitis	Milk fermentation industry Detection of mastitis	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Fourteenth	2Theoretical 3Practical	b 5: Determine a method for making cheese d 4: Enumerates the types of t	Cheese making Detection of mastitis?	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions
Fifteenth	2Theoretical 3Practical	b 6: Communicates with one of the dairy producing factories d 5: Checks the stability of milk	Solve the problem Milk stability tests	Theoretical: Auditory methods Writing style on the blackboard Direct dialogue style practical : Assigning tasks and reporting	Short exams, assignments, or discussions


11. Course Evaluation


Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc . The average is calculated from 25 for theory, as well as for practical, with an average of 15.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	General dairy principles (Al-Shabibi). Publications of the University of Mosul. Iraq.
Main references (sources)	- Magazines, scientific articles specialized in the field of dairy
Recommended books and references (scientific journals, reports...)	Specialized books in the field of dairy science and its products, general dairy principles, (Jamal al-Din Abdel Tawab)
Electronic References, Websites	Scientific electronic websites specialized in studying milk and its processing


Lecturer of theoretical part
dr. Azhar Ibrahim shukr


Lecturer of practical part
M.M. Waed allah hashim


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




Head of the Animal Production Department
Prof. Dr. Omar Diaa Muhamamad

Course Description Form

1. Course Name:					
Animal physiology					
2. Course Code:					
AGAP24_F3011					
3. Semester / Year:					
Semester 2 / 2023– 2024					
4. Description Preparation Date					
1/2/2024					
5. Available Attendance Forms:					
Lectures and electronic					
6. Number of Credit Hours					
(75) / Number of Units (3.5)					
7. Course administrator's name (mention all, if more than one name)					
Name: Assist prof . Abdulnaser Thanoon Mahmood Alkhashab Email: dr.abdulnassir@uomosul.edu.iq					
8. Course Objectives					
Course Objectives Enabling the student to understand and comprehend what is related to animal physiology Its relationship to animal production projects and the economic aspect Enabling the student to become familiar with the components of blood and the systems inside the body Enabling the student to know the physiological basis of various body systems in farm animals			Introducing the student to the types of fodder materials. Enabling the student to become familiar with the most important laboratory methods To measure cellular and non-cellular components of blood and the functioning of body systems		
Teaching and Learning Strategies					
Strategy		Classroom lectures Online Lectures Videoconferencing			
Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation

					method
1	Theoretic 2 Practical 3	<p>Theoretical: a1 : The student learns about the cell, the structure of the cell, its components, and the function of each</p> <p>Practical: b6 Explains the laboratory equipment used in laboratories</p>	<p>Theoretical: Study of the cell and its structure</p> <p>Practical: Laboratory equipment used in laboratories</p>	<p>Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report</p>	<p>short exam Assignment of duty discussion</p>
2	Theoretic 2 Practical 3	<p>theoretical a2 A: The student learns about cellular tissues and knows the types of cellular tissues and their locations in the animal's body</p> <p>practical a9 Learn about drawing blood</p>	<p>Theoretical: Cellular tissues and their types</p> <p>Practical: Draw blood</p>	<p>Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report</p>	<p>hort exam Assignment of duty discussion</p>
3	Theoretical 2 Practical 3	<p>Theoretical: b 1 B: The student remembers the mechanisms and methods of transporting substances and mechanizing their transport across the cell membrane</p> <p>Practical a10 Mentions on blood functions</p>	<p>Theoretical: Mechanism and mechanization of transport across the cell membrane</p> <p>Practical Blood functions</p>	<p>Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report</p>	<p>hort exam Assignment of duty discussions</p>
4	Theoretical 2 Practical 3	<p>Theoretical a3 A: The student understands the digestive system, the differences in the</p>	<p>Theoretical The digestive system, its components and functions</p>	<p>Methods audio Writing style On the</p>	<p>hort exam Assignment of duty</p>

		digestive system between animals, and the function of each part Practical b7 Shows how to make a blood slide	Practical Make a blood slide	board Dialogue style Direct practical: Assigning tasks And report	discussions
5	Theoretical 2 Practical 3	Theoretical c1 Using PowerPoint, the student learns about the hormones and enzymes of the digestive system and their functions in the body of living organisms practical a11 Determine the measurement of hemoglobin	Theoretical Digestive hormones and enzymes Practical Hemoglobin	Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report	hort exam Assignment of duty discussions
6	Theoretical 2 Practical 3	theoretical b2 The student learns about the types of small intestine movements in animals, the mechanism of each type, and its benefits Practical b8 Shows how to estimate the volume of stacked cells	Theoretical Small bowel movements and the benefits of each Practical Size of stacked cells	Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report	hort exam Assignment of duty discussions A field visit to living and educational centers inside or outside the universit
7	Theoretical 2 Practical 3	theoretical a4 The student learns about the types of large intestine movements in animals, the mechanism of each	Theoretical Structure of the large intestine and the types and benefits of movements in the large intestine	Methods audio Writing style On the board Dialogue style	hort exam Assignment of duty discussions

		type, and its benefits Practical b9 Performs erythrocyte sedimentation rate estimation	Practical Erythrocyte sedimentation rate	Direct practical: Assigning tasks And report	
8	Theoretical 2 Practical 3	Theoretical b3 The student knows about the circulatory system, its parts and functions in animals Practicalc3 Estimation of red blood cells is calculated	Theoretical Circulation device, its structure and parts Practical Estimation of red blood cells is calculated	Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report	hort exam Assignm ent of duty discussio ns
9	Theoretical 2 Practical 3	heoretical c2 The student learns about the composition and components of blood Practical c4 Performs estimation of white blood cells	Theoretical Blood composition and its components Practical White blood cells	Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report	hort exam Assignm ent of duty discussio ns
10	Theoretical 2 Practical 3	theoretical a5 The student learns about the lymphatic system and the structure and parts of the device Practical c5 Apply blood measurements	Theoretical The lymphatic system and its components Practical Blood measurement	Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report	hort exam Assignm ent of duty discussio ns
11	Theoretical 2 Practical 3	theoretical b4 Introducing the	Theoretical The nervous system	Methods audio	hort exam

		<p>student to the nervous system and its parts and studying the structure of the nerve cell</p> <p>practical b10 Explains blood groups</p>	<p>and nerve cell structure</p> <p>Practical Blood groups</p>	<p>Writing style On the board Dialogue style Direct practical: Assigning tasks And report</p>	<p>Assignment of duty discussions</p>
12	Theoretical 2 Practical 3	<p>theoretical a6 Introducing the student to the central nervous system and its functions in animals</p> <p>practical a12 Identify the Rh factor</p>	<p>Theoretical The central nervous system and its parts</p> <p>Practical Rhesus factor</p>	<p>Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report</p>	<p>short exam Assignment of duty discussions</p>
13	Theoretical 2 Practical 3	<p>theoretical a7 Introducing the student to the peripheral nervous system and its functions in animals</p> <p>practical a13 Mentioned on the urinary system</p>	<p>Theoretical peripheral nervous system</p> <p>Practical Urinary tract</p>	<p>Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report</p>	<p>short exam Assignment of duty discussions</p>
14	Theoretical 2 Practical 3	<p>theoretical a8 Introducing the student to the respiratory system and its functions in animals</p> <p>practical a14 Familiar with the components of blood serum and plasma</p>	<p>Theoretical The respiratory system and its parts</p> <p>Practical Serum and blood plasma</p>	<p>Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks</p>	<p>short exam Assignment of duty discussions</p>

				And report	
15	Theoretical 2 Practical 3	theoretical b5 Definition of the urinary system and its functions in animals practical a15 Explains histology and histological sectioning	Theoretical The urinary system in animals Practical Histology and tissue sectioning	Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report	hort exam Assignm ent of duty discussion ns

9. Course Evaluation

Distribution of the score from 100 according to the tasks assigned to the student such as daily preparation 5 degrees and daily examinations 5 degrees and monthly 80 degrees and reports 10 degrees

10. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Book of Fodder and feeding
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	http://www.anypdftools.com/buy/buy-pdf-splitter.html

11- Course evaluation

Calendar methods	Calendar appointment	Class	Relative weight%
Theoretical final report + practical	My theory is week 15	7 theoretical + 6 practical 4	13%
Short test	My work week 1 - 15	theoretical + 2 practical 10	6%
A theoretical and practical midterm test	week (3)	theoretical + 5 practical 4	15%
Short test	week (9)	theoretical + 2 practical	6%
Final practical test	week (12)	20	20%

Final theoretical test	Final exam week	40	40%
total	Final exam week	100	%100
12. Learning and teaching resources			
Required textbooks (methodology, if any)	Animal physiology book		
Main references (sources) Recommended supporting			
Assisted reproductive technologies in animals Farm 2018 Reproduction in farm animals	Journal of Animal and Poultry Sciences		
Electronic references, Internet sites	Environmental physiology of farm animals		



Assist prof . Abdalnaser Thanoon Alkhashab

Theoretical teacher



L. Mohamad Salem Ibrahim

Practical teacher



Muthanna Ahmed Muhammad
Chairman of the Scientific Committee



Omar Dhiyaa Muhammad
Head of the Animal Production Department

Course Description Form

1. Course Name:	
Design and analysis of agricultural experiments	
2. Course Code:	
DAAE302	
3. Semester / Year:	
First semester – Autumn /2023-2024	
4. Description Preparation Date:	
1/2/2024	
5. Available Attendance Forms:	
Presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 theoretical + 3 practical / 3.5 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Muthanna Fathi Abdullah	Amar Raeed Mohamed Thmer
Email: muthanna.f.a@uomosul.edu.iq	amar.raeed@ uomosul.edu.iq
8. Course Objectives	
<p>Course Objectives</p> <p>theoretical:</p> <ul style="list-style-type: none"> - Enable the student to learn how to design experiments in the agricultural field in general and animal production in particular - Enabling the student to understand and apply all laws related to analysis processes and testing results - Enabling the student to choose the appropriate design for the experiment, how to distribute the parameters to the experimental units, and record the observations - Enabling the student to be able to collect data, classify and analyze it, conduct a significance test, discuss and interpret the results, and determine the best experimental parameters. - The student can analyze a study of several factors through a factorial experiment in an appropriate design by studying the levels of several factors in factorial coefficients to determine the best one. 	<p>practical: Enabling the student to learn how to read practical research data and analyze it well, and to understand how electronic statistical analysis programs such as SAS and SPSS work.</p>

9. Teaching and Learning Strategies

Strategy theoretical: -Interactive lecture -Brainstorming -Dialogue and discussion -Assigning tasks and reports -Learn about the implementation of direct applied field experiments	practical: - Assignment to team work - Assigning tasks and reports for each accountability
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theoretical 3practical	theoretical: A1:Remembers measures of centering, mediation, and components of an analysis of variance table practical: A11: The student solves some examples of measures of concentration and dispersion	theoretical: Some statistical measures Examples and homework practical: Measures of concentration (mean, median, mode) and measures of dispersion (mean deviation, variance, coefficient of variation)	theoretical: Audio methods, writing style on the blackboard , direct dialogue method practical: Assigning tasks and reporting	Short exams, assignments, discussions
2	2 Theoretical 3practical	theoretical: A2: Learn about the basic concepts and basic rules in design, the requirements	theoretical: Chapter One (Introduction) practical: Completely randomized design (C.R.D.)	theoretical: Audio methods, writing style on the blackboard , direct	Short exams, assignments, discussions

		for a good experiment, and the steps that are followed in scientific experiments practical: A12: The student learns how to solve direct questions in a completely randomized design	and direct question solving method	dialogue method practical: Assigning tasks and reporting	
3	2 Theoretical 3practical	theoretical: A3:It mentions the definition, advantages and disadvantages of the design, and an analysis of variance table for a completely randomized design practical: A13: The student understands how to solve indirect questions in a completely randomized design	theoretical: Completely randomized design examples and homework practical: Some important laws in completely randomized design in solving indirect questions. Solve some indirect questions and give homework	theoretical: Audio methods, writing style on the blackboard , direct dialogue method practical: Assigning tasks and reporting	Short exams, assignments, discussions
4	2 Theoretical 3practical	theoretical: A4: Knows how to use appropriate testing to compare averages practical: A14: The student learns how to use and solve exercises related to testing averages	theoretical: Comparing averages examples and homework practical: Dent test Test for least significant difference	theoretical: Audio methods, writing style on the blackboard , direct dialogue method practical: Assigning tasks and reporting	Short exams, assignments, discussions

5	2 Theoretical 3 practical	theoretical: A5: Duncan's test is used to compare means of coefficients practical: A15: The student learns how to solve questions in the Duncan test for comparison of means	theoretical: Comparing averages examples and homework practical: Duncan test	theoretical: Audio methods, writing style on the blackboard , direct dialogue method practical: Assigning tasks and reporting	Short exams, assignments, discussions
6	2 Theoretical 3 practical	theoretical: C1: Explains how to find an analysis of variance table if the numbers of repetitions are not equal practical: A16: The student benefits from solving completely randomized design exercises when the replicates are not equal	theoretical: Completely randomized design (if the numbers of replicates are not equal) Examples and homework practical: How to solve direct questions in a completely randomized design if the frequencies are not equal	theoretical: Audio methods, writing style on the blackboard , direct dialogue method practical: Assigning tasks and reporting	Short exams, assignments, discussions
7	2 Theoretical 3 practical	theoretical: A6: It mentions the definition, advantages and disadvantages of the design, and an analysis of variance table for the completely randomized block design practical: A17: The student understands how to solve straightforward	theoretical: Randomized complete block design examples and homework practical: How to solve direct questions in a completely randomized block design	theoretical: Audio methods, writing style on the blackboard , direct dialogue method practical: Assigning tasks and reporting	Short exams, assignments, discussions

		exercises in a randomized complete block design			
8	2 Theoretical 3 practical	theoretical: A7: State the law of relative efficiency of a completely randomized block design compared to a completely randomized design practical: A18: The student learns about indirect questions in randomized complete block design and how to solve them	theoretical: Randomized complete block design (relative efficiency) Examples and homework practical: Some important laws in solving indirect questions Indirect questions in a completely randomized block design	theoretical: Audio methods, writing style on the blackboard, direct dialogue method practical: Assigning tasks and reporting	Short exams, assignments, discussions
9	2 Theoretical 3 practical	theoretical: A8: It mentions the definition, advantages and disadvantages of the design, and a variance analysis table for the Latin square design practical: A19: The student compares a completely randomized design with a completely randomized block design using the law of relative efficiency	theoretical: Latin square design Examples and homework practical: Relative efficiency and missing observations in a completely randomized block design	theoretical: Audio methods, writing style on the blackboard, direct dialogue method practical: Assigning tasks and reporting	Short exams, assignments, discussions
10	2 Theoretical 3 practical	theoretical: A9: The law of relative	theoretical: Latin square design	theoretical: Audio methods,	Short exams, assignments, discussions

		efficiency of the Latin square design compared to the completely randomized design and the completely randomized block design is stated in practice: A20: The student learns about the design of the Latin square and how to solve direct questions	(relative efficiency) Examples and homework practical: Direct questions in Latin square design	writing style on the blackboard , direct dialogue method practical: Assigning tasks and reporting	
11	2 Theoretical 3practical	theoretical: C2:The rule for estimating the missing views in the Latin square design shows practical: A21:The student finds the key to the solution in the indirect question of the Latin square design	theoretical: Latin square design Examples and homework practical: Some important laws in solving direct questions Indirect questions in the Latin square design	theoretical: Audio methods, writing style on the blackboard , direct dialogue method practical: Assigning tasks and reporting	Short exams, assignments, discussions
12	2 Theoretical 3practical	theoretical: A10:It mentions the definition, advantages and disadvantages of factorial experiments, and a table of analysis of variance for factorial experiments practical: A22:The	theoretical: Factorial experiments are examples and homework practical: Relative efficiency of the Latin square design	theoretical: Audio methods, writing style on the blackboard , direct dialogue method practical: Assigning tasks and reporting	Short exams, assignments, discussions

		student compares a completely randomized block design with a Latin square design using the law of relative efficiency			
13	2 Theoretical 3 practical	theoretical: C3: Shows how to find an analysis of variance table and an intercept curve for a factorial experiment using a completely randomized design practical: A23: The student benefits from using the Latin square missing view estimation rule	theoretical: Factorial experiments are examples and homework practical: Relative efficiency and missing observations in a Latin square design	theoretical: Audio methods, writing style on the blackboard, direct dialogue method practical: Assigning tasks and reporting	Short exams, assignments, discussions
14	2 Theoretical 3 practical	theoretical: C4: Shows how to find the number of factorial coefficients, the equation of the mathematical model, and the interference curve for a factorial experiment with three factors practical: A24: The student learns about factorial	theoretical: Factorial experiments are examples and homework practical: Factorial experiments in a completely randomized design, a two-factor experiment	theoretical: Audio methods, writing style on the blackboard, direct dialogue method practical: Assigning tasks and reporting	Short exams, assignments, discussions

		experiments in a completely randomized design and how to solve exercises for a two-factor experiment			
15	2 Theoretical 3 practical	theoretical: C5:Shows how to find an analysis of variance table and an intercept curve for a factorial experiment using a completely randomized block design practical: A25:The student learns about factorial experiments in a completely randomized design and how to solve exercises for a three-factor experiment	theoretical: Factorial experiments are examples and homework practical: Factorial experiments in a completely randomized design, a three-factor experiment	theoretical: Audio methods, writing style on the blackboard , direct dialogue method practical: Assigning tasks and reporting	Short exams, assignments, discussions

11. Course Evaluation

S	Calendar methods	Calendar appointment (week)	degree	Relative weight %
1	Theoretical final report + practical experience reports	theory week 15 practical week 1-15	7 theoretical + 6 practical	13%
2	Short test (1) Quiz	Week (3)	4 theoretical + 2 practical	6%
3	Midterm Exam (theoretical and practical)	Week (10)	10 theoretical + 5 practical	15%
4	Short test Quiz (2)	Week (12)	4 theoretical + 2 practical	6%
5	Final practical test	Practical exams week	20	20%

6	Final theoretical test	theoretical exams week	40	40%
	total		100	100
12. Learning and Teaching Resources				
Required textbooks (curricular books, if any)			designed and analyzing of agricultural experiments	
Main references (sources)			The methodological book specified by the Ministry	
Recommended books and references (scientific journals, reports...)			Lectures published by Iraqi universities	
Electronic References, Websites				


Theoretical subject teacher: Dr. Muthanna Fathi Abdullah

Practical subject teacher: M. Ammar Raed Muhammad Thamer

Chairman of the Scientific Committee: A. Dr. Muthanna Ahmad Muhammad Tayyib

Head of Department: A. Dr. Omar Dhiaa Muhammad



Course Description Form

1. Course Name:					
English Language3					
2. Course Code:					
ENGL300					
3. Semester / Year:					
2023/2024					
4. Description Preparation Date:					
01/02/2024					
5. Available Attendance Forms:					
presence					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2 Hours 2 Unit					
7. Course administrator's name (mention all, if more than one name)					
Name: Mohammed Riyadh Mohammed					
Email: mohammed.alhmdany@uomosul.edu.iq					
8. Course Objectives					
Course Objectives		<ul style="list-style-type: none"> To going on studying the English language in special the scientific language Widening student mind about scientific and literature English vocabularies Helping the students to think and write in English 			
9. Teaching and Learning Strategies					
Strategy		Making use of the electronic available methods alike auditory or the visual in addition to the white board			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2hours Presences	(a1) The student should be able to know the basics of the English language	Kinds of sentences.	Electronic lecture videos, posters and other methods related to learning	Exams Reports Discussion quiz
2	2hours Presences	(a2) The student should be able to know the tenses of the	English tenses/ introduction.	Electronic lecture videos, posters and other methods	Exams - Repo Discussion

		English language		related to learning	quiz
3	2hours Presence	(a3) The student should be able to know the rules of the English language	Simple tense/with diagrams.	Electronic lecture videos, posters and other methods related to learning	Exams - Repo Discussion quiz
4	2hours Presence	(a4) The student should be able to know the basics of the English language	Progressive tense/with diagrams.	Electronic lecture videos, posters and other methods related to learning	Exams - Repo Discussion quiz
5	2hours Presence	(a5) The student should be able to know the basics of the English language	Perfect tense./with diagrams.	Electronic lecture videos, posters and other methods related to learning	Exams - Repo Discussion quiz
6	2hours Presence	(a6) The student should be able to know the basics of the English language	Perfect progressive tense/with diagrams.	Electronic lecture videos, posters and other methods related to learning	Exams - Repo Discussion quiz
7	2hours Presence	(a7) The student should be able to know basics of the English language	verb to be	Electronic lecture videos, posters and other methods related to learning	Exams - Reports Discussion quiz
8	2hours Presence	(a8) The student should be able to know the basics of the English language	Parts of English nouns.	Electronic lecture videos, posters and other methods related to learning	Exams - Repo Discussion quiz
9	2hours Presence	(a9) The student should be able to know basics of the English language	Active and passive voice in English	Electronic lecture videos, posters and other methods related to learning	Exams - Repo Discussion quiz
10	2hours Presence	(a10) The student should be able to know the basics of the English language	The scientific subject preparator (reading).	Electronic lecture videos, posters and other methods related to learning	Exams - Repo Discussion quiz
11	2hours Presence	(a11) The student should be able to know the basics of the English language	Re-reading for more comprehension.	Electronic lecture videos, posters and other methods related to learning	Exams - Repo Discussion quiz
12	2hours Presence	(a12) The student should be able to know the basics of the English language	Studying scientific terms.	Electronic lecture videos, posters and other methods related to learning	Exams - Repo Discussion quiz
13	2hours Presence	(a13) The student should be able to know the	Studying the scientific terms.	Electronic lecture videos, posters and	Exams - Repo

		basics of the English language		other methods related to learning	Discussion quiz
14	2hours Presence	(a14)The student should be able to know the basics of the English language	Studying the scientific terms.	Electronic lecture videos, posters and other methods related to learning	Exams - Repo Discussion quiz
15	2hours Presence	(b1)The student should be able to know the basics of the English language	Translation into Arabic.	Electronic lecture videos, posters and other methods related to learning	Exams - Repo Discussion quiz

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

No.	Evaluation Methods	Evaluation Date (Week)	Marks	Relative Weight (%)
1	Quiz (1)	Week 4	Theoretical (5)	5
2	Monthly Exam (1)	Week 6	Theoretical (15)	15
3	Quiz (2)	Week 8	Theoretical (5)	5
4	Monthly Exam (2)	Week 13	Theoretical (15)	15
5	Quest rate.	Seasonal rates are announced at the end of the semester.	Theoretical: (40)	40
6	Final Theoretical Test.	The Week Of Theoretical Exams.	60	60
Total			100	100


12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Rapid Review of English Grammar 1957
Recommended books and references (scientific journals, reports...)	New Headway - English course English in agriculture 1985 oxford bookworms
Electronic References, Websites	translate.yandex.com www.reverso.net /The Library Genesis junkybooks / cole13 / pdfdrive

A.L. Mohammed Riyadh Mohammed


Head Of Department




Chairperson of the Scientific Committee

Course description form

: Course Name .1	
Economics of animal production	
:code Course Code .2	
ECAP326	
: Semester/Year .3	
Fall semester 2024	
: Date this description was prepared .4	
2024/2/1	
:Available forms of attendance .5	
My presence	
:Number of study hours (total)/number of units (total) .6	
3/45	
Name of the course administrator (if more than one name is mentioned) .7	
:Amiel - Name: A.M.D. Imad Abdulaziz Ahmed Al imadabdulaziz79@uomosul.edu.iq	
objectives Course .8	
:theoretical	
<p>Enabling the student to understand and comprehend what is related to the economics of animal - production</p> <p>Enabling the student to know the natural and economic resources and factors of production -</p> <p>Enabling the student to know the production function, the formulas of this function, the nature and - cases of the production function, the economic derivatives of the production function, and solving .an exercise</p> <p>Enable the student to know the types of costs, the characteristics of these costs, average costs, and - solve an exercise</p> <p>Enabling the student to understand the characteristics and advantages of isoquants -</p> <p>The student can learn how to determine the optimal size of production -</p> <p>The student can understand the importance of substitution and expansion in the use of economic - resources</p> <p>The student can learn about the criteria for evaluating animal production projects -</p>	
Teaching and learning strategies .9	
<p>Interactive lecture, brainstorming, factors affecting the production process</p> <p>Interactive lecture, brainstorming, necessary and sufficient conditions to obtain</p>	<p>The strategy</p>

<p>the maximization value</p> <p>Interactive lecture, brainstorming, and presentations of models of the nature and conditions of the production function</p> <p>Interactive lecture, brainstorming, presentations and exercises on economic derivatives of production</p> <p>Interactive lecture, brainstorming, presentations and cost average exercises</p> <p>Interactive lecture, brainstorming, dialogue and discussion</p> <p>Interactive lecture, brainstorming, dialogue and discussion, assigning tasks and reporting</p> <p>Interactive lecture, brainstorming, dialogue and discussion, assigning tasks and reporting</p> <p>Interactive lecture, brainstorming, dialogue and discussion, assigning tasks and reporting</p> <p>,Interactive lecture, brainstorming, dialogue and discussion</p> <p>He is assigned to prepare an assignment in solving an exercise within the process of substituting between resources and then discussing it with the students</p> <p>Interactive lecture, brainstorming, dialogue and discussion, assigning tasks and reporting</p> <p>Interactive lecture, brainstorming, dialogue and discussion</p> <p>He is assigned to prepare a report on the scientific visit and prepare it for discussion with the students</p> <p>He is assigned to prepare an assignment to solve an exercise within these standards and prepare it for discussion with the students</p>	

Course structure. 10

Evaluation method	Learning method (theoretical)	Name of the unit or topic	Required learning outcomes	hours	the week
discussions	Interactive lecture, brainstorming, dialogue and discussion	First principles in economics Animal Production	The student learns about the a1 economics of production, the nature of resources, and the factors involved in the production process	3 Theoretical	The first week
Short exam1	Interactive lecture, brainstorming, dialogue and discussion	Higher derivatives	The student learns about higher b1 derivatives and maximum and minimum limits as an input to production and costs	3 Theoretical	second week
a report	Interactive lecture, brainstorming, dialogue and discussion	Production function and elementary principles To choose	Shows to the student The concept of b2 the production function, its assumptions, and the nature of the production function states	3 Theoretical	the third week
Short exam 2	Interactive lecture, brainstorming, dialogue and discussion	Economic derivatives of the production function	It explains to the student the three b3c1 stages of production and solves exercises on applying the laws of economic derivatives to the production function	3 Theoretical	fourth week
discussions	Interactive lecture, brainstorming, dialogue and discussion	The economic concept of costs Production	Explains to the student the concept b4c2 of costs and their types and solves an exercise on the application of economic derivatives of costs	3 Theoretical	The fifth week
exam 3	Interactive lecture, brainstorming, dialogue and discussion	Economical in size	Shows the student the cost curves in b5 the short and long run and the relationship between them in graphical forms	3 Theoretical	the sixth week
Semester exams1	Interactive lecture, brainstorming, dialogue and discussion	Isocost lines	Explains to the student the tabular, b6 Indian, and algebraic methods to determine the least expensive	3 Theoretical	Seventh week

			combination		
Assignment of duty	Interactive lecture, brainstorming, dialogue and discussion	Production function for two suppliers	Students learn about indifference a2 curves, their characteristics, and their shapes	3 Theoretical	The eighth week
discussions	Interactive lecture, brainstorming, dialogue and discussion	Determining the optimal size of a resource production function with a resource One variable	It is clear For students Maximizing b7 profits by determining the optimal size of resources and the optimal size of production	3 Theoretical	Week nine
Assignment of duty	Interactive lecture, brainstorming, dialogue and discussion	Distribution of productive resources and selection between products	The production possibilities curve a3 explains to students the type of relationship between competitive, complementary, independent, and related goods	3 Theoretical	The tenth week
Short exam 4	Interactive lecture, brainstorming, dialogue and discussion	Substitution relationships between resources	Shows students how to substitute c3 between resources to obtain a certain level of production	3 Theoretical	Week eleven
discussions	Interactive lecture, brainstorming, dialogue and discussion	Evaluation of animal production projects	Students learn about the stages of a4 evaluation and how some projects are prone to errors	3 Theoretical	The twelfth week
Short exam 5	Interactive lecture, brainstorming, dialogue and discussion	Price relationships and choice indicators	Explains to students the obstacles to c4 achieving maximum revenues and the relationship between productivity and maximum revenues	3 Theoretical	The thirteenth week
exams 2	Interactive lecture, brainstorming, dialogue and discussion	Scientific visit	Judged The student made a scientific E visit to some fattening fields for calves and lambs in Nineveh Governorate	3 Theoretical	The fourteenth week
Short exam 5	Interactive lecture, brainstorming, dialogue and discussion	Indicators and standards for evaluating animal production projects	It shows values for the criteria: net c5 present value - percentage of return on costs - net present value - return on	3 Theoretical	The fifteenth week

			costs, to know the economic feasibility of establishing the project		

Course evaluation -11				
Relative weight %	Class	Calendar appointment - a week	Calendar methods	T
5	5	My theory week 1-15	A theoretical final report	1
10	10	Week 3	Quiz Short test 1	2
15	15	Week 9	Midterm test theoretical	3
10	10	Week 12	Short test 2 Quiz	4
60	60	A week of theoretical exam	Final theoretical test	5
100	100		the total	
Learning and teaching resources -12				
Animal Production Economics: Dr. Salem Tawfiq Al-Najafi				
Economics of agricultural production: King Saud University - College of Food and Agricultural Sciences				



Theoretical subject teacher: Dr. Imad Abdel Aziz Ahmed



Head Of Department




Chairperson of the Scientific Committee

Course description form

1. :Course name					
Animal environment and behavior					
2. Course Code:					
ANEB327					
3. :Semester/Year					
Semester (Fall semester)					
4. :Date this description was prepared					
1/2/2024					
5. Available forms of attendance:					
in person					
6. :Number of study hours (total) / number of units (total)					
hours * 15 weeks 2					
7. Name of the course administrator					
M. Nadia Muhammad Bashir					
Cognitive objectives: Describe and introduce the student to the environment and its impact on the life and behavior of animals, how to deal with and overcome influential circumstances, and know the peculiarity of each animal.					
Enabling the student to understand and comprehend the animal's environment and behavior within the critical conditions of the environment and how to control and deal with it for the purpose of controlling and preserving the animal and its productivity and providing appropriate conditions for its life.					
8. Teaching and learning strategies					
Audio methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation Computer-mediated presentation method					
9. Course structure					
Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	hours	the week
Exams reports discussion quizzes	Audio methods teaching) explanation of the topic) Style of writing on the blackboard	Introduction to ecology	A1 Definition of the environment and the living and non-living components of the biological field and ecosystems	2 Theoretical	First

	The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation Computer-mediated presentation method		Interrelationships in Biosystem		
Short exams, assignments, discussions.	,audio methods And visual Writing style on Chalkboard style Direct dialogue	Environment and animal ecology	A2 Energy transfer in the ecosystem Energy transfer within the food chain and pyramid Recycling materials in nature	2 Theoretical	Second
Short exams, assignments, discussions.	Audio and visual methods Writing style on Chalkboard style Direct dialogue	Environmental areas	A3 Environmental changes and their extent Endurance Biomes Wild Environmental systems Watercolor	2 Theoretical	Third
Short exams, assignments, discussions.	Auditory method And visual Writing style on Chalkboard style Direct dialogue	Preserving environmental diversity	C1 Preserving the environment and biodiversity the role of biodiversity in Environmental stability Factors that threaten biodiversity, pollution and bioaccumulation of pollutants.	2 Theoretical	Fourth
Short exams, assignments, discussions.	Audio-visual methods Writing style on Chalkboard style Direct dialogue	Definition of animal behavior	A4 The importance of knowing behavior Animal behavior patterns and instincts Sensory to the animal	2 Theoretical	Fifth

Short exams, assignments, discussions.	,audio methods Writing style on Chalkboard style Direct dialogue	Basic behaviors	C2 Stimuli and behavior Innate and acquired And their types	2 Theoretical	Sixth
Short exams, assignments, discussions.	,audio methods Writing style on Chalkboard style Direct dialogue	Thermoregulation	A5 Thermal regulation and balance, factors affecting energy production and loss, the process of regulating body temperature in hot and cold weather, adaptation measures.	2 Theoretical	Seventh
Short exams, assignments, discussions.	Auditory method And visual Writing style on Chalkboard style Direct dialogue	Animal adaptation to environmental conditions	C3 Characteristics of most animals Adaptation to desert climate Adaptation of sheep and goats to seasonal changes, comparing the extent to which different ruminants adapt to hot weather	2 Theoretical	Eighth
Short exams, assignments, discussions.	,audio methods Writing style on Chalkboard style Direct dialogue	Environmental factors affecting animal production	A6 Temperature, effect of nutrition, milk stage, molt and pregnancy stage, insemination period, period between births, animal age, animal size, dry period.	2 Theoretical	Ninth
Short exams, assignments, discussions.	Auditory method And visual Writing style on Chalkboard style Direct dialogue	Camels and their adaptation to the desert environment	A7 A preliminary idea about camels, the external appearance of ,camels Physiological characteristics of ,camels	2 Theoretical	Tenth
Short exams, assignments, discussions.	,audio methods Writing style on Chalkboard style Direct dialogue	the climate	C4 The impact of climate on animals and ways of prevention, climate	2 Theoretical	Eleventh

discussions.			changes to which agricultural animals are exposed, the importance of studying climate and weather for the environment, climatic factors in the animal environment, ,temperature Humidity		
Short exams, assignments, discussions.	,audio methods Writing style on Chalkboard style Direct dialogue	Weather conditions	a8 Atmospheric pressure, wind, water vapor condensation, forms of precipitation	2 Theoretical	Twelfth
Discussions and dialogue	,audio methods Writing style on Chalkboard style Direct dialogue	Light and heat	A9 Light, sunstroke, heat cramp, fever, the effect of heat on chemical For composition blood characteristics	2 Theoretical	Thirteenth
		pollution	A10 Components of the air in animal pens, ammonia gas, oxygen, carbon dioxide, sewage gas, and ozone, components of the air in the poultry hall	2 Theoretical	Fourteenth
He writes a report about what he saw on the trip			c5 Scientific trip		Fifteenth

Course evaluation .11


	Relative % weight	Class	Calendar date (week)	Calendar methods	T
	%13	7 theoretical + cal	My theory for a week (15) My work week	A theoretical final report + a final report on the subject the operation	1

		6 practical	(15)		
	%6	4 Theoretical + 2Practical	week (3)	Quiz Short test (1)	2
	%15	10 theoretical + 5 practical	week (9)	Midterm test (theoretical and (practical	3
	%6	4Theoretical + 2Practical	week (12)	Quiz Short test (2)	4
	%20	20	Practical exams week	Final practical test	5
	%40	40	The week of theoretical exams	Final theoretical test	6
	%100	100		the total	

The short exam (Quiz)the student's weekly submission of scientific reports, student attendance the student's participation and efforts in the lecture, the semester and final exams.

10. Learning and teaching resources

A- Relying on the prescribed curricula issued by the Ministry. B- Relying on the curricula prepared by the subject teacher.	Required textbooks (methodology, if any)
Agricultural Animal Ecology Book by Dr. Akram Dhannoun Al-Khafaf	Main references (sources)
Scientific reports from scientific websites (Internet)	Recommended supporting books and references (scientific journals, reports....)
Scientific websites specialized in ecology and animals	Electronic references, Internet sites


M. Nadia Muhammad Bashir
School subject


M. Allah-Omar Dias Al. Prof. Dr
Head of department


Course Description Form

1. Course Name:	
Medical and veterinary insects	
2. Course Code:	
MEVI221	
3. Semester / Year:	
3ed	
4. Description Preparation Date:	
quarterly 1/2/2024	
5. Available Attendance Forms:	
Groups	
6. Number of Credit Hours (Total) / Number of Units (Total)	
75 hours / 3.5 units	
7. Course administrator's name (mention all, if more than one name)	
Name: dr. renna reiyadh faleh Email: renna.reiyadh@uomosul.edu.iq	
8. Course Objectives	
<p>Theoretical:</p> <ul style="list-style-type: none"> - Enabling students to understand and assimilate insects <p>Medical and its relationship to the transmission of diseases to human beings and their poultry animals</p> <ul style="list-style-type: none"> - Enabling students to know the most important methods of preventing medical insects - Enabling students to familiarize themselves with the most important methods of insect control <p>Medical</p> <ul style="list-style-type: none"> - Enabling students to discern and detect the whereabouts of medical insects - The student can judge the types of medical insects <p>They are transmitted to the most important endemic diseases.</p>	<p>Practical:</p> <ul style="list-style-type: none"> - Enabling students to identify the most important laboratory methods in identifying <p>Distinguishing between the most important medical insects and practical experiences of diagnosis</p> <p>Presence of various medical insects</p>
9. Teaching and Learning Strategies	

Theoretical: - Interactive lecture - Brainstorming - Assignment of tasks and report - Presentations of models of the most important medical insects - Presentation of models of the most important symptoms of diseases borne by medical insects - Dialogue and discussion	Practical: - Commissioning teamwork to uncover leadership skills - Assignment of tasks and report for each experience
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theoretical 3 Practical	Theoretical a1: The concept of medical entomology and the medical significance of these insects Practical b1: examines some medical insects	Theoretical: Medical and veterinary arthropathy study, definition of medical and veterinary arthropathy Practical: Study of the mouth parts of certain arthropods of medical and veterinary importance (mosquitoes - bed bugs - domestic fly - tapana fly - lice - ticks - mite)	Theoretical: Audio Methods Writing Style On the board direct dialogue style Practical: Assignment and reporting	Short Tests, Duty Assignment, Discussions
2	2 Theoretical 3 Practical	Theoretical a2: Explains the medical importance as a vector of disease and how insects and sticks are transported Practical c: identifies which areas are more prevalent with mosquitoes	Theoretical: Historical profile of medical and veterinary arthropods, the relationship of medical insects to the overall health of humans and animals Practical:: Category of insects includes: rank of cockroach (American cockroach - eastern cockroach - Egyptian cockroach - German cockroach) types of parts of the mouth first	Theoretical: Audio Methods Writing Style On the board direct dialogue style Practical: Assignment and reporting	Short Tests, Duty Assignment, Discussions
3	2 Theoretical 3 Practical	Theoretical b2: The most important factors affecting disease epidemic Practical b1: Explains the insect's body parts and identify	Theoretical: insect damage to humans and animals, pathological condition that arises directly by insects, insects as a middle breadwinner or as a vector of pathogenic microbes, humans and animals, methods of spread of infection by insects Epidemiology	Theoretical: Audio Methods Writing Style On the board direct dialogue style Practical: Assignment and reporting	Short Tests, Duty Assignment, Discussions

		them in detail	Practical: Wings liquidation rank/bed bugs, sucking lice rank/body lice - pubic lice - buffalo lice, rodent lice rank/chicken lice-bathroom lice.		
4	2 Theoretical 3 Practical	Theoretical a4: It governs the appropriateness of means of prevention. Practical b2: Explains the parts of the mouth and learn them in detail	Theoretical: insects as median breadwinner and parasitic worms, mammals and pathogen-carrying stores Practical: Rodent lice, two wing rank/sand fly - Hamush	Theoretical: Audio Methods Writing Style On the board direct dialogue style Practical: Assignment and reporting	Short Tests, Duty Assignment, Discussions
5	2 Theoretical 3 Practical	Theoretical b2: Suggests a suitable way to control the vector of diseases and how to transport insects and sticks Practical c: Examines insects	Theoretical: classification of the division of arthropods, division of arthropods into their groups of medical and veterinary significance Cockroach and its types Practical: Cockroach of its kinds and life cycles	Theoretical: Audio Methods Writing Style On the board direct dialogue style Practical: Assignment and reporting	Short Tests, Duty Assignment, Discussions
6	2 Theoretical 3 Practical	Theoretical b4: Recognizes diseases transmitted by medical insects flies Practical b3: Examines models	Theoretical: fly insects, blow, types and worsening Practical: Nagaf family/Nagf stomach of horses - Naghf cow skin - Naghf sheep's nose.	Theoretical: Audio Methods Writing Style On the board direct dialogue style Practical: Assignment and reporting	Short Tests, Duty Assignment, Discussions
7	2 Theoretical 3 Practical	Theoretical b2: Learn about the medical importance of lice and how to get rid of them. Practical b4: Detects types of flea-borne diseases	Theoretical: The importance of studying parts of the mouth in medical and veterinary terms, anatomical studies of parts of the mouth in medical and veterinary insects for homosexuals, fleas and rushes Practical: Medical importance of Al-Harams//Flea/Burgas	Theoretical: Audio Methods Writing Style On the board direct dialogue style Practical: Assignment and reporting	Short Tests, Duty Assignment, Discussions
8	2 Theoretical 3 Practical	Theoretical b1: Explain the medical importance of bed bugs and how to get rid of them Practical c1:	Theoretical: Mouth Parts Bed Bugs Medical Importance Practical: Medical Importance of Bed Bugs and Life Cycle	Theoretical: Audio Methods Writing Style On the board direct dialogue style Practical: Assignment and reporting	Short Tests, Duty Assignment, Discussions

		Assessment of the medical importance of these insects			
9	2 Theoretical 3 Practical	Theoretical b2: The medical importance of flies with a reference to the most important diseases transmitted by flies and veins Practical c1: examines different samples of flies and mosquitoes insects	Theoretical: mosquitoes. Mosquito Mouth Parts - Types - Fly Mouth Parts - Horse Fly Mouth Parts Practical: Two-wing rings and the medical importance of mosquitoes with a reference to the most important diseases transmitted by flare	Theoretical: Audio Methods Writing Style On the board direct dialogue style Practical: Assignment and reporting	Short Tests, Duty Assignment, Discussions
10	2 Theoretical 3 Practical	Theoretical a2: Recognizes the medical importance of black flies and rum flies Practical c1 :examines different samples of insects	Theoretical: mouth parts, black flies and sand flies models of medical and veterinary insects harmful to the overall health of humans and animals Practical: black flies and sand flies mouth parts, types	Theoretical: Audio Methods Writing Style On the board direct dialogue style Practical: Assignment and reporting	Short Tests, Duty Assignment, Discussions
11	2 Theoretical 3 Practical	Theoretical b2: Recognizes lice and their types Practical b3: Discover it under Pinoculler	Theoretical: sucking lice - rodent lice - human lice o its kinds - prevention of it - treatment - control of diseases and damage caused by it Practical: sucking lice - rodent lice - human lice o its kind - feather axis lice poultry body lice - romaine chicken lice - duck lice - cow lice - hors lice - goat lice	Theoretical: Audio Methods Writing Style On the board direct dialogue style Practical: Assignment and reporting	Short Tests, Duty Assignment, Discussions
12	2 Theoretical 3 Practical	Theoretical b2: Masters prevention and control using pesticides for ticks Practical c1: Examines models	Theoretical: The medical importance of ticks and preventive and therapeutic methods to Practical: Medical importance of ticks and preventive and therapeutic methods	Theoretical: Audio Methods Writing Style On the board direct dialogue style Practical: Assignment and reporting	Short Tests, Duty Assignment, Discussions

13	2 Theoretical 3 Practical	Theoretical b2: Conducts panel discussions on the medical importance of a dream or any other selected insect Practical b4: Examines model	Theoretical: The medical significance of a dream/a mite try man - prevention and treatment - a dream try sheep - a mite try goat Practical: The medical significance of a mite /a mite try man - prevention and treatment - a mite try sheep - a mite try goat	Theoretical: Audio Methods Writing Style On the board direct dialogue style Practical: Assignment and reporting	Short Tests, Duty Assignment, Discussions
14	2 Theoretical 3 Practical	Theoretical b4: Identifying health risks and their impact on human health and the effect of neglect on public health Practical c1: Examines models	Theoretical: Medical significance dream Try livestock - mite try horses - mite try dogs, Practical: mite, medical importance and life role	Theoretical: Audio Methods Writing Style On the board direct dialogue style Practical: Assignment and reporting	Short Tests, Duty Assignment, Discussions
15	2 Theoretical 3 Practical	Theoretical c1: Masters the Importance of Parasitic Pathogens to Man and Life Practical b4: Examines models	Theoretical: conditions to be followed when treating animals with pesticides, medical and veterinary animal resistance to pesticides Practical: The medical importance of home medical insects and civilizations and how to prevent it	Theoretical: Audio Methods Writing Style On the board direct dialogue style Practical: Assignment and reporting	Short Tests, Duty Assignment, Discussions

11. Course Evaluation

	Calendar Methods	Calendar Date (Week)	Grade	Relative Weight%
1	Theoretical Final Report + Practical Experience Reports	Theoretical week 15 practical week 1-15	7 Theoretical + 6 Practical	13%
2	Short Test (1) Quiz	Week (2-5)	4Theoretical + 2 Practical	6%
3	Midterm Exam half-test (theoretical and practical)	Week (8,14)	10 Theoretical + 5 Practical	15%
4	Short Test (2) Quiz	Week(9-12)	4Theoretical + 2 Practical	6%
5	Final Practical Test	20	20	20%
6	Final theoretical test	40	40	40%
			100	

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Medical and veterinary insects - d cos Salem Jameel Lectures prepared by the teacher
Main references (sources)	Book (Medical and Veterinary Pests Abdulalim Saad Solomon 201
Recommended books and references (scientific journals, reports...)	Veterinary Parasitology, by Dr. Ghazi 'qub Azal, Emirate, Basra University
Electronic References, Websites	https://books-library.website/t-Insect/download-4

Dr. Renna Riadh Faleh

Ekhlās Zyaid Mohamed

Head Of Department



Chairperson of the Scientific
Committee

Course Description Form

1. Course Name:

Animal Nutrition

2. Course Code:

ANUT325

3. Semester / Year:

First semester/ 2023 2024

4. Description Preparation Date:

1/2/2024

5. Available Attendance Forms:

Presence

6. Number of Credit Hours (Total) / Number of Units (Total)

2 theoretical + 3 practical = 5hr / 3.5 units

7. Course administrator's name (mention all, if more than one name)

Name: Omar D. Mohammed

Name: Wissam J. Mohammed

Email: dr.omaralmallah@uomosul.edu.iq

8. Course Objectives

Theoretical

Enabling the student to understand and comprehend what is related to animal nutrition

Its relationship to animal production projects and the economic aspect

Enabling the student to become familiar with the components of food and food compounds

Enabling the student to know the metabolic pathways of different foods and their relationship to the production performance of animals

Enabling the student to address the nutritional needs of animals according to their production to prevent the occurrence of nutrition-related diseases

Practical

Enabling the student to become familiar with the most important laboratory methods

To measure food ingredients and food fraud

9. Teaching and Learning Strategies

Strategy	<ul style="list-style-type: none"> - Interactive lecture -Brainstorming - Dialogue and discussion -Field Training - Practical exercises - Field project -Self-education
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 hr. theoretical 3 hr. practical	theoretical : The student learns about the relationship of nutrition science to other sciences and the composition of the animal body and its food :Practical The student applies preventive procedures for laboratory safety	theoretical : Expansion and development in nutrition science :Practical General instructions and instructions on the use of the laboratory and safety and security conditions	:theoretical Methods audio style Writing on Blackboard H style Dialogue Direct :practical Assigning tasks And report	short exam Assignment of duty discussions
2	2 hr. theoretical 3 hr. practical	theoretical The student links the properties of water to the effect of thirst on animals and the need for water and excretion from the body For my work The student remembers previous information about preparing chemical solutions in chemistry lessons	theoretical The role of water and its needs for the body :Practical Preparing standard solutions	:Theoretical Methods audio style Writing on Blackboard H style Dialogue Direct :practical Assigning tasks And report	short exam- Assignment of - duty discussions
3	2 hr. theoretical	:Theoretical A2 The student	Theoretical :	:Theoretical Methods	short exam- Assignment of -

	3 hr. practical	remembers the forms of energy and understands the cycle of energy production in the body Practical B1 The student implements, according to the correct scientific method, the method of taking feed samples for analysis	Energy, its transformations and enzymes Practical take samples	audio style Writing on Blackboard H style Dialogue Direct :practical Assigning tasks And report	duty discussions
4	2 hr. theoretical 3 hr. practical	Theoretical A3 The student understands the differences in the digestive system between animals and the effect of nutritional level on digestion Practical C7 The student discovers modern devices for analyzing food and an overview of how they work	Theoretical Digestive processes in agricultural animals Practical Types of tests and modern and classic devices for food analysis	:Theoretical Methods audio style Writing on Blackboard H style Dialogue Direct :practical Assigning tasks And rep	short exam- Assignment of - duty discussions-
5	2 hr. theoretical 3 hr. practical	Theoretical A4 The student lists the types of sugars found in the composition of carbohydrates Practical B2 The student practically carries out the estimation of moisture in feed	Theoretical Carbohydrates Practical Methods for measuring moisture in different feed calculating dry matter	:Theoretical Methods audio style Writing on Blackboard H style Dialogue Direct :practical Assigning tasks And report	short exam- Assignment of - duty discussions
6	2 hr. theoretical	Theoretical A5 The student	Theoretical	:Theoretical	short exam-

	3 hr. practical	<p>identifies the most important products of carbohydrate fermentation in agricultural animals and explains the reason for the difference between them</p> <p>Practical B3 The student applies the correct steps to find the ash content of feed</p>	<p>Carbohydrate metabolism</p> <p>Practical Steps to measure ash and detect adulteration in feed</p>	<p>Methods audio style Writing on Blackboard H style Dialogue Direct :practical Assigning tasks And report</p>	Assignment of - duty discussions
7	2 hr. theoretical 3 hr. practical	<p>Theoretical C2 The student links the types of fats in food and their relationship to fats deposited in the body</p> <p>Practical B4 The student applies the correct procedures to find the feed content of ether extract (fat) extract</p>	<p>Theoretical Fats</p> <p>Practical Steps to measure fat in feed</p>	<p>:Theoretical Methods audio style Writing on Blackboard H style Dialogue Direct :practical Assigning tasks And report</p>	short exam- Assignment of - duty discussions
8	2 hr. theoretical 3 hr. practical	<p>Theoretical A6 The student understands the mechanism of difference between animals in digesting and absorbing fats and recognizes the resulting nutritional diseases associated with them</p> <p>Practical B5 The student applies the</p>	<p>Theoretical Fat digestion and metabolism</p> <p>Practical Steps for determining nitrogen in feed</p>	<p>:Theoretical Methods audio style Writing on Blackboard H style Dialogue Direct :practical Assigning tasks And report</p>	short exam- Assignment of - duty discussions

		procedures To estimate nitrogen in feed			
9	2 hr. theoretical 3 hr. practical	<p>Theoretical A7 The student learns about the types of proteins, their properties, and the forms of nitrogen excreted from the body</p> <p>Practical B6 The student implements the procedures and steps for fiber analysis</p>	<p>Theoretical</p> <p>Proteins</p> <p>Practical</p> <p>Types of fibers and methods of estimating them</p>	<p>:Theoretical Methods audio style Writing on Blackboard H style Dialogue Direct :practical Assigning tasks And report</p>	short exam- Assignment of - duty discussions
10	2 hr. theoretical 3 hr. practical	<p>Theoretical C4 The student distinguishes between the products of digestion among animal species and links them to metabolic changes and production</p> <p>Practical B7 The student calculates, using special equations, the energy values of feed</p>	<p>Theoretical</p> <p>Metabolism of proteins</p> <p>Practical</p> <p>Methods of measuring and calculating energy in feed</p>	<p>:Theoretical Methods audio style Writing on Blackboard H style Dialogue Direct :practical Assigning tasks And report</p>	short exam- Assignment of - duty discussions
11	2 hr. theoretical 3 hr. practical	<p>Theoretical C5 The student identifies the most important symptoms of deficiency and the effects of the major elements and their relationship to each other</p> <p>Practical A13 The student calculates, using special equations, the values of the nitrogen</p>	<p>Theoretical</p> <p>Major inorganic elements</p> <p>Practical</p> <p>Methods for measuring nitrogen- and starch-free extract</p>	<p>:Theoretical Methods audio style Writing on Blackboard H style Dialogue Direct :practical Assigning tasks And report</p>	short exam- Assignment of - duty discussions-

		free extract			
12	2 hr. theoretical 3 hr. practical	Theoretical C6 The student identifies the most important symptoms of deficiency and the effects of microelements Practical B9 The student is proficient in producing good quality hay	Theoretical Minor inorganic elements Practical How the threshing machine works and the quality of the threshing machine	:Theoretical Methods audio style Writing on Blackboard H style Dialogue Direct :practical Assigning tasks And report	short exam- Assignment of - duty discussions
13	2 hr. theoretical 3 hr. practical	Theoretical A8 The student understands the relationship of inorganic elements and the acid-base balance of feeds and dealing with their negative effects Practical B10 The student proficient in producing good quality silage	Theoretical The role of electrolytes in barrier balance Practical How to make silage and the quality of silage	:Theoretical Methods audio style Writing on Blackboard H style Dialogue Direct :practical Assigning tasks And report	short exam- Assignment of - duty discussions
14	2 hr. theoretical 3 hr. practical	Theoretical A9 The student remembers the most important functions and symptoms of deficiency of water-soluble vitamins Practical B11 The student creates mixtures reactions in the right proportions to form the reactions	Theoretical Vitamins Practical Methods of mixing feeds to form diets	:Theoretical Methods audio style Writing on Blackboard H style Dialogue Direct :practical Assigning tasks And report	short exam- Assignment of - duty discussions-
15	2 hr. theoretical 3 hr. practical	Theoretical A10 The student learns about the role of antibiotics, how	Theoretical Antibiotics and hormones	:Theoretical Methods audio style Writing on	short exam- Assignment of - duty discussions-

		they work, growth regulators, and their use in animal production Practical C8 The student calculates the energy and protein content of the diet	Practical Methods and how to calculate energy and protein from diets	Blackboard H style Dialogue Direct :practical Assigning tasks And rep	
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11. Course Evaluation

	Calendar methods	Calendar date (week)	Class	Relative weight %
1	Report 1	fourth week	2.5	2.5
2	Report 2	The fifth week	2.5	2.5
3	Short test (1) Quiz	the sixth week	2	2
4	Short test (2) Quiz	The fourteenth week	2	2
5	Short test (3) Quiz	The fifteenth week	1	1
6	Semester test (1)	the sixth week	7.5	7.5
7	Semester test (2)	The eleventh week is difficult	7.5	7.5
8	Final theoretical test	Final semester exams	40	40
9	Practical field project	The fifteenth week	5	5
10	Field evaluation	The third and fifth week	2	2
11	Practical short test (1) Quiz	The first week	1	1
12	Short practical test (2) Quiz	fourth week	0.5	0.5
13	Short practical test (3) Quiz	The fourteenth week	1	1
14	Live drawings and homework	Weeks 6, 8, 9, 10, 11, 12 and 13	5.5	5.5
15	Final practical test		20	20
	total	100%	100%	100%


12. Learning and Teaching Resources

Required textbooks (curricular books any)	Animal Nutrition 1967 Leonardo Minro and John Losley
Main references (sources)	Animal Nutrition 2021, 8 edition, McDonald, et al
Recommended books and references (scientific journals, reports...)	NRC, 2001 and NRC 2007
Electronic References, Websites	Reports and articles



Theoretical subject teacher

Omar Dheyaa Mohammed



Practical subject teacher

Wissam Jassim Mohammed



Head Of Department



Chairperson of the Scientific
Committee

Course Description Form

1. Course Name:					
Hatching and hatchery management					
2. Course Code:					
HAHM324					
3. Semester / Year:					
First Semester					
4. Description Preparation Date:					
1/9/2023					
5. Available Attendance Forms:					
Built-in					
6. Number of Credit Hours (Total) / Number of Units (Total)					
75 hours (2 theoretical + 3 practical) * 15 weeks / 3.5 unit					
7. Course administrator's name (mention all, if more than one name)					
Name: Faiyz Sami Saaduldeen Yasser Ghanem Kesab Email: dr_faiyz@uomosul.edu.iq yaserkesab75@uomosul.edu.iq					
8. Course Objectives					
Course Objectives		<ul style="list-style-type: none"> • Deliver an introduction on each topic in a simple manner and from the reality of public life. • Explanation at length of all aspects of the subject, giving live examples to explain its nature and benefit. • Presenting questions about the topic to demonstrate students' understanding through their answers. • Conducting surprise exams and preparing practical reports. 			
9. Teaching and Learning Strategies					
Strategy	Audio methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation In addition to blended learning, the theoretical part of the subject is given electronically on the Class Room platform, and the practical part of the subject is given in person.				
10. Course Structure					
Week	Hours	Required	Unit or	Learning method	Evaluati

		Learning Outcomes	subject name		on method
first week	2 Theoretical 3 practical	A-The female reproductive system B- Egg formation and controlling hormones coz exam out of 10 Genetics and its branches. Introduction to animal cell structure - a comparison between primitive and advanced cells. Natural and artificial hatching. Directing the student to prepare a report on a topic related to the subject.	The development of genetics and its theories, and the definition of genetics and its branches. Introduction to animal cell structure - a comparison between primitive and advanced cells.	A3:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class a13:participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	Exams, reports, discussions, quizzes
second week	2 Theoretical 3 practical	A- The male reproductive system. Factors affecting fertility. Conditions that must be met in the specifications and location of the hatchery. coz exam out of 10	Mendel's laws and their modifications: Mendel's experiments - the first law of isolation - phenotypic type and genotype - homozygous genotype (purebred) -	a2:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class a14:participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the	Exams, reports, discussions, quizzes

			heterogeneous genotype (mixture) - pure strain - hybrid - symbol for genes. A simple summary of genes and chromosomes - shapes of chromosomes.	subject is given in person	
third week	2 Theoretical 3 practical	Hatching eggs A- Factors that affect the quality of hatching eggs before they are laid by the hen. Conditions that must be met by fertilized eggs received for the hatchery. Scientific visit	Test pollination - cross-pollination - modifications of Mendelian ratios 1:3 - complete dominance - incomplete dominance - co-dominance and over-dominance Cell cycle and cell divisions.	A3: Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class a15: participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	Exams, reports, discussions, quizzes

fourth week	2 Theoretical 3 practical	Treatment of eggs before hatching (collection, transportation, selection). Vital care during the hatching process. coz exam out of 10.	Lethal factors: color trait in mice - crawling trait in chickens - similar genetic structure in humans and dominant lethal genetic factors. Introduction to Mendel's laws and definitions of mating types - exercises on the inheritance of one pair of genes.	A4: Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class b2 participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	Exams, reports, discussions, quizzes
fifth	2 Theoretical 3 practical	A- Conditions that must be met in hatching eggs B- Physicochemical characteristics of the whole egg and its components. Factors affecting % fertility and hatching.	The law of free distribution (Mendel's second law) - test hybrid multiplication - methods for solving genetic crosses - the Point Square method - the bifurcation method - the triple hybrid - hypotheses of Mendel's second law	A5: Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class a16: participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	Exams, reports, discussions, quizzes

			Exercises on the inheritance of two pairs of genes.		
sixth week week	2 Theoretical 3 practical	A- Storage of hatching eggs and factors affecting them. B-Types of hatcheries and hatcheries C- Structure design and hatchery management. coz exam out of 10 Selection of hatching eggs. Assigning the student to solve a question and discuss it orally with the rest of the students in the class	The first semester test - modifications of the Mendelian ratios of dihybrid hybrids. The first semester practical test.	a6:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class a17:participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	Exams, reports, discussions, quizzes
seventh week	2 Theoretical 3 practical	Hatching components. Internal examination of hatching eggs before introducing them into hatcheries.	Interaction between genes: complementary factors - interaction of genes with similar effect - recurrent factors - superiority: recessive superiority - dominant superiority - dominant inhibitory	a7:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class a18:participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	Exams, reports, discussions, quizzes, Conducting scientific work for student

			genetic factor. Mendelian ratio mutations of one pair of genes.		
eighth week	2 Theoretical 3 practical	The first exam.	Multiple alleles and false alleles: fur color of rabbits - skin color of mice - platinum fur color of foxes. Mendelian ratio mutations of two pairs of genes.	a8:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class c3:participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	Exams, reports, discussions, quizzes
ninth week	2 Theoretical 3 practical	A- Preparing eggs for hatching and the stages of embryo development B- Critical periods in the life of the fetus. C- The mechanics of hatching and abnormal conditions of the fetus. Measurement of the Hue unit, the height of the air gap, and the suitability of eggs for hatching	Blood groups in humans and animals - ABO group - H antigen - M-N blood group - Histological harmony - Inheritance of Rhesus blood groups in humans - Inheritance of blood groups in animals. Mendelian ratio mutations of two pairs of genes.	A9:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class A19:participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	Exams, reports, discussions, quizzes

tenth week	2 Theoretical 3 practical	Sources of hatching eggs and care for maternal flocks. Preparing hatchery machines and cleaning and sterilizing hatcheries	Sex determination and sex-linked inheritance - XX-XO system - XX-XY system - ZZ-ZW system - sexual differentiation. Exercises on sex-linked genetics - sex-influenced - sex-specific.	a10:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class b3:participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	Exams, reports, discussions, quizzes
eleventh week	2 Theoretical 3 practical	Identifying and evaluating the quality of hatched chicks. Steam the hatching eggs and store them A surprise exam out of 10	Linkage and crossing over - linked genes - complete linkage - incomplete linkage - crossing over and chiasma formation - linkage groups. Exercises on multiple alleles.	a11:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class b4:participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	Exams, reports, discussions, quizzes
twelfth week	2 Theoretical 3 practical	Hatching plan. coz exam10 Preparing eggs for hatching and examining them during hatching	The cellular basis of crossing - double crossing - genetic maps - three-point test multiplication - overlap and	b1:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class b5:participation In addition to blended	Exams, reports, discussions, quizzes

			compatibility - use of genetic maps - genomes. Chromosomal abnormalities.	learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	
thirteenth week	2 Theoretical 3 practical	A- Health care for hatcheries The cost of producing chicks and factors affecting profits. Embryonic deaths during the spawning period	The chemical and engineering basis of inheritance: genetic material - composition of genetic material - sources of change Cytoplasmic genetics.	a12:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class a20:participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	Exams, reports, discussions, quizzes
fourteenth week	2 Theoretical 3 practical	Detecting hatching problems (causes and treatment). Treating the hatched chicks and calculating the quantitative results at the end of the hatching period	Mutation and structure of genetic material - structure of nucleic acids (DNA and RNA) and similarities and differences between them - replication of genetic material - cloning of genetic material. Cytoplasmic	C1:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class a21:participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	Exams, reports, discussions, quizzes

			genetics.		
fifteenth week	2 Theoretical 3 practical	the second exam	Second semester exam - general review. The second semester practical test - general review.	C2:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class c4:participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	Exams, reports, discussions, quizzes

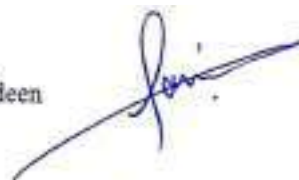
11.

S	Calendar methods	Calendar appointment (week)	degree	Relative weight %
1	Theoretical final report + practical experience reports	theory week 15 practical week 1-15	7 theoretical + 6 practical	13%
2	Short test (1) Quiz	Week (3)	4 theoretical + 2 practical	6%
3	Midterm Exam (theoretical and practical)	Week (10)	10 theoretical + 5 practical	15%
4	Short test Quiz (2)	Week (12)	4 theoretical + 2 practical	6%
5	Final practical test	Practical exams week	20	20%
6	Final theoretical test	theoretical exams week	40	40%
	total		100	100

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

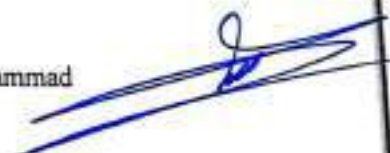
School of theoretical subject: Dr.Faiyz Sami Saaduldeen



Practical subject teacher: Yaser Ghanim Ksab



Head of Scientific Committee : Prof Dr. Muthanna Ahmed Muhammad



Head of the Animal Production Department: Prof Dr.Omar dheya Al-mallah



Course Description Form Computer applications3

1. Course Name:	
Computer applications3	
2. Course Code:	
COMA301	
3. Semester / Year:	
Second semester/third stage/2023–2024	
4. Description Preparation Date:	
1/2/2024	
5. Available Attendance Forms:	
Blended learning (Attendance + Electronic)	
6. Number of Credit Hours (Total) / Number of Units (Total):	
3 practical hours/1.5 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Mohammed Moath Abdulgani Email: albakri2@uomosul.edu.iq	
8. Course Objectives	
Course Objectives	<ul style="list-style-type: none"> ● Enabling the student to become familiar with the statistical program SPSS and its applications in agricultural experiments. ● Enabling the student to know and understand programs in the SPSS language and apply the steps and procedures followed to use the SPSS statistical program in analyzes of agricultural experiments. ● Enabling the student to write programs in the SPSS language for various agricultural and scientific experiments. ● Providing the student with the skills of dealing with data types when writing programs in SPSS. ● Enabling the student to correct grammatical and linguistic errors that appear when implementing programs written in SPSS. ● Enabling the student to read, understand and interpret the results and outputs of implementing programs written in SPSS..
9. Teaching and Learning Strategies	

Strategy	<ul style="list-style-type: none"> - Interactive lecture - Brainstorming - Dialogue and discussion - Field Training - Practical exercises - Field project - Self-education
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3 practical	A1: The student should be able to know and understand the nature and objectives of statistics	What is Statistics Science? Descriptive statistics: Statistics Inferential: Community Population: Census: Statistical metrics First: Measures of Central Tendency Second: Measures of absolute dispersion	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
2	3 practical	B1: Able to understand SPSS windows, the purpose of each window, and how to deal with them.	Run and familiarize yourself with the SPSS program Program windows Getting to know the program windows.	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
3	3 practical	C1: Able to understand the types of files that SPSS deals with and know the basic steps and rules in analyzing data and executing basic commands in SPSS.	Retrieve data and files: save the file: Add, modify and control variables Add a variable or view: Cancel a variable, view, or state Search for a case search for value.	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
4	3 practical	D1: Able to know, understand, and practically apply sorting and arranging observations and finding their sequential ranks in the SPSS program.	Sort observations command sort cases Ranking of observations according to a specific variable: Using the IF function with Compute	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
5	3 practical	D2: The student should be able to know, understand and practically apply the Compute command and use it to create a new variable using an	Compute. command Create a new variable using an arithmetic expression or an equation Create a new variable using a function	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.

		arithmetic expression, equation or function and use the IF function with Compute			
6	3 practical	D3: The student should be able to know, understand, and practically apply to find a frequency distribution table and draw a histogram.	Descriptive statistics and histograms of data (1) Histogram and Frequencies + Scientific visit	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
7	3 practical	D4: The student should be able to know, understand, and apply practical measures to find descriptive statistics.	(2) Descriptive Statistics + Semester exam 1	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
8	3 practical	D5: The student should be able to know, understand, and practically apply the use of the graph and its types	Chart Learn about several types of chart Graph	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
9	3 practical	A2: The student should be able to know and understand hypothesis testing, the terminology used in it, and the steps for hypothesis testing.	Test of hypotheses 1- Statistical hypothesis 2- The level of significance or the level of probability 3- Statistical test function 4- Probability value (Sig. or P-value): -Steps for testing hypotheses	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
10	3 practical	D6: The student should be able to know, understand, and practically apply the T-test when testing hypotheses related to a single mean.	First: T-test in the case of testing hypotheses related to one mean.	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
11	3 practical	D7: The student should be able to know, understand, and practically apply to test the differences between two independent combined averages	Second: Tests of differences between two independent combined averages.	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
12	3 practical	D8: The student should be able to know, understand, and practically apply to test the differences between the means of two populations from related samples	Third: Tests of differences between the averages of two groups of related samples. + Semester exam 2	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
13	3 practical	D9: The student should be able to know, understand, and practically apply one-	Analysis of Variance (ANOVA) One-Way ANOVA	Interactive lecture, brainstorming, dialogue and discussion,	Quiz, practical test, Homework, semester test,

		way analysis of variance		practical exercises, and self-learning.	Final test.
14	3 practical	D10: The student should be able to know, understand, and practically apply to find the simple linear correlation and the correlation coefficient	Simple Linear Correlation Correlation Coefficient.	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
15	3 practical	D11: The student should be able to know, understand, and practically apply how to find simple linear regression	Simple Linear Regression	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.

11. Course Evaluation

t	Evaluation methods	Evaluation date (one week)	Grade	Relative weight %
1	Final theoretical report + theoretical practical reports	Theoretical 15 weeks Practical 1-15 weeks	7theoretical + 6 practical	13%
2	Short test 1 Quiz	3 weeks	4theoretical + 2practical	6%
3	Midterm exam (theoretical and practical)	9 weeks	10theoretical + 5 practical	15%
4	Short test 2 Quiz	12 weeks	4 theoretical + 2 practical	6%
5	Final practical test	practical exams week	20	20%
6	Final theoretical exam	theoretical exams week	40	40%
	The total		100	100

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	A curriculum was prepared by computer professors at the college based on the SPSS software guide.
Main references (sources)	<ul style="list-style-type: none"> - A Handbook of Statistical Analyses using SPSS by Sabine Landau and Brian S. Everitt 2004 - IBM SPSS Statistics 22 Core System User's Guide by IBM – 2013. - Data analysis using the statistical program SPSS, written by Dr. Firas Rashad Al-Samarrai.
Recommended books and references (scientific journals, reports...)	- Your guide to the statistical program SPSS Prepared by Saad Zaghloul Bashir.
Electronic References, Websites	https://www.SPSS.com/en_sg/training/offers/free-training.html

	https://video.SPSS.com/detail/videos/how-to-tutorials https://www.udemy.com/course/SPSS-programming-for-beginners https://SPSScrunch.com/courses/SPSS-base-programming-for-absolute-beginners-free-version/
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Practical subject teacher: Mohammed Moath Abdulgani

Chairman of the Scientific Committee:

Head of the Department:




Course Description Form

1. Course Name:					
The physiology of reproduction					
2. Course Code:					
REPH333					
3. Semester / Year:					
Semester 2 / 2023– 2024					
4. Description Preparation Date:					
1/2/2024					
5. Available Attendance Forms:					
Lectures and electronic					
6. Number of Credit Hours / Number of Units					
(75) Hours / (3.5) Units					
7. Course administrator's name (mention all, if more than one name)					
Name: literature. Mohammad Salem Ibrahim Email: mohammad_almoteoty@uomosul.edu.iq					
8. Course Objectives					
Course Objectives			Introducing the student to the types of food materials. Preparing hooks according to the product status of the animal Balancing the Relationships		
9. Teaching and Learning Strategies					
Strategy		Classroom lectures Online Lectures Videoconferencing			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	Theoretic 2 Practical 3	Theoretical: a1 Learn about hormones, the structure, method and regulation of the action of hormones Practical: b9 Explains the optical microscope and laboratory equipment in the physiology laboratory	Theoretical: hormones, the structure, method and regulation of the action of hormones Practical: b9 microscope and laboratory equipment in the physiology laboratory	Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report	short exam Assignment of duty discussion
2	Theoretic 2 Practical 3	theoretical a2 Explains what the pituitary gland is, its structure and hormones practical a10 Learn about the anatomy of the male reproductive system	theoretical The pituitary gland, its structure and hormones practical a10 Anatomy of the male reproductive system	Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report	hort exam Assignment of duty discussion
3	neoretical 2 Practical 3	Theoretical: A3 He knows the pineal gland and the adrenal	Theoretical: The pineal gland and the adrenal gland,	Methods audio Writing style	hort exam Assignment of duty

		gland, their structure, functions, locations, and the most important practical a11 Mentions the anatomy of the female reproductive system	their structure, functions, locations, and the most important characteristics of the hormone practical a11 Anatomy of the female reproductive system	On the board Dialogue style Direct practical: Assigning tasks And report	discussions
4	neoretical 2 Practical 3	Theoretical: A4 Understands the male reproductive systems, which are the testicles, epididymis, vas deferens, accessory glands, and female reproductive systems practical b8 Shows the measurement of testicular	The male reproductive organs are the testicles, epididymis, vas deferens, and accessory glands Practical b8 Testicle dimensions and testicular tissue composition	Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report	hort exam Assignment of duty discussions
5	neoretical 2 Practical 3	Theoretical b1 Explains the	Theoretical Hormones related to	Methods audio	hort exam Assignment

		hormones related to reproduction (estrogens, androgens, progesterone) practical a12 Learn about theoretical embryo transfer	reproduction (estrogens, androgens, progesterone) practical Embryo transfer	Writing style On the board Dialogue style Direct practical: Assigning tasks And report	of duty discussions
6	theoretical 2 Practical 3	theoretical a5 Understands the types of chemical messengers in the body of living organisms, regulating hormone secretion Practical b9 Explains methods of collecting semen	theoretical Types of chemical messengers in the organism's body, regulating hormone secretion Practical Methods of semen collection	Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report	hort exam Assignment of duty discussions Scientific visit to the Faculty of Veterinary Medicine
7	theoretical 2 Practical 3	Theoretical A6 determines Sexual cycles and their types in animals, self-ovulating	theoretical Sexual cycles and their types in animals, self-ovulating animals, animals	Methods audio Writing style On the board Dialogue style	hort exam Assignment of duty discussions

		<p>animals, animals</p> <p>practical b10</p> <p>The application is carried out to measure the volume, consistency and pH of semen</p>	<p>practical</p> <p>Measuring the volume, consistency and pH of semen</p>	<p>Direct</p> <p>practical:</p> <p>Assigning tasks</p> <p>And report</p>	
8	<p>neoretical 2</p> <p>Practical 3</p>	<p>Theoretical b2</p> <p>Shows reproductive seasons in farm animals, uniformity of estrus in ewes</p> <p>Practicalc1</p> <p>The measurement of live, dead and deformed sperm is calculated</p>	<p>Theoretical</p> <p>Reproductive seasons in farm animals, standardization of estrus in ewes</p> <p>Practical</p> <p>The measurement of live, dead and deformed sperm is calculated</p>	<p>Methods</p> <p>audio</p> <p>Writing style</p> <p>On the board</p> <p>Dialogue style</p> <p>Direct</p> <p>practical:</p> <p>Assigning tasks</p> <p>And report</p>	<p>hort exam</p> <p>Assignment of duty discussions</p>
9	<p>neoretical 2</p> <p>Practical 3</p>	<p>theoretical a7</p> <p>Recognizes the difference between growth and sexual maturity in farm animals (its definition,</p>	<p>Theoretical</p> <p>Growth and sexual maturity in farm animals (definition, age of sexual maturity in animals</p>	<p>Methods</p> <p>audio</p> <p>Writing style</p> <p>On the board</p> <p>Dialogue style</p> <p>Direct</p>	<p>hort exam</p> <p>Assignment of duty discussions</p>

		<p>the age of sexual maturity in animals</p> <p>Practicalc2</p> <p>The procedure of measuring sperm concentration using a hemocytometer is carried out</p>	<p>Practical</p> <p>Sperm concentration by hemocytometry</p>	<p>practical:</p> <p>Assigning tasks</p> <p>And report</p>	
10	<p>neoretical 2</p> <p>Practical 3</p>	<p>theoretical b3</p> <p>Compares sexual maturity in farmed animals (definition, age of sexual maturity</p> <p>Practical c3</p> <p>A semen dilution is applied</p>	<p>theoretical</p> <p>Compares sexual maturity in farmed animals (definition, age of sexual maturity</p> <p>Practical</p> <p>A semen dilution is applied</p>	<p>Methods</p> <p>audio</p> <p>Writing style</p> <p>On the board</p> <p>Dialogue style</p> <p>Direct</p> <p>practical:</p> <p>Assigning tasks</p> <p>And report</p>	<p>hort exam</p> <p>Assignment of duty discussions</p>
11	<p>neoretical 2</p> <p>Practical 3</p>	<p>theoretical b4</p> <p>Defines the difference between insemination and fertilization in farm animals</p> <p>Practical b11</p>	<p>theoretical</p> <p>Pollination and fertilization in farm animals</p> <p>Practical</p>	<p>Methods</p> <p>audio</p> <p>Writing style</p> <p>On the board</p> <p>Dialogue style</p> <p>Direct</p>	<p>hort exam</p> <p>Assignment of duty discussions</p>

		Explains the procedure for freezing semen	Semen freezing	practical: Assigning tasks And report	
12	theoretical 2 Practical 3	theoretical a8 Determines pregnancy and delivery in farm animals, fertilization and pregnancy Practical a13 Identify the components of seminal plasma	theoretical Pregnancy and childbirth in farm animals, fertilization and pregnancy Practical Components of seminal plasma	Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report	hort exam Assignment of duty discussions
13	theoretical 2 Practical 3	theoretical a9 Understands the mammary gland and the hormonal control of its development in farm animals and the lactation process practical a14 It is mentioned for	theoretical The mammary gland and hormonal control over its development in farm animals and the lactation process practical Artificial	Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report	hort exam Assignment of duty discussions

		artificial insemination in cows	insemination in cows		
14	theoretical 2 Practical 3	<p>theoretical b5</p> <p>It shows fertility, sterility, and the factors causing low fertility in farmed animals</p> <p>Practical b12</p> <p>He knows how to artificially inseminate bulls</p>	<p>theoretical</p> <p>Fertility, infertility, and factors causing low fertility in farm animals</p> <p>Practical</p> <p>Management of vaccination bulls</p>	<p>Methods</p> <p>audio</p> <p>Writing style</p> <p>On the board</p> <p>Dialogue</p> <p>style</p> <p>Direct</p> <p>practical:</p> <p>Assigning tasks</p> <p>And report</p>	<p>hort exam</p> <p>Assignment</p> <p>of duty</p> <p>discussions</p>
15	theoretical 2 Practical 3	<p>theoretical b6</p> <p>Shows the factors affecting infertility in males and females</p> <p>practical c4</p> <p>Explains the specifications of the bull toss</p>	<p>theoretical</p> <p>Factors affecting infertility in males and females</p> <p>Practical</p> <p>Explains the specifications of the bull toss</p>	<p>Methods</p> <p>audio</p> <p>Writing style</p> <p>On the board</p> <p>Dialogue</p> <p>style</p> <p>Direct</p> <p>practical:</p> <p>Assigning tasks</p>	<p>hort exam</p> <p>Assignment</p> <p>of duty</p> <p>discussions</p>

				And report	
11. Course Evaluation					
Distribution of the score from 100 according to the tasks assigned to the student such as daily preparation 5 degrees and daily examinations 5 degrees and monthly 80 degrees and reports 10 degrees					
12. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			Book of Fodder and feeding		
Main references (sources)					
Recommended books and references (scientific journals, reports...)					
Electronic References, Websites			http://www.anypdftools.com/buy/buy-pdf-splitter.html		

11- Course evaluation			
Calendar methods	Calendar appointment	Class	Relative weight%
Theoretical final report + practical	My theory is week 15	7 theoretical + 6 practical 4	13%
Short test	My work week 1 - 15	theoretical + 2 practical 10	6%
A theoretical and practical midterm test	week (3)	theoretical + 5 practical 4	15%
Short test	week (9)	theoretical + 2 practical	6%
Final practical test	week (12)	20	20%
Final theoretical test	Final exam week	40	40%
total	Final exam week	100	%100
12. Learning and teaching resources			

Required textbooks (methodology, if any)	Required textbooks (methodology, if any)
Book on the physiology of reproduction and pollination Artificial 1990	Main references (sources) Recommended supporting
Assisted reproductive technologies in animals Farm 2018 Reproduction in farm animals	books and references (scientific journals, reports....)
NRC National Report Bulletin 2001, 2007	Electronic references, Internet sites



L. Mohamad Salem Ibrahim



L. Wassem Khald Ahmed




Muthanna Ahmed Muhammad
Chairman of the Scientific Committee



Omar Dhiyaa Muhammad
Head of the Animal Production Department

Course Description of the Poultry Physiology

1.Course Name					
Poultry Physiology					
2.Course Code					
POPH328					
3.Term / Year					
Second Semester 2023-2024					
4.Description Preparation Date:					
1/2/2024					
5.A. Available Attendance Forms					
learning in presence					
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. Wassem Khalid Ahmade					
Moustafa Abdel Basset Abdel Rahman					
8.Course Objectives					
<ul style="list-style-type: none"> - Enabling the student to understand and comprehend the functions of the various poultry body systems. - Enabling the student to understand and comprehend the mechanism of work of the organs of the body of poultry birds. - The student is introduced to several laboratory tests that are performed on blood. 					
9.Teaching and Learning Strategies					
<ul style="list-style-type: none"> - Interactive lecture - Brainstorming - Dialogue and discussion - Practical exercises 					
10.Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject Name	Learning method	Evaluation Method

1	2 Theoretical	A1: The student learns about the respiratory structure of domestic birds.	respiratory structure of domestic birds.	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B8: The student shows the structure of the blood and some of its physical characteristics.	The structure of blood and some of its physical qualities.	Laboratory work.	Exams , assignment, discussions.
2	2 Theoretical	B1: The student shows the mechanism of gaseous exchange of birds.	Gas exchange mechanism for domestic birds.	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B9: The student performs the blood draw in birds as well as the preparation of a blood slide.	The process of drawing blood in birds as well as the numbers of a blood slide.	Laboratory work.	Exams , assignment, discussions.
3	2 Theoretical	A2: Student learns about cardiac and circulatory physiology and neurological control	Heart and circulation	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B10: The student shows the body fluids, methods of estimating them and the factors affecting them	Body fluids, methods of estimating them and the factors affecting them	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
4	2 Theoretical	B2: The student shows the mechanism of rotation in poultry birds.	The sliding of the rotation.	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B11: The student shows the factors affecting red blood cells and	Factors affecting red blood cells and	Laboratory work.	Exams , assignment, discussions.

		implements the method of estimating them.	how they are estimated.		
5	2 Theoretical	A3: The student understands how the bird nervous system (CNS) works.	The central and peripheral nervous system.	Auditory styles, writing style on the board, direct dialogue style.	Exams, assignment, discussions.
	3 Practical	B12: The student shows the types of leukocytes and the method of estimating them, as well as estimating the size of red blood cells.	Leukocytes and the method of estimating them as well as estimating the size of red blood cells.	Laboratory work.	Exams, assignment, discussions.
6	2 Theoretical	B3: The student shows how the nervous system of birds (the peripheral nervous system) works.	neuron and synapse.	Auditory styles, writing style on the board, direct dialogue style.	Exams, assignment, discussions.
	3 Practical	B13: The student is familiar with anemia and the origin of blood cells as well as the hemoglobin estimation process.	Anemia and blood cell origin as well as hemoglobin estimation process.	Laboratory work.	Exams, assignment, discussions.
7	2 Theoretical	A4: The student learns about the components and functions of the bird urinary system as well as renal filtration.	Urinary system	Auditory styles, writing style on the board, direct dialogue style.	Exams, assignment, discussions.
	3 Practical	A8: The student learns about the endocrine glands, including the pituitary gland, its divisions, and some of its hormones.	Endocrine glands, including the pituitary gland, its divisions, and some of its hormones.	Auditory styles, writing style on the board, direct dialogue style.	Exams, assignment, discussions.
8	2 Theoretical	B4: The student shows the mechanism of action of the saline glands and the factors affecting	Salt glands and factors affecting them.	Auditory styles, writing style on the board, direct	Exams, assignment, discussions.

		their secretions, as well as the physical properties of the urine.		dialogue style.	
	3 Practical	B14: The student is familiar with the anterior and posterior pituitary hormones and the physiological effect of each hormone.	anterior and posterior pituitary hormones and the physiological effect of each hormone.	Auditory styles, writing style on the board, direct dialogue style.	Exams, assignment, discussions.
9	2 Theoretical	A6: The student learns about the structure of the digestive system in domestic birds.	Gastrointestinal	Auditory styles, writing style on the board, direct dialogue style.	Exams, assignment, discussions.
	3 Practical	A9: The student identifies the thyroid gland, the parathyroid gland, the terminal or bronchial gland, as well as the hormones secreted from these glands.	The thyroid gland, the parathyroid gland, and the terminal or bronchial gland.	Auditory styles, writing style on the board, direct dialogue style.	Exams, assignment, discussions.
10	2 Theoretical	B5: The student shows the mechanism of work of the digestive system as well as the organization of food intake and neurological control.	Gastrointestinal	Auditory styles, writing style on the board, direct dialogue style.	Exams, assignment, discussions.
	3 Practical	A10: The student learns about the adrenal gland, its hormones, and its physiological effect.	The adrenal gland, its hormones, and the physiological effect of it.	Auditory styles, writing style on the board, direct dialogue style.	Exams, assignment, discussions.
11	2 Theoretical	C1: The student explains the process of secretion, digestion, absorption, and the speed at which food passes through the gut.	The process of secretion, digestion and absorption.	Auditory styles, writing style on the board, direct dialogue style.	Exams, assignment, discussions.

15	2 Theoretical	B7: The student shows the movement of the egg channel and the excretion of the egg as well as the sperm storage glands.	Egg channel movement and egg laying.	Auditory style, writing style on the board, direct dialogue style.	Exams, assignment, discussion.
	3 Practical	B15: The student shows the mechanism of calcium metabolism and its sources in the shell of the egg.	The mechanism of calcium metabolism and its sources in the shell of the egg.	Auditory style, writing style on the board, direct dialogue style.	Exams, assignment, discussion.

11. Course Evaluation

No.	evaluation methods	Calendar Appointment (Week)	Score	Relative Weight%
1	Midterm test (theoretical and practical)	Week 9	25 Theoretical + 15 Practical	40 %
2	Final Practical Test	Practical Exams Week	20	20%
3	Final theoretical test	Theoretical Exam Week	40	40 %
4	Total		100	100%

12. Learning and Teaching Resources

Required textbooks (methodology if any)	The Physiology of Poultry : Written by/ Prof. Dr Diaa Hassan Al-Hassani.
Key References (Sources)	
Recommended supporting books and references (scientific journals, reports...)	
E-References , Websites	

Moustafa Abdel Basset Abdel Rahman

Instructor of practical subject

Dr. Wassem Khalid Ahmade

Instructor of theoretical subject

Chairman of the Scientific Committee

Head of Department



Course Description Form

1. Course Name:	
Technology of poultry products	
2. Course Code:	
PPTE329	
3. Semester / Year:	
Second Semester	
4. Description Preparation Date:	
1/2/2024	
5. Available Attendance Forms:	
Built-in	
6. Number of Credit Hours (Total) / Number of Units (Total)	
75 hours (2 theoretical + 3 practical) * 15 weeks / 3.5 unit	
7. Course administrator's name (mention all, if more than one name)	
Name: Faiyz Sami Saaduldeen Yasser Ghanem Kesab	
Email: dr_faiyz@uomosul.edu.iq yaserkesab75@uomosul.edu.iq	
8. Course Objectives	
Course Objectives	<ul style="list-style-type: none"> • Deliver an introduction on each topic in a simple manner and from the reality of public life. • Explanation at length of all aspects of the subject, giving live examples to explain its nature and benefit. • Presenting questions about the topic to demonstrate students' understanding through their answers. • Conducting surprise exams and preparing practical reports.
9. Teaching and Learning Strategies	
Strategy	<p>Audio methods (teaching explanation of the topic)</p> <p>Style of writing on the blackboard</p> <p>The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation</p> <p>In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform, and the practical part of the subject is given in person.</p>

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first week	2 Theoretical 3 practical		The reality of poultry production in Iraq and the Arab world, The importance of expanding poultry production, The reality of eggs, the reality of poultry meat production. Measure the thickness of the crust	a1:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class a15:participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of subject is given in person	Exams, reports, discussions, quizzes
second week	2 Theoretical 3 practical		Types of poultry projects. Measuring the specific weight of the egg Coz test 10 marks	a2:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class C1:participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform	Exams, reports, discussions, quizzes

				The practical part of the subject is given in person	
third week	2 Theoretical 3 practical		Nutritional value of eggs, egg composition, The importance of eggs in human nutrition, Factors affecting the nutritional value of eggs, The egg contains cholesterol. Measure the weight percentage of the shell. Scientific visit	B1:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class a4:participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	Exams, reports, discussions, quizzes
fourth week	2 Theoretical 3 practical		Chemistry of eggs and their products, The shell and membranes of the egg, Egg whites, egg yolks. Shell colour	a3:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class a16:participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	Exams, reports, discussions, quizzes

fifth	2 Theoretical 3 practical		micrologia eggs, Egg contamination before and after delivery. The ability of the egg to resist microorganisms, Changes caused by the egg's microorganisms. Factors affecting the quality of veneer	a4: Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform a17: The practical part of the subject is given in person	Exams, reports, discussions, quizzes
sixth week	2 Theoretical 3 practical		Egg storage and marketing, changes that occur to eggs during storage, Methods of preserving and storing eggs, Necessary steps to maintain egg quality, marketing liquid eggs, Marketing dried eggs. Albedo height meter. Coz test 10 marks	a5: Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class a18: participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	Exams, reports, discussions, quizzes
seventh week	2 Theoretical 3 practical		poultry meat production, Preparing meat chickens, Receiving the	a6: Audio and visual methods (teaching explanation of the topic) Style of writing on	Exams, reports, discussions, quizzes, Conducting

			chicks' meal and incubating them, commercial breeds of broilers, Standard rates for the economic characteristics of broiler chickens and the factors affecting them	the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation c3:in class participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	scientific v for students
eighth week	2 Theoretical 3 practical		Chemical and nutritional properties of poultry meat, Composition of poultry meat, poultry meat in special diets, factors affecting the chemical composition of poultry meat The first exam	a7:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform C4:The practical part of the subject is given in person	Exams, reports, discussions, quizzes
ninth week	2 Theoretical 3 practical		Processes for preparing poultry meat for consumption, Types of poultry birds used in meat production, Poultry meat preparation	a8:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the	Exams, reports, discussions, quizzes

			processes, Cutting poultry carcasses. poultry meat assembly, Yolk quality Scientific visit	student's evaluation in class participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform The practical part of the subject is given in person	
tenth week	2 Theoretical 3 practical		The quality of poultry meat and methods of preserving it in poultry varieties prepared for marketing, Grading live poultry and the characteristics adopted in grading, Grading poultry carcasses prepared for cooking, Maintaining quality.. Yolk shape Coz test 10 marks	a9:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation a19:in class participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform C5:The practical part of the subject is given in person	Exams, reports, discussions, quizzes
eleventh week	2 Theoretical 3 practical		cold storage, cooling requirements, freezing poultry meat, Freezing requirements in poultry slaughterhouses , Methods used in freezing poultry meat, Changes in the nutritional value	a10:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation In addition to blended learning, the theoretical part of the	Exams, reports, discussions, quizzes

			of poultry meat during storage. Yolk color and factors affecting it.	subject is given electronically and on the Class Room platform a20:The practical part of the subject is given in person	
twelfth week	2 Theoretical 3 practical		Microbiology of poultry meat. Methods for measuring yolk color Coz test 10 marks	a11:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform a21:The practical part of the subject is given in person	Exams, reports, discussions, quizzes
thirteenth week	2 Theoretical 3 practical		Flavor and tenderness of poultry meat. Bloody and fleshy spots. Coz test 10 marks	a11:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform a22:The practical part of the subject is	Exams, reports, discussions, quizzes

fourteenth week	2 Theoretical 3 practical		The effect of cooking methods on the flavor and tenderness of poultry meat and its nutritional value. Egg grading and examination. Coz test 10 marks	given in person a13:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform a23:The practical part of the subject is given in person	Exams, reports, discussions, quizzes
fifteenth week	2 Theoretical 3 practical		Inedible poultry by-products. Factors affecting egg weight. The second exam	a14:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation In addition to blended learning, the theoretical part of the subject is given electronically and on the Class Room platform a24:The practical part of the subject is given in person	Exams, reports, discussions, quizzes

11.

S	Calendar methods	Calendar appointment (week)	degree	Relative weight %
1	Theoretical final report + practical experience reports	theory week 15 practical week 1-15	7 theoretical + 6 practical	13%
2	Short test (1) Quiz	Week (3)	4 theoretical + 2 practical	6%
3	Midterm Exam (theoretical and practical)	Week (10)	10 theoretical + 5 practical	15%
4	Short test Quiz (2)	Week (12)	4 theoretical + 2 practical	6%
5	Final practical test	Practical exams week	20	20%
6	Final theoretical test	theoretical exams week	40	40%
	total		100	100

11. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

School of theoretical subject: Dr.Faiyz Sami Saaduldeen



Practical subject teacher: Yaser Ghanim Ksab



Head of Scientific Committee : Prof Dr. Muthanna Ahmed Muhammad



Head of the Animal Production Department: Prof Dr.Omar dheya Al-mallah



Course Description of the Animal diseases

1.Course Name					
Animal diseases					
2.Course Code					
ANDI331					
3.Term / Year					
Second Semester 2023–2024					
4.Description Preparation Date:					
1/2/2024					
5.A. Available Attendance Forms					
learning in presence					
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. Hanan Waleed Kasim Agwaan Alaa Shamil Fakhri Al-Allaf					
8.Course Objectives					
1- Classification of diseases according to the duration of their spread, their causes, and the factors that contribute to the occurrence of the disease 2- Identify the different diseases that affect large animals (ruminants) 3- Knowledge of diseases that affect large animals, clinical signs, and methods of treating them					
9.Teaching and Learning Strategies					
1- Methods of using appropriate disinfectants to disinfect wool and animal fields 2-Using insecticides to combat external parasites on animals 3-Diagnosing diseases in the fields and how to treat them					
10.Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject Name	Learning method	Evaluation Method
1	2 Theoretical	A1: The student learns about the classification of diseases	The relationship of animal diseases to livestock	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A7: The student understands microbiology pathological infection occurs	Microbiology that induced pathological infection	Short exams, assignments, discussions	Exams , assignment, discussions.

2	2 Theoretical	A2: The student learns about rinderpest	Viral diseases	Short exams, assignments, discussions	Exams , assignment, discussions.
	3 Practical	A 8: The student understands the classification diseases	disease classification	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
3	2 Theoretical	C1: Explains to the student the symptoms of Anthrax disease	Viral diarrhea in calves and lambs, bluetongue disease, sheep pox	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C5: Explains to the student the factors environment causing the disease	Disease-causing factors	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
4	2 Theoretical	C2: Explains to the student the signs of anthrax	Pseudo pox Cattle/bacterial diseases	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B9: Shows the student what happened disease	How the disease occurs	Laboratory work.	Exams , assignment, discussions.
5	2 Theoretical	B1: The student learns about vaccines given to animals	Intestinal poisoning (tetanus, intestinal sepsis)	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C6: Shows the student the animal's body's response to the occurrence of disease Or infection	The animal's body's response to the occurrence of disease or infection	Laboratory work.	Exams , assignment, discussions.

6	2 Theoretical	A3: The student understands what medicines and vaccines are	Mastitis, pneumonia, diarrhea of lambs	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A9: Explains to the student what it is Inflammation and bacterial cleaning	Inflammation and bacterial cleaning Scientific trip	The student writes a report about what he saw In the scientific trip	Exams , assignment, discussions.
7	2 Theoretical	B3: Shows the student the methods of dosing	Salmonella in cows, hemorrhagic septicemia and fowl rot	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B10: The student learns about the different methods of administering medications	Different ways of giving medications	Laboratory work.	Exams , assignment, discussions
8	2 Theoretical	B4: Shows the student the methods of Dipping	Calf diphtheria, actinomycosis, bacillus mycosis	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B11: The student learns about appreciation Therapeutic dose	Estimating the therapeutic dose	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
9	2 Theoretical	B5: Shows the student how to vaccinate against foot-and-mouth disease	Thaleria, toxoplasmosis, trypanosomiasis	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

	3 Practical	A10: The student understands what inherited immunity and acquired immunity are	Scientific trip	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
10	2 Theoretical	C3: Explains to the student the symptoms of Anthrax disease	Parasitic diseases (liver worms, lung worms)	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B12: Explains to the student the types Vaccines given to cows Sheep and horses	Laboratory work.	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
11	2 Theoretical	C4: The student is familiar with the method of vaccination Against sheep pox	Myiasis, mange, ticks and lice	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A11: The student learns about a vaccine Rinder pest, sheep pox vaccine	Laboratory work	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
12	2 Theoretical	B6: Shows the student how to dosing Against liver worms	Milk fever, poisoning by poisonous plants	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A12: The student gets to know Types of vaccine strains Newcastle	Newcastle chicken vaccine	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
13	2 Theoretical	B7: Shows the student how to take a dose against lung worms	Salt poisoning, poisoning with chemical and insecticides	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

	3 Practical	C7: Explains to the student the importance of the Camboro vaccine	Camboro vaccine	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
14	2 Theoretical	A6: The student learns about phosphorus and arsenic poisoning	Phosphorus and arsenic poisoning	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C8: Explains to the student the importance of vaccination Chicken pox	chicken pox vaccine	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
15	2 Theoretical	B8: Shows the student how Ammonia and nitrates poisoning occurs	Ammonia poisoning, nitrate poisoning	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C9: Explains to the student giving times of Merck vaccine Merck's vaccine	Merck vaccine	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

11.Course Evaluation

No.	evaluation methods	Calendar Appointment (Week)	Score	Relative Weight%
1	Midterm test (theoretical and practical)	Week 9	25 Theoretical + 15 Practical	40 %
2	Final Practical Test	Practical Exams Week	20	20%
3	Final theoretical test	Theoretical Exam Week	40	40 %
4	Total		100	100%

12.Learning and Teaching Resources

Required textbooks (methodology if any)	Animal and poultry diseases, written by Dr. Sameh Hedayat Arslan Nizar Jabbar Musleh and Dr. Hisham Abdullah Bashi
Key References (Sources)	

Recommended supporting books and references (scientific journals, reports...)	
E-References , Websites	



Alaa Shamil Fakhri Al-Allaf

Instructor of practical subject



Dr. Hanan waleed kasim Agwaan

Instructor of theoretical subject



Head Of Department




Chairperson of the Scientific Committee

Course Description Form

1. Course Name:					
Feed and Feeding					
2. Course Code:					
FEFD330					
3. Semester / Year:					
Semester 2 / 2023– 2024					
4. Description Preparation Date:					
1/2/2024					
5. Available Attendance Forms:					
Lectures and electronic					
6. Number of Credit					
Hours (75) / Number of Units (3.5)					
7. Course administrator's name (mention all, if more than one name)					
Name: Assistant Professor. Wissam jasim Mohammed Ali Email: wissamfariq@uomosul.edu.iq Name: Mohammed Riyadh Mohammed Email: mohammed.alhmdany@uomosul.edu.iq					
8. Course Objectives					
Course Objectives			Introducing the student to the types of food materials. Preparing hooks according to the product status of the animal Balancing the Relationships		
9. Teaching and Learning Strategies					
Strategy		Classroom lectures Online Lectures Videoconferencing			
10. Course Structure					
Week	Hours	Required Lear	Unit or subject name	Learning method	Evaluation method

		ning Outc ome s			
First	Theoretical 2 Practical 3		(a1) Introduction to feed and nutrition (b6) General terms in nutrition	Electronic blended learning+ In-person education	Quiz+ Homework+ a report
Second	Theoretical 2 Practical 3		(a2) Classification of ration (b7) ration analysis	Electronic blended learning+ In-person education	Quiz+ Homework+ a report
Third	Theoretical 2 Practical 3		(a3) Food ingredient and properties digestion (b8) Experiments and digestion laboratories	Electronic blended learning+ In-person education	Quiz+ Homework+ a report
Fourth	Theoretical 2 Practical 3		(a4) Protein supplements and fluids (b9) Nutritional needs of animals	Electronic blended learning+ In-person education	Quiz+ Homework+ a report
Fifth	Theoretical 2 Practical 3		(a5) Feed intake and factors affecting its intake (b10) Nutritional needs For dairy cows	Electronic blended learning+ In-person education	Quiz+ Homework+ a report
Sixth	Theoretical 2 Practical 3		(b1) Digestibility and estimation methods (b11) Digestion parameters	Electronic blended learning+ In-person education	Quiz+ Homework+ a report
seven	Theoretical 2 Practical 3		(b2) Arithmetic operations and balancing ration (b12) The importance of balanced ration		
Eighth	Theoretical 2 Practical 3		(b3) Energy rating system (b13) Energy evaluation methods	Electronic blended learning+ In-person education	Quiz+ Homework+ a report

Ninth	Theoretical 2 Practical 3		(b4) Nutritional ratio and its sections (b14) Balance of cow diets	Electronic blended learning+ In-person education	Quiz+ Homework+ a report
Tenth	Theoretical 2 Practical 3		(b5) Starch coefficient (b15) Balancing sheep diets	Electronic blended learning+ In-person education	Quiz+ Homework+ a report
Eleven	Theoretical 2 Practical 3		(c1) Scandinavian unity (b16) Balancing goat diets	Electronic blended learning+ In-person education	Quiz+ Homework+ a report
Twelfth	Theoretical 2 Practical 3		(c2) Different treatments and their effect on nutritional value (b17) Discussion of reports about The topic is balancing ration	Electronic blended learning+ In-person education	Quiz+ Homework+ a report
Thirteenth ... tenth.	Theoretical 2 Practical 3		(c3) Minerals and vitamins, (c4) Feed additives	Electronic blended learning+ In-person education	Quiz+ Homework+ a report
Fourteenth ... tenth.	Theoretical 2 Practical 3		(d1) Preparation of concentrated diets (c5) Selection of raw materials		
Fifteenth ... tenth.	Theoretical 2 Practical 3		(e1) Nutritional needs (c6) Training in preparing ration	Electronic blended learning+ In-person education	Quiz+ Homework+ a report

11. Course Evaluation

Distribution of the score from 100 according to the tasks assigned to the student such as daily preparation 5 degrees and daily examinations 5 degrees and monthly 80 degrees and reports 10 degrees

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Book of Fodder and feeding
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Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	tp://www.anypdftools.com/buy/buy-pdf-splitter.html



A.P.: Wissam jasim Mohammed Ali



A.L. Mohammed Read . Mohammed



Head Of Department




Chairperson of the Scientific Committee

Course Description Form

1. Course Name:					
Animals Breeding					
2. Course Code:					
ANB332					
3. Semester / Year:					
Spring 2024					
4. Description Preparation Date:					
1/2/2024					
5. Available Attendance Forms:					
6. Number of Credit Hours (Total) / Number of Units (Total)					
75 hours (2 + 3) *15 weeks					
7. Course administrator's name (mention all, if more than one name)					
Name: Dr. Esraa Mobasher Tawfwq Email: esraa-mobasher@uomosul.edu.iq Name: Dr. Muthanna Fathi Abdullah Email: muthanna.f.a@uomosul.edu.iq					
8. Course Objectives					
Course Objectives		<ul style="list-style-type: none"> Introducing students to the basics of genetics, including Mendel's laws... Defining the gene, what its components are, how to calculate the frequency of the gene, and the factors affecting it What are the components of phenotypic variation and patterns of gene expression Calculating the average effect of the gene and the effect of gene replacement and estimating the kinship coefficient Internal breeding and genetic features in the animal population and ways to improve them.... Conducting examinations and preparing practical reports 			
9. Teaching and Learning Strategies					
Strategy		<p>Audio methods (teaching explanation of the topic)</p> <p>Style of writing on the blackboard</p> <p>The method of direct dialogue between the teacher and the student, with student's evaluation in class participation</p>			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First	2Theoretic 3 My wo	A1: heoretical: The student	Theoretical: Principles of statistics need in	Audio and visual methods (teaching explanation of the	Exams, reports, discussion

		introduced statistical processes and knowledge of general principles of animal husbandry and improvement Practical: A1: The student applies all statistical operations	Animal breeding improvement Practical: Measures of concentration and measures of dispersion	topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation and class participation	quizzes
Second	2Theoretical 3 My work	Theoretical B1: Among the most important expressions of the gene (combination effect, dominance, superiority) Practical A2: Defines regression coefficient and correlation coefficient and solve an example to extend the value of correlation coefficient	Theoretical: Some genetic principles in Animal breeding and improvement, gene expression patterns, Practical: Measures of association (coefficient of regression and correlation coefficient)	Audio and visual methods (teaching explanation of the topic) Style of writing on blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation	Exams, reports, discussions, quizzes
Third	2Theoretical 3 My work	Theoretical C1: Among the most important expressions of the gene (combination effect, dominance, superiority) Practical A4: Defines regression coefficient and correlation coefficient and solve an example to extend the value of correlation coefficient	Theoretical: Gene frequency, frequency calculation Gene if a pair of Genes with a cluster effect And sovereign, random mating Hardy-Weinberg rule Practical Explain the concept of gene replication	Audio and visual methods (teaching explanation of the topic) Style of writing on blackboard The method of direct dialogue between the teacher and the student, with student's evaluation and class participation	Exams, reports, discussion, quizzes
Fourth	2Theoretical 3 My work	Theoretical B2: Explains importance of factors affecting gene replication and how to calculate them (migration, mutation, chance selection) Practical A5: It shows	Theoretical Factors affecting gene duplication Practical Factors affecting gene duplication (mutation and migration)	Audio and visual methods (teaching explanation of the topic) Style of writing on blackboard The method of direct dialogue between the teacher and the student, with student's evaluation	Exams, reports, discussion, quizzes

		importance of factors affecting gene replication defines mutation, types, migration, and its effect on gene replication		class participation	
Fifth	2Theoretical 3 My work	Explains how to calculate C2: calculates variation, the effect of a gene, and gene replacement, what are quantitative descriptive characteristics Practical A6: Knows chance and selection and their effect on gene replication	Phenotypic variation Practical Factors affecting gene frequency (chance and selection)First semester exam	Audio and visual methods (teaching explanation of the topic) Style of writing on blackboard The method of direct dialogue between the teacher and the student, and the student's evaluation in class participation	Exams, reports, discussion quizzes
Sixth	2Theoretical 3 My work	Theoretical C3: Explains concept of kinship and how to calculate it Practical A3: It shows importance analysis of variance in analyzing results and extent of influence of various factors on them, and finds an analysis variance table	Theoretical The relationship between relatives Practical Analysis of variance and normal distribution	Audio and visual methods (teaching explanation of the topic) Style of writing on blackboard The method of direct dialogue between the teacher and the student, and the student's evaluation in class participation	Exams, reports, discussions quizzes
Seventh	2Theoretical 3 My work	Theoretical C4: The kinship coefficient calculated in event that there internal education and the internal education calculated Practical C3: It shows and calculates coefficient of kinship	Theoretical Calculating the kinship coefficient Practical Kinship and relationship between individuals	Audio and visual methods (teaching explanation of the topic) Style of writing on blackboard The method of direct dialogue between the teacher and the student, and the student's evaluation in class participation	Exams, reports, discussion quizzes

		and the relations between individual			
Eighth	2Theoretic 3 My work	Theoretical B3: The kins coefficient calculated in event that there internal education and the inter education calculated Practical C4: It shows calculates coefficient of kins and the relations between individual	Different methods of education, education Interna (raising relatives), education Tarziya, external education (crossbreeding), hybrid strength, Mixing breeds	Audio and visual methods (teaching explanation of the topic) Style of writing on blackboard The method of direct dialog between the teacher and the student, v the student's evaluation in class participation	Exams, reports, discussion quizzes
Ninth	2Theoretic 3 My work	Theoretical A3: Familiar with most important types of mixing of strains (external mixing, apical mixing, backcrossing...etc.) Practical C2: Explains concept of Hardy-Weinberg rule	Theoretical Mixing breeds Practical Hardy-Weinberg rule	Audio and visual methods (teaching explanation of the topic) Style of writing on blackboard The method of direct dialog between the teacher and the student, v the student's evaluation in class participation	Exams, reports, discussion quizzes
Tenth	2Theoretic 3 My work	Theoretical C7: Explains meaning of genetic equivalent calculates the value of genetic equivalent through selection C5: experiments the relations between father and son and calculating through full brothers and half-sibs.	Theoretical Some genetic parameters of population (genetic equivalent and methods for estimating Practical Genetic features of the animal population (genetic equivalent	Audio and visual methods (teaching explanation of the topic) Style of writing on blackboard The method of direct dialog between the teacher and the student, v the student's evaluation in class participation	Exams, reports, discussion quizzes
Eleven	2Theoretic 3 My work	Theoretical C6: He can calculate the frequency coefficient in various practical C7: ways The student calculates	Theoretical Some genetic features of population (frequency coefficient) Practical Explaining the concept of iterative coefficient, purpose of its use, and characteristics for which it	Audio and visual methods (teaching explanation of the topic) Style of writing on blackboard The method of direct dialog between the teacher and the student, v	Exams, reports, discussion quizzes

		using special equations the frequency coefficient and what is its theoretical basis	theoretically,	the student's evaluation in class participation	
Twelve	2Theoretical 3 My work	Theoretical C7: Explains meaning of b correlation calculates correlation value Practical A7: Understands genetic connection the reasons for emergence between two traits, importance in animal husbandry, methods evaluating it	Theoretical Some genetic features of clan (genetic relatedness) Practical Calculating the genetic correlation between two traits in different ways	Audio and visual methods (teaching explanation of the topic) Style of writing on blackboard The method of direct dialogue between the teacher and the student, with student's evaluation in class participation	Exams, reports, discussions, quizzes
Thirteen	2Theoretical 3 My work	Theoretical A4: Recognizes intensity of election and relationship to electoral difference Practical C1: Calculates gene frequency value in a number animal populations	Theoretical Election Practical Exercises and problems about gene duplication	Audio and visual methods (teaching explanation of the topic) Style of writing on blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation	Exams, reports, discussions, quizzes
Fourteen	2Theoretical 3 My work	Theoretical B2: Selection intensity and electoral difference Practical A2: Correlation measures (regression coefficient correlation coefficient)	Intensity of selection, relationship between electoral difference and intensity of selection Factors affecting genetic equivalence, methods selection For one trait, selection method for more than one trait	Audio and visual methods (teaching explanation of the topic) Style of writing on blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation	Exams, reports, discussions, quizzes
Fifteen	2Theoretical 3 My work	Theoretical B5: Explains importance of genetic engineering learns about modern methods in the field of animal breeding	Theoretical Genetic engineering genetics Molecular field of breeding and improvement Practical animal Evaluation of animal reproduction	Audio and visual methods (teaching explanation of the topic) Style of writing on blackboard The method of direct dialogue	Exams, reports, discussions, quizzes

		and improvement Practical A8: He uses animal records to evaluate animals, compare them and prepare detailed report about them	(report and discussion	between the teacher and the student, with the student's evaluation in class participation	
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11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Animal husbandry book / written by Has Karam and Salah Jalal
Main references (sources)	
Recommended books and references (scientific journals, reports...)	-Falconer, D.S. and Mackay, T.F. 2012.
Electronic References, Websites	Journal of Agriculture



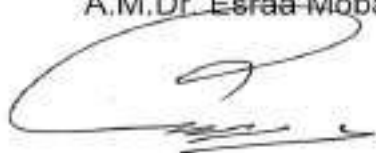
Theoretical subject teacher

A.M. Dr. Esraa Mobasher Tawfeq



Practical subject teacher

M. Dr. Muthanna Fathi Abdullah



Prof. Dr. Omar D. Muhammad

Head of the Animal Production Department



Prof. Dr. Muthanna Ahmed M. Tayyib

Chairman of the Scientific Committee



Course Description of the Poultry Bird Nutrition

1. Course Name					
Poultry Bird Nutrition					
2. Course Code					
POBN428					
3. Term /Year					
First Semester Autumn 2023-2024					
4. Description Preparation Date:					
1-9-2023					
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		
Dr. Ahmed Mohamed Thabet Qasem			Email : ahmed.alniemy@uomosul.edu.iq		
8. Course Objectives					
theoretical 1- Enabling the student to learn the basic components of the feed material. 2-The student should know the most important sources of fodder. 3- Teaching the student the correct scientific foundations for forming relationships. 4-Enabling the student to know the relationship between nutritional needs of the bird and its productive performance.			practical 1- Teaching the student the practical aspect of the scientific subject 2-Applying the practical aspect so that it can benefit in the labor market		
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	theoretical a1: The student learns about energy - energy sources – carbohydrates	theoretical Energy - Energy Sources – Carbohydrates	Theoretical: Visual and auditory methods Explanation and dialogue style	- Tests. Assignment Discussions
	3Practical	Practical: b6: Explains the primary feed materials	Practical: primary feed materials	Practical: Assignment and report	
Second	2 Theoretical	Theoretical:	Theoretical:	Theoretical:	- Tests.

	3Practical	<p>a2: The student learns about lipids and fats - Fat division - Benefits and harms of fats</p> <p>Practical: b7: The student is familiar with the sources of proteins, fats, and vitamins</p>	<p>Lipids and fats - breakdown of fats - benefits and harms of fats</p> <p>Practical: Sources of proteins, fats and vitamins</p>	<p>Visual and auditory methods Explanation and dialogue style</p> <p>Practical: Assignment and report</p>	Assignment Discussions
Third	2 Theoretical	<p>Theoretical: a3: The student understands energy measurements - the relationship between energy and food composition</p>	<p>Theoretical: Measurements of energy - relationship between energy and food composition</p>	<p>Theoretical: Visual and auditory methods Explanation and dialogue style</p>	- Tests. Assignment Discussions
	3Practical	<p>Practical: b8: The student discovers feed concentrates and pre-prepared mixtures</p>	<p>Practical: feed concentrates and pre-prepared mixtures</p>	<p>Practical: Assignment and report</p>	
Fourth	2 Theoretical	<p>Theoretical: a4: The student learns about food rationing - the symptoms of energy deficiency and excess</p>	<p>Theoretical: food rationing - the symptoms of energy deficiency and excess</p>	<p>Theoretical: Visual and auditory methods Explanation and dialogue style</p>	- Tests. Assignment Discussions
	3Practical	<p>Practical: b9: The student is familiar with preparing protein concentrates</p>	<p>Practical: preparing protein concentrates</p>	<p>Practical: Assignment and report</p>	
Fifth	2 Theoretical	<p>Theoretical: b1: The student is familiar with proteins - types of proteins - the importance of proteins</p>	<p>Theoretical: proteins - types of proteins - the importance of proteins</p>	<p>Theoretical: Visual and auditory methods Explanation and dialogue style</p>	- Tests. Assignment Discussions
	3Practical	<p>Practical: b10: The student is familiar with the production and manufacturing of feed</p>	<p>Practical: production and manufacturing of feed</p>	<p>Practical: Assignment and report</p>	
Sixth	2 Theoretical	<p>Theoretical: a5: The student understands amino acids - their functions - their classification - the ratio of energy to protein</p>	<p>Theoretical: Amino acids - their functions - their classification - the ratio of energy to protein</p>	<p>Theoretical: Visual and auditory methods Explanation and dialogue style</p>	- Tests. Assignment Discussions
	3Practical	<p>Practical: b11: The student is familiar with the formation and synthesis of relationships</p>	<p>Practical: the formation and synthesis of relationships</p>	<p>Practical: Assignment and report</p>	
Seventh	2 Theoretical	<p>Theoretical: b2: The student is familiar with the amino acid needs of chickens - the effect of a</p>	<p>Theoretical: the amino acid needs of chickens - the effect of a</p>	<p>Theoretical: Visual and auditory methods</p>	- Tests. Assignment Discussions

	3Practical	deficiency or excess of protein or amino acids - a field project Practical: b12: The student is familiar with the formation and synthesis of relationships - a field project	deficiency or excess of protein or amino acids - a field project Practical: formation and synthesis of relationships - a field project	Explanation and dialogue style Practical: Assignment and report	
Eighth	2 Theoretical 3Practical	Theoretical: a6: The student learns about vitamins - classification of vitamins - factors affecting the vitamin needs of poultry Practical: c1: The student identifies the contamination of feed materials with toxins	Theoretical: vitamins - classification of vitamins - factors affecting the vitamin needs of poultry Practical: contamination of feed materials with toxins	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 inorganic elements - their classification - their functions - the effect of their deficiency and increase in poultry diets. Practical: c2: The student is distinguished by mycotoxins and their prevention	Theoretical: inorganic elements - their classification - their functions - the effect of their deficiency and increase in poultry diets. Practical: Mycotoxins and their prevention	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 water - its functions - water quality Practical: c3: The student explains the specifications of a good feed formula	Theoretical: water - its functions - water quality Practical: specifications of a good feed formula	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
Eleventh	2 Theoretical 3Practical	Theoretical: a7: The student remembers digestion - the functions of the digestive system - the factors affecting the speed of food passage through the digestive system Practical: c4: The student demonstrates standardization and quality control	Theoretical: digestion - the functions of the digestive system - the factors affecting the speed of food passage through the digestive system Practical: standardization and quality control	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
Twelfth	2 Theoretical	Theoretical: b5: The student reveals the	Theoretical: final products of the	Theoretical: Visual and	- Tests. Assignment

	3Practical	final products of the digestion of nutrients - the digestion of proteins - the digestion of carbohydrates - the digestion of fats - a field project Practical: b13: The student is familiar with storing fodder materials - a field project	digestion of nutrients - the digestion of proteins - the digestion of carbohydrates - the digestion of fats - a field project Practical: storing fodder materials - a field project	auditory methods Explanation and dialogue style Practical: Assignment and report	Discussions
Thirteen	2 Theoretical 3Practical	Theoretical: a8: The student learns about rancidity of fats and oils - digestion of mineral elements - digestion of vitamins Practical: b14: The student is familiar with storing fodder materials	Theoretical: rancidity of fats and oils - digestion of mineral elements - digestion of vitamins Practical: storing fodder materials	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
fourteenth	2 Theoretical 3Practical	Theoretical: a9: The student learns about metabolism - carbohydrate metabolism - fat metabolism Practical: b15: The student is familiar with biological tests	Theoretical: metabolism - carbohydrate metabolism - fat metabolism Practical: biological tests	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions
Fifteenth	2 Theoretical 3Practical	Theoretical: a10: The student learns about protein metabolism, mineral metabolism, and water metabolism Practical: b16: The student is familiar with the type of mixed feed	Theoretical: protein metabolism, mineral metabolism, and water metabolism Practical: type of mixed feed	Theoretical: Visual and auditory methods Explanation and dialogue style Practical: Assignment and report	- Tests. Assignment Discussions

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	20	20%

		Week		
6	Final theoretical test	Theoretical Exam Week	40	40%
	Total		100	100%

12. Learning and Teaching Resources

Required textbooks (methodology if any)	Poultry Feeding Book
Key References (Sources)	Poultry nutrition book
Recommended supporting books and references (scientific journals, reports...)	
E-References , Websites	



Dr. Khaled Hadi Mustafa

Instructor of theoretical subject



Dr. Ahmed Mohamed Thabet Qassem

Instructor of practical subject



Head Of Department




Chairperson of the Scientific Committee

Course description form

1. : Course Name	
Meat science	
2. :Course Code	
MTSC437	
3. Semester/Year: Annual	
First semester / fourth stage / 2023-2024	
4. date Preparation this the description	
2024/4/1	
5. Available forms of attendance:	
My presence	
6. :Number of study hours (total)/number of units (total)	
theoretical hours / 3 practical hours (5 hours) / 3 units 2	
7. Name of the course administrator (if more than one name is mentioned)	
D. Safwan Luqman Shihab Haitham Muhammad Sabeih	
8. Course objectives	
<p>practical</p> <ol style="list-style-type: none"> 1- Identify and learn about different animals and .the most famous breeds 2- Knowing the requirements for any type of production and the ideal conditions that suit .those animals 3- . Field operations necessary for farm animals 	<p>theoretical</p> <ol style="list-style-type: none"> 1- The most important operations performed on a .types of meat 2- Knowing the most important fodder crops that .contribute to a specific type of animal product 3- Knowing the most important animals spread in the region and thus creating programs to raise .them and increase their production 4- Identify the most important nutritional elements .and compounds that animals need
9. Teaching and learning strategies	

practical Assigning group work to reveal leadership skills Assigning tasks and reporting on each breed Utilizing office hours for department professors			theoretical Interactive lecture Dialogue and discussion Reports Study groups		
10. Course structure					
Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	hours	the week
Short exams Assignment of duty discussions	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct practical Assigning tasks And report	theoretical Introduction to meat science Meat production problems practical Devices And tools used in laboratory Meat	theoretical A1 Remember the importance Economics of meat production practical A15 Recognizes devices And tools used in meat laboratory	Theoretical practical 3	1
Short exams Assignment of duty discussions	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct practical Assigning tasks And	theoretical Nutritional value of mea practical the device Structural Th bone Hinge	theoretical C1 Determines nutritional value For meat practical A16 Familiar with the device Skeletal and skeletal Hinge	Theoretical practical 3	2

	report				
Short exams	theoretical	theoretical	theoretical	Theoretical	3
Assignment	Auditory	General composition of	A3Explains fiber	practical 3	
of duty	methods	meat	Muscles and how		
	Writing style	practical	they are formed		
discussions	on the	installation body Animal	practical		
	blackboard		A17Understands		
	Dialogue		the structure of a		
	style Direct		body Animal		
	practical				
	Assigning				
	tasks And				
	report				
Short exams	theoretical	theoretical	theoretical	Theoretical	4
Assignment	Auditory	.Muscle fibres	C2Explains fiber	practical 3	
of duty	methods	Muscle structure	Muscles and how		
	Writing style	practical	they are formed		
discussions	on the	installation body Animal	practical		
	blackboard		A18 Understands		
	Dialogue		the structure of a		
	style Direct		body Animal		
	practical				
	Assigning				
	tasks And				
	report				
Short exams	theoretical	theoretical	theoretical	Theoretical	5
Assignment	Auditory	Muscle tissue proteins	A5 Discusses the	practical 3	
of duty	methods	practical	importance		
	Writing style	Massacres And	Proteins found in		
	on the	laboratories Meat	the body		
	blackboard		practical		
	Dialogue				

discussions	style Direct practical Assigning tasks And report		A19 Learn about massacres And meat factories		
Short exams Assignment of duty discussions	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct practical Assigning tasks And report	theoretical Development of adipose tissue And the factors . affecting it practical rate Netting and factors affecting it	theoretical A6 Explains tissue development Fatty in the body practical A20 the He knows liquidation percentage	Theoretical practical 3	6
Short exams Assignment of duty discussions	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct practical Assigning tasks And report	theoretical Types of skeletal tissues in the animal body and the factors . affecting them practical Analysis Approximate For meat And method Taking . Models	theoretical A7Lists the types of tissues Structure and how it develops practical B2 Knows and understands analysis Approximate meat and method of taking samples	Theoretical practical 3	7
Short exams	theoretical Auditory methods	theoretical the changes occurring in	theoretical A8Explains the	Theoretical practical 3	8

Assignment of duty discussions	Writing style on the blackboard Dialogue style Direct practical Assigning tasks And report	components The body after . slaughter practical The most important technologies used To market beef cattle And the factors affecting it	most important changes Occurring after slaughter practical B3 Explains marketing techniques Cattle and their carcasses		
Short exams Assignment of duty discussions	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct practical Assigning tasks And report	theoretical Throwing stiffness phenomenon and factors affecting it practical Stages of preparing the animal for slaughter And cutting	theoretical A9 Explains the concept of a phenomenon Throwing stiffness practical B4 Explains the animal's conditioning For slaughtering and cutting	Theoretical practical 3	10
Short exams Assignment of duty discussions	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct practical Assigning tasks And	theoretical Characteristics and properties of meat And the factors affecting practical Stages of preparing the animal for slaughter And cutting	theoretical C3 Recognize characteristics And the characteristics of meat practical B5 Shows the animal's condition For slaughtering and cutting	Theoretical practical 3	11

	report				
Short exams	theoretical	theoretical	theoretical	Theoretical	12
Assignment	Auditory	Characteristics and	A11 Recognize	practical 3	
of duty	methods	properties of meat	characteristics		
	Writing style	And the factors	And the		
	on the	affecting it	characteristics of		
	blackboard	practical	meat		
discussions	Dialogue	The most important	practical		
	style Direct	means used for	C4 Explains means		
	practical	transportation	transportation		
	Assigning	sacrifices	sacrifices		
	tasksAnd				
	report				
Short exams	theoretical	theoretical	theoretical	Theoretical	13
Assignment	Auditory	Methods of storing and	A12 Distinguish the	practical 3	
of duty	methods	preserving meat	most important		
	Writing style	And the factors affecting	methods		
	on the	practical	For storage and		
	blackboard	Meat palatability and	preservation		
	Dialogue	the most important	Meat		
discussions	style Direct	factors that determine it	practical		
	practical		C5 Determines the		
	Assigning		most important		
	tasks And		factors Palatability		
	report		meat		
Short exams	theoretical	theoretical	theoretical	Theoretical	14
Assignment	Auditory	Contamination and	B1 Distinguish the	practical 3	
of duty	methods	spoilage in meat And	most important		
	Writing style	the factors affecting it	sources		
	on the	practical	Contamination and		
	blackboard	Discrimination between	spoilage in meat		
	Dialogue	Sacrifices the animals	practical		

discussions	style Direct practical Assigning tasks And report		B5 Describes the distinction between Animal sacrifices		
Short exams Assignment of duty discussions	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct practical Assigning tasks And report	theoretical Contamination and spoilage in meat And the factors affecting it practical Minced meat industry Sausage industry	theoretical C4 Expresses the most important sources Contamination and spoilage in meat practical C5Explains the most important operations Processing of meat	Theoretical practical 3	15

11. Course evaluation

% Relative weight	Class	Calendar date (week)	Calendar methods	T
%13	+ theoretical 7 practical 6	Theoretical (15 weeks My work is 1-15 weeks	+ Theoretical final report practical reports	1
%6	theoretical + 2 4 practical	Week 3	Short test (1)Quiz	2
%15	+ theoretical 10 practical 5	Week 9	Exam theoretical and) .(practical	3
%6	theoretical + 2 4 practical	Week 12) Short test2 (Quiz	4
%20	20	Practical exams week	Final practical test	5
%40	40	The week of theoretical exams	Final theoretical test	6
%100	100	the total		

12. Learning and teaching resources

Meat production and preservation book	Required textbooks (methodology , if any)
	Main references (sources)
	Recommended supporting books and references (scientific journals, reports....)
organized the health Globalism , And organized Food And the medicine American	Electronic references , Internet sites


 م. م. هيثم محمد صبيح
 مدرس المادة العملي




 ا. م. د. صفوان لقمان شهاب
 مدرس المادة النظري


 ا.د. عمر ضياء محمد الملاح
 رئيس القسم


 ا.د. مثنى احمد محمد طيب
 رئيس اللجنة العلمية

Course description form

Course Name .1	
Poultry bird Breeding	
Course Code .2	
POBB429	
Semester/ year .3	
fourth stage 2023–2024 /) autumn(First semester	
Date this description was prepared .4	
2024/2/1	
A. Available attendance forms .5	
My presence	
Number of study hours (total)/number of units (total) .6	
theoretical + 3 practical / 3.5 units 2	
Name of the course administrator (if more than one name is .7 (mentioned	
M. Raghad Naseer Walid :Name M. M. Nahid Sharif Omar	
objectives Course .8	
<p style="text-align: right;">:Practical</p> <p>abling the student to identify the most important es that control productive traits and the etic equivalent values for each trait and benefit n them to determine whether improving the .trait is genetic or environmental</p>	<p style="text-align: right;">Objectives of the study subject :theoretical</p> <p>abling the student to understand and – erstand what is related to raising and improving ltry and its relationship to improving species and .increasing production</p> <p>abling the student to know the most – ortant breeds and hybrids and benefit from it in .improving the species</p> <p>abling the student to become familiar with – .methods of selection and genetic improvement</p> <p>powering the student with the ability to –</p>

		.discover undesirable qualities and improve them student can judge the production of chickens based on – the genes that control them conducting a scientific visit to research centers related – to improvement Poultry and increasing their production and breeding			
Teaching and learning strategies .9					
:Practical adaptation through teamwork to reveal – leadership skills adapting to tasks and taking them out to – fields to learn about the most important types of breeds and hybrids		:My theory Interactive lecture – Brainstorming – Dialogue and discussion – Adapt tasks and reports – presentations of models of chicken – breeds		The strategy	
Course structure .10					
Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	hours	the week
Short exams, assignments, discussions	:My theory auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	:My theory gin and classification of .poultry :practical Poultry classification	student A1 :My theory recognizes the origin ssification of poultry and evolutionary stages logical and genetic . characteristics ntify the :A5 :Practical most important types cken by origin and place tion	2 theoretical Practical	1

Short exams, assignments, discussions	:My theory Auditory methods Use of writing on the blackboard Dialogue style Direct :practical Assigning tasks And report	:My theory Chromosomes :Practical exercises on Mendel's law first (the law of (isolation	A2 :My theory student recognizes chromosomes and identification Chromosomal characteristics .In poultry ects one B8 :Practical pair of es by solving questions for a pair One of the genes	2 Theoretical Practical	2
Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	oretical: the phenotypic expression of genes :Practical etical: exercises on Mendel's law second (distribution (law Al-Mustaffal	ters B1 :Theoretical visual expression es, gene interactions and methods Phenotypic expression ects a B9 :Practical couple of es by solving questions for a couple Of genes	2 Theoretical Practical	3
Short exams, assignments	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct :practical	oretical: Mendelian eritance, lineage, and opinions Mendelian	miliar A3 :Theoretical Mendelian heritance And opinions ndelian ratios and knowledge of the basis ndelian Scientific inheritance and law	2 Theoretical Practical	4

nts, discussio ns	Assigning tasks And report	:Practical General exercises	lation and distribution The Independent ances C4 :Practical exercises on genes deadly		
Short exams, assignme nts, discussio ns	:My theory uditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	oretical: Modifications of Mendelian ratios :Practical Sex-linked genetics	ects C1 :Theoretical ...modifications in ndelian ratios for one pair of o Genes and heredity pairs of genes double prevailing .superiority out C5 :Practical variations exercises . Mendelian ratios	2 eoretical Practical	5
Short exams, assignme nts, discussio ns	:My theory uditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	oretical: Inheritance of sex-linked traits :Practical Sex-linked genetics	etermine B2 :Theoretical the inheritance of traits -related and self- naturalization ve the B10 :Practical chapter questions e third is for an education book And improve poultry	2 eoretical Practical	6

Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	oretical: Inheritance of custom form :Practical Sex-linked genetics	ermine C2 :Theoretical inheritance of the crest form mmon and inherited spurs and deformed legs ances B10 :Practical examples of genetics Sex-related	2 heoretical Practical	7
Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	oretical: Inheritance of qualitative traits in .Chicken :Practical Genetic landmarks	ermine C3 :Theoretical the inheritance of traits Quality in chicken onstrates C6 :Practical estimation of the most important parameters Genetic	heoretical al Practical	8
Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	oretical: Some deformities in the blades .Chicken :Practical Selection experiments	ectsB3 :Theoretical distortions some chicken feathers and parts of ocean feathers Chicken recipes by shape Distribution of chicken alyze EqB11 :Practical etic according to	heoretical al Practical	9

ns			selection experiments		
Short exams, assignments, discussions	<p>:My theory</p> <p>auditory methods</p> <p>Writing style on the blackboard</p> <p>Dialogue style</p> <p>Direct</p> <p>:practical</p> <p>Assigning tasks</p> <p>And report</p>	<p>Theoretical: lethal genes</p> <p>:Practical</p> <p>ilarity between relatives</p>	<p>erns B4 :Theoretical lethal genes .And its classification</p> <p>ulates the C7 :Practical etic equivalent ording to full and half siblings</p> <p>The apartment</p>	heoretic al Practical	10
Short exams, assignments, discussions	<p>:My theory</p> <p>auditory methods</p> <p>Writing style on the blackboard</p> <p>Dialogue style</p> <p>Direct</p> <p>:practical</p> <p>Assigning tasks</p> <p>And report</p>	<p>oretical: Conditional lethal genes</p> <p>:Practical</p> <p>etic and phenotypic correlation</p>	<p>miliar A4 :Theoretical with lethal genes mmon condition in .chickens</p> <p>lyzes B12 :Practical correlation values etic and phenotypic. from account etic and phenotypic correlation values</p>	heoretic al Practical	11
Short exams,	<p>:My theory</p> <p>auditory methods</p> <p>Writing style on</p>	<p>oretical: phenotypic variation</p>	<p>ters B5 :Theoretical phenotypic contrast m defining and</p>	heoretic al Practical	12

assignments, discussions	the blackboard Dialogue style Direct :practical Assigning tasks And report	:Practical Genetic and phenotypic correlation	recognizing contrast .confiscation yzes C8 :Practical correlation values Genetic and phenotypic. In estimation Divergent design		
Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	oretical: Genetic ivalent and methods for estimating it :Practical analyzes correlation values Genetic and phenotypic. Estimated by selection	B6 :Theoretical tered the genetic equivalent mated from And knock the definition of Eq Genetics and methods for nating and calculating it nponent of its .components ulates the C8 :Practical election by estimate .Its components	heoretic al Practical	13
Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	My theory: election :Practical Embroidery education	lains B7 :Theoretical the concept of selection defining election and ntifying the most important .Ways to divide it s model A6 :Practical education in nderstanding traditional cation and its .components	heoretic al Practical	14
	:My theory Auditory methods	oretical: genetic connection	lains B7 :Theoretical e concept of connection	heoretic al Practical	15

Short exams, assignments, discussions	Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	:Practical Outdoor education	m the Genetic nition of genetic association causes and methods of .estimation s outdoor A7 :Practical education in ntify the types and omponents of education .External		
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Course evaluation .11


Distribution of the grade out of 100 according to the tasks assigned to the student, such as .daily preparation, daily, oral, monthly, written exams, reports, etc

Relative % weight	Class	Calendar date (week)	Calendar methods	T
%13	7 theoretical +1 6 practical	My theory for a week (15) My work week (15)	A theoretical final report + a final report on the subject the operation	1
%6	4 Theoretical + al 2Practical	week (3)	Quiz Short test (1)	2
%15	10 theoretical +1 5 practical	week (9)	Midterm test (theoretical and (practical	3
%6	4Theoretical + ical 2Practical	week (12)	Quiz Short test (2)	4
%20	20	Practical exams week	Final practical test	5
%40	40	The week of theoretical exams	Final theoretical test	6
%100	100		the total	


Learning and teaching resources .12

book on raising and improving poultry birds	Required textbooks (methodology, if any)
	Main references (sources)
atures and books published in universities Iraqi	Recommended supporting books and references (scientific journals, reports....)
bsites specialized in raising and improving poultry	Electronic references, Internet sites







School of theoretical subject: M. Raghad Naseer Walid



Practical subject teacher: Lecturer Nahid Sharif Omar



Muthanna Ahmed Muhammed .Head of the Scientific Committee :
Prof .Dr , Tayyab



Prof Dr , omar Daa AL-Malla .Head of the Animal Production Department

Course Description Form

1. Course Name:	
Sheep and goats Production	
2. Course Code:	
SHGP430	
3. Semester / Year:	
Autumn 2023	
4. Description Preparation Date:	
1/2/2024	
5. Available Attendance Forms:	
Presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
75 hours (2 + 3) *15 weeks	
7. Course administrator's name (mention all, if more than one name)	
Name: Prof. Dr. Khalid Hassani Sultan Email: dr.khalid.h@uomosul.edu.iq Name: Sir Wissam Jassim Muhammed Email:	
8. Course Objectives	
Theoretical <ul style="list-style-type: none"> - Enabling the student to understand and comprehend what is related to sheep and Goats nutrition and their relationship to animal production projects and the economic aspect - Enabling the student to become familiar with the breeds of sheep and goats - Enabling the student to know milk production in sheep and goats and the factors affecting it - Enabling the student to know the diseases that affect sheep Goats and methods of processing them. - Enable the student to know how to create a flock of sheep and goats - Enabling the student to know the properties of wool and the factors affecting its production. - Enable the student to know reproduction in sheep and goats and measure reproductive efficiency in addition to the factors affecting the death of embryos. 	Practical <p>Enabling the student to become familiar with the most important field operations related to raising sheep and goats.</p>
9. Teaching and Learning Strategies	
Strategy	<ul style="list-style-type: none"> - Interactive lecture - Brainstorming

- Dialogue and discussion
- Field Training
- Practical exercises
- Field project
- Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First	2Theoretical	A: The student learns an introduction to sheep and goat production	Introduction to sheep and goat production	Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation	Exams, reports, discussions, quizzes
	3 Practical	A11: Learn about the English terms related to sheep and goats	List the foreign terms used in raising sheep and goats	Assigning tasks And report	Assignment of duty discussions
Second	2Theoretical	B1: Enumerates the production systems of sheep and goats	List the foreign terms used raising sheep and goats	Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation	Exams, reports, discussions, quizzes
	3 Practical	B6: Remember the most important appearance and production characteristics of Awassi sheep	Seasonal field operations conducted on sheep and goats	Assigning tasks And report	-short exam -Assignment of duty -discussions
Third	2Theoretical	A2: State the position of sheep in the animal kingdom	The position of sheep in the animal kingdom	Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the	Exams, reports, discussions, quizzes

				student, with the student's evaluation in class participation	
	3 Practical	B7: Determines breeding season	One-time field operations sheep and goats	Assigning tasks And report	-short exam -Assignment of duty -discussions
Fourth	2Theoretical	A3: Learn about reproduction and fertility in sheep and goats	Reproduction and fertility sheep and goats	Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation	Exams, reports, discussions, quizzes
	3 Practical	B8: Determines the best types of weaning in sheep	One-time field operations sheep and goats	Assigning tasks And report	-short exam - Assignment of duty -discussions
Fifth Sixth	2Theoretical	B2: Learn about the breeding season and the influencing factors on him	Breeding season and factors affecting it	Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation	Exams, reports, discussions, quizzes
	3 Practical	A12, B9, C1: remembers parts of the reproductive systems in sheep	A visit to animal production fields	Assigning tasks And report	-short exam -Assignment of duty -discussions
	2Theoretical	A4: The student explains ways to improve the characteristics of fertility and fecundity	Ways to improve fertility and fecundity	Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct	Exams, reports, discussions, quizzes

				dialogue between the teacher and the student, with the student's evaluation in class participation	
	3 Practical	B10: Remembers types of records	Preparations for the vaccination season	Assigning tasks And report	-short exam -Assignment of duty -discussions
Seventh	2Theoretical	A5: Learn about ways to establish and manage a flock of sheep and goats	Establishing and managing a flock of sheep and goats	Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation	Exams, reports, discussions, quizzes
	3 Practical	A13: Explains arbitration in sheep	Preparing for lambing season	Assigning tasks And report	-short exam -Assignment of duty -discussions
Eighth	2Theoretical	A6: Understands methods of raising and feeding sheep and goats	Breeding and feeding methods In sheep and goats	Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation	Exams, reports, discussions, quizzes
	3 Practical	A14: Explains the types of sheep farms	Weaning and its types in sheep	Assigning tasks And report	-short exam -Assignment of duty -discussions
Ninth	2Theoretical	B3: Enumerates feeding methods at different stages of growth	Nutrition at different stages of growth	Audio and visual methods (teaching explanation of the topic)	Exams, reports, discussions, quizzes

				Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation	
	3 Practical	A15: The student learns how to trim the hooves of sheep And goats	Reproductive systems in sheep	Assigning tasks And report	-short exam -Assignment of duty -discussions
Tenth	2Theoretical	A7: Understands milk production in sheep and goats	Milk production in sheep and goats	Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation	Exams, reports, discussions, quizzes
	3 Practical	A16: Enumerates the types of field operations	Records	Assigning tasks And report	-short exam -Assignment of duty -discussions
Eleven	2Theoretical	B4: Explains growth, development, and meat production in sheep and goats	Growth, development and meat production in sheep and goats	Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation	Exams, reports, discussions, quizzes
	3 Practical	A17, C2 shows special field operations in sheep	Arbitration and exhibitions	Assigning tasks And report	
Twelve		A8: Understands the biological	Biological efficiency of meat production	Audio and visual methods (teaching	Exams, reports,

	2Theoretical	efficiency of meat production		explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation	discussions, quizzes
	3 Practical	A18: Distinguish the most important morphological and productive traits among Iraqi sheep	Sheep dwellings and pens	Assigning tasks And report	-short exam -Assignment of duty -discussions
Thirteen	2Theoretical	A9: The student remembers the production of wool and hair in sheep and goats	Wool and hair production	Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation	Exams, reports, discussions, quizzes
	3 Practical	B11: Determines which ewes enter the insemination season	Shear the wool	Assigning tasks And report	-short exam -Assignment of duty -discussions
Fourteen	2Theoretical	A10: The student explains the genetics and improvement of sheep and goats	Genetics and improvement of sheep and goats	Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation	Exams, reports, discussions, quizzes
	3 Practical	B12: Explains the method of shearing wool, distinguishes the	Slaughtering and cutting	Assigning tasks And report	-short exam -Assignment of duty -discussions


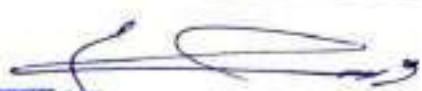

		cuts of the carcass			
Fifteen	2Theoretical	B5: The student shows the future of the sheep and goat industry and intensive production	The future of the sheep and goat industry and intensive production	Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard The method of direct dialogue between the teacher and the student, with the student's evaluation in class participation	Exams, reports, discussions, quizzes
	3 Practical	B12: Explains the benefit of arbitration	A scientific visit to a sheep and goat farm	Assigning tasks And report	-short exam -Assignment of duty -discussions

11. Course Evaluation

Evaluation methods	Evaluation date	degree	Relative weight%
Theoretical final report + practical experience reports	Theoretical 1 – 15 week Practical 1 – 15 week	7 Theoretical + 6 Practical	%13
Quizzes	3 rd week	4 Theoretical + 2 Practical	%6
Theoretical and practical midterm test	9 th week	10 Theoretical + 5 Practical	%15
Quiz	12 th week	4 Theoretical + 2 Practical	%6
Final practical test	Week Final Exam.	20	%20
Final theoretical test	Week Final Exam	40	%40
The total		100	100%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Sheep and Goats Production (book)
Main references (sources)	Sheep Production and Management (2005)
Recommended books and references (scientific journals, reports...)	Sheep and Goats Handbook for Ethiopia (2008)
Electronic References, Websites	NRC National Report Bulletin 2001, 2007

 
Theoretical subject teacher  Practical subject teacher
Prof. Dr. Khalid Hassani Sultan, Mr. Wissam Jassim Muhammed

 
Chairman of the Scientific Committee Head of the Animal Production
Department

Prof. Dr. Muthanna Ahmed M. Tayyib, Prof. Dr. Omar D. Muhammad

Course Description Form Computer applications4

1. Course Name:	
Computer applications4	
2. Course Code:	
COMA401	
3. Semester / Year:	
First semester/fourth stage/2023–2024	
4. Description Preparation Date:	
1/9/2023	
5. Available Attendance Forms:	
Blended learning (Attendance + Electronic)	
6. Number of Credit Hours (Total) / Number of Units (Total):	
3 practical hours/1.5 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Najla Matti Isaac Email: najla.matti@uomosul.edu.iq	
8. Course Objectives	
Course Objectives	<ul style="list-style-type: none"> Enable the student to become familiar with the SAS statistical program and its applications in agricultural experiments. Enable the student to know and understand programs in the SAS language and apply the steps and procedures followed to use the SAS statistical program in analyzes of agricultural experiments. Enabling the student to write programs in the SAS language for various agricultural and scientific experiments. Providing the student with the skills of dealing with data types when writing programs in the SAS language. Enabling the student to correct grammatical and linguistic errors that appear when implementing programs written in the SAS language Enable the student to read, understand and interpret the results and outputs of implementing programs written in SAS.

9. Teaching and Learning Strategies

Strategy	<ul style="list-style-type: none"> - Interactive lecture - Brainstorming - Dialogue and discussion - Field Training - Practical exercises - Field project - Self-education
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3 practical	A1: Introducing the student to the SAS program, its importance and its use in statistical analysis of data and the tools available in it.	What is the SAS program - storing and retrieving information - modifying and programming data - writing reports - statistical analysis - processing records	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
2	3 practical	B1: The student learns about the windows of the SAS program, the purpose of each window, and how to deal with them, and is familiar with the general matters that people who want to use the SAS program should have for the purpose of statistical analyses.	SAS windows - writing and loading the program window - program execution steps window - results window. Who uses SAS software? Why SAS- General matters that people who want to use SAS software for the purpose of statistical analysis should have in mind.	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
3	3 practical	C1: Able to know, understand and practically apply the general steps of writing a SAS program.	General steps for writing a SAS program.	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
4	3 practical	D1: is able to know, understand, and practically apply the use of functions, their importance, and formulas for using them in writing a program in the SAS language.	Functions	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
5	3 practical	D2: Able to know, understand, and practically apply new	Create new data from an input data set using	Interactive lecture, brainstorming, dialogue and	Quiz, practical test, Homework,

		data from the input data set using mathematical operations or functions and the formulas for using them in writing a program in the SAS language.	mathematical operations or functions.	discussion, practical exercises, and self-learning.	semester test, Final test.
6	3 practical	D3: Able to know, understand and practically apply to create data using conditional IF statements and the formulas for using them in writing a program in the SAS language.	- Generate data using IF conditional statements. + scientific visit.	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
7	3 practical	D4: Able to know, understand and practically apply the use of conditional statements to delete data from a data set and the formulas for using them in writing a program in the SAS language.	- Using conditional statements to delete data from the data set in the program + Semester exam 1	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
8	3 practical	D5: Able to know, understand, and practically apply sorting and arranging data and the formulas for using them in writing a program in the SAS language	- Sorting and arranging data Use the PROC SORT statement	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
9	3 practical	D6: Able to know, understand, and practically apply to find a one-way and two-way frequency distribution tables and their use formulas in writing a program in the SAS language.	- Applications in descriptive statistics - One-way frequency distribution table - Two-way frequency distribution table PROC FREQ	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
10	3 practical	D7: Able to know, understand, and practically apply to find average and dispersion measures and formulas for using them in writing a program in the SAS language.	-Measures of mediation and measures of dispersion. PROC MEANS	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.

11	3 practical	D8: Able to know, understand and practically apply T-test formulas and their use in writing a program in the SAS language	- Test of means and analysis of variance - t-test	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
12	3 practical	D9: Able to know, understand and practically apply to find the analysis of variance table for balanced data and the formulas for using it in writing a program in the SAS language.	- Analysis of variance formula PROC ANOVA-	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
13	3 practical	D10: Able to know, understand, and practically apply to find a variance analysis table for unbalanced data and formulas for using it in writing a program in the SAS language.	PROC GLM + Semester exam 2	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
14	3 practical	D11: Able to know, understand and practically apply to find the correlation coefficient and the formulas used in writing a program in the SAS language	PROC CORR correlation coefficient formula	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.
15	3 practical	D12: Able to know, understand and practically apply to find the regression equation and formulas for using it in writing a program in the SAS language	PROC REG REGRESSION FORMULA	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz, practical test, Homework, semester test, Final test.

11. Course Evaluation

12. Course Evaluation				
t	Evaluation methods	Evaluation date (one week)	Grade	Relative weight %
1	Final theoretical report + theoretical practical reports	Theoretical 15 weeks Practical 1-15 weeks	7theoretical + 6 practical	13%
2	Short test 1 Quiz	3 weeks	4theoretical + 2practical	6%
3	Midterm exam (theoretical and practical)	9 weeks	10theoretical + 5 practical	15%

4	Short test 2 Quiz	12 weeks	4 theoretical + 2 practical	6%
5	Final practical test	practical exams week	20	20%
6	Final theoretical exam	theoretical exams week	40	40%
	The total		100	100

13. Learning and Teaching Resources

Required textbooks (curricular books, if any)	A curriculum was prepared by computer professors at the college based on the SAS software guide.
Main references (sources)	<ul style="list-style-type: none"> - SAS software guide - A Handbook of Statistical Analyses using SAS. (authors: Geoff Der and Brian S. Everitt) Data analysis using the SAS statistical program, written by Dr. Firas Rashad Al-Samarrai
Recommended books and references (scientific journals, reports...)	Statistical analysis using the SAS package, prepared by: Abdullah Al-Shahrani
Electronic References, Websites	https://www.sas.com/en_sg/training/offers/free-training.html https://video.sas.com/detail/videos/how-to-tutorials https://www.udemy.com/course/sas-programming-for-beginners https://sascrunch.com/courses/sas-base-programming-for-absolute-beginners-free-version/

Theoretical subject teacher:

Practical subject teacher: Najla Matti Isaac

Chairman of the Scientific Committee:

Head of the Department:

Mathanna Ahmad Mohammed Tayel

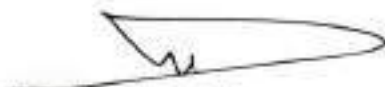
Omar D. Mohammed

Course Description Form


1.	2. Course Name:					
	Pasture management					
3.	4. Course Code:					
	PAMA432					
5.	6. Semester / Year:					
	The first course 2023–2024					
7.	8. Description Preparation Date:					
	2024 9–1					
9.	10. Available Attendance Forms:					
	My presence					
11.	12. Number of Credit Hours (Total) / Number of Units (Total)					
	Two hours my theory , Two hours of work					
13.	14. Course administrator's name (mention all, if more than one name)					
	Name: salim abdulla Younis Email: salimalghazal@uomosul.edu.iq Name: Khaleel Ibrahim Khaleel Email: khaleelibk@uomosul.edu.iq					
15.	16. Course Objectives					
	Practical: Enabling the student to identify the most important pastoral plants The types of natural pastures and methods of protecting and appreciating them Its payload and exploitation			Heoretical Enable understanding and assimilation of pasture management material Enabling the student to know the most important ways to protect natural pastures Enabling the student to become familiar with the most important types of natural pastures Enabling the student to detect and know the palatability of pasture plants The student can judge the quality of pasture plants		
17.	18. Teaching and Learning Strategies					
	Practical: Assigning group work to reveal leadership skills Assigning tasks and a report for each field visit			theoretical Interactive lecture Brainstorming Dialogue and discussion Assigning tasks and reporting View examples of forage crop plants		
19.	20. Course Structure					
We ek	Hours		Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 heoretical 3 ractical	a1 a6	It adopts special ideas in the management of natural pasture and its relationship with other sciences . Compares different samples of pasture plants	Theoretical: The importance of pastures Practical botanical description For plants of the Poaceae family	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasks And report	Short exams, assignments, discussions
2	2 heoretical 3 practical	a2 a7	Identify the most important causes of pasture degradation Determine which plants are more toxic	Theoretical: Types of pasture Practical: botanical description For the leguminous fam	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning t And report	Short exams, assignments, discussions
3	2 heoretical	a3	He compares the factors affecting the growth of pastures and compares these factors and their effect on plants.	Theoretical: Factors affecting NPT Pastures . Practical: technical methods of	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning	Short exams, assignments, discussions

	3 practical	a8	Differentiates between poisonous plants and others .	measurement Pastures grew .	tasksAnd report	
4	2 heoretical 3 practical	a4 a9	It gives examples of the extent which pastures are vulnerable to degradation . Classifies which types of plants are most suitable for growing pastures	Theoretical: Grazing areas in Iraq . Practical: measuring quantitative traits .	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report	Short exams, assignments, discussions
5	2 heoretical 3 practical	a5 a10	Finds ways to protect natural pastures and can be applied to the pastures of Nineveh Governorate . Distinguish between toxic and non-toxic plants	Theoretical: Physiology of fodder plants part One . Practical: measuring qualitative characteristics .	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report	Short exams, assignments, discussions
6	2 heoretical 3 practical	b1 b3	It carries out the most important steps to identify the most important leguminous plants common in natural pastures . Gives examples of plants and which plants are most exposed to grazing .	Theoretical : physiology of pasture plants These . Practical: grazing systems and pastures	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report	Short exams, assignments, discussions
7	2 heoretical 3 practical	b2 b4	It implements the most important special recommendations in cultivating the most important common grass plants in natural pastures . Determines the types and quantities of toxins found in pasture plants	Theoretical: Animal management in pastures Practical: salting	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report	Short exams, assignments, discussions
8	2 heoretical 3 practical	c1 b5	Distinguish between the most important factors through which pasture germination can be improved Distinguish the types of animals	Exploiting pasture Practical: Animal behavior, part one	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report	Short exams, assignments, discussions
9	2 heoretical 3 practical	c2 b6	Selects the most important poisonous grazing plants found in . natural pastures describes different types of plants to grow in pastures	Theoretical: pasture exploitation, part two Practical: methods for measuring exploitation Pasture	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report	Short exams, assignments, discussions
10	2 heoretical 3 practical	d1 b7	Identifies the most important harmful plants in natural pastures . He carries out various samples of pasture plants to determine their suitability for animal feed .	Theoretical trend of pasture condition Practical: methods of measuring condition Pasture	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report	Short exams, assignments, discussions
11	2 heoretical 3 practical	d2 c3	Explains some of the benefits of natural pastures Carrying out samples of pasture plants	Theoretical: animal load Practical: Methods of measuring animal load	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report	Short exams, assignments, discussions

12	2 heoretical	d3	It explains the extent to which humans benefit from pastures and the ways to benefit .	Theoretical: cladding	Auditory methods	Short exams, assignments, discussions			
	3 practical	c4	from them Write a report on toxic and non-toxic plants	Practical: cladding methods	Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report				
13	2 heoretical	d4	Supports the protection and revitalization of pastures and methods for measuring their growth	Theory: harmful plants	Auditory methods	Short exams, assignments, discussions			
	3 practical	c5	Distinguish between harmful and harmless plan	Practical: getting to know each other Harmful plants in pastures	Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report				
14	2 heoretical	e1	Recognizes the environmental biological risks that affect pasture safety	A field visit to one of the pastures	Auditory methods	Short exams, assignments, discussions			
	3 practical	d5	Explain why some plants are declining pasture	Natural Practical: identifying plants For natural pastures	Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report				
15	2 heoretical		He decides to use one of the methods to protect pastures	Theoretical: A field visit to artificial pastures	Auditory methods	Short exams, assignments, discussions			
	3 practical		Trying out some growing plan	Practical: Solve a problem	Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report				
16		Course Evaluation							
Relative weight		Degree		Calendar appointment is one week		Calendar methods		Sequ	ence
13 %		7 Theoretical 6 practical		My theory is week 15		A theoretical final report Practical experience reports		1	
6 %		7 Theoretical 6 practical		Practical 1-15		Short test 1 Quiz		2	
15 %		4 Theoretical 2 practical		Week 3		Midterm Exam		3	
6 %		10 Theoretical 5 practical		Week 4		Short test 1 Quiz		4	
20 %		20		Week 9		Final practical test		5	
40 %		40		Practical exams week		Final theoretical test		6	
100 %		100		The week of theoretical exams					
17		Learning and Teaching Resources							
		Required textbooks (curricular books, if any)			Fodder crops and pastures, Muhammad Sayed Radwan Abdullah Qasim Al-Fakhri				
		Main references (sources)							
		Recommended books and references (scientific journals, reports...)			Cops and Forage Archives				
		Electronic References, Websites			ICARDA, Arab Organization for Agricultural Development				



Theoretical subject teacher



Practical subject



Head Of Department



Chairperson of the Scientific Committee

Course Description Form

Course Name .1	
Management and production of poultry birds	
Course Code .2	
PBPM432	
Semester/ year .3	
First semester, fall 2024	
Date this description was prepared .4	
2024/2/1	
A. Available attendance forms .5	
My presence	
Number of study hours (total)/number of units (total) .6	
theoretical + 3 practical / 3.5 units2	
Name of the course administrator (if more than one name is mentioned) .7	
Name Nawaf Gazi Abuud nawaf.gazi@uomosul.edu.iq	
Name khalid hadi mustafa khmm9191@uomosul.edu.iq	
objectives Course .8	
<p>:practical</p> <p>roducing the student to the types of poultry and – 1 their breeds .Teaching the student how to manage it –2 Teaching the student modern means of production –3</p>	<p>:theoretical</p> <p>able the student to identify poultry, their –1 .types and classification the student to recognize the importance –2 .of poultry production aching the student the correct scientific –3 foundations of education .And poultry production abling the student to know how to make –4 the most of it .From poultry production</p>
Teaching and learning strategies .9	
<p>:practical</p> <p>.Applied practical training in the poultry field –1 .Dialogue and discussion –2 .Writing reports –3</p>	<p>:theoretical</p> <p>.Interactive lecture –1 .Explanation and clarification –2 .Brainstorming –3 .Dialogue and discussion –4</p>

Course structure .10

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	hours	the week
Exams Assignment of duty discussions	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	:theoretical The concept of managing and caring for poultry projects :practical Types of poultry birds – the importance of poultry production	:theoretical The :a1 student is to introduced the concept of managing and caring for poultry projects :practical The :b5: student distinguishes the types of poultry birds – the importance of poultry production	2 Theo retic al 3Pra ctical	the first
Exams Assignment of duty discussions	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	:theoretical The economic importance of poultry projects :practical Poultry classification – scientific classification – economic classification – geographical classification	:My theory The A2: student learns about the economic importance of poultry projects :practical The B6: student explains the classification of poultry – scientific classification – economic classification – geographical	2 Theo retic al 3Pra ctical	the second

			classification		
Exams Assignment of duty discussions	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	:theoretical Types of poultry housing and requirements for their construction :practical The importance of poultry products and their types	:theoretical The A3: student learns about the types of poultry houses and the requirements for their construction :practical The B7: student enumerates the importance of poultry products and their types	2 Theo retic al 3Pra ctical	the third
Exams Assignment of duty discussions	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	:theoretical Environmental factors affecting poultry farming and production :practical Poultry housing – types of housing – site selection conditions	:theoretical The A4: student learns the about environmental factors affecting the raising and production of poultry :practical The B8: student explains poultry housing – types of housing – conditions for choosing a site	2 Theo retic al 3Pra ctical	the fourth
Exams	Theoretical: visual and	:theoretical	:theoretical	2	Fifth

Assignment of duty discussions	auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	With breeding supplies in poultry fields :practical Poultry field supplies – manholes and their types – feeders and their types	The A5: student is familiar with the requirements for rearing in poultry fields :practical The B9: student enumerates the requirements for poultry fields – manholes and their types – feeders and their types	Theoretical 3Practical	
Exams Assignment of duty discussions	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	:theoretical The student chooses eggs suitable for hatching :practical Heating, cooling, ventilation and lighting means in education halls	:theoretical The B1: student experiences hatching and hatchery management :practical Shows B10: the means of heating, cooling, ventilation and lighting in education halls	2 Theoretical 3Practical	VI
Exams Assignment of duty discussions	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	:theoretical Methods and management of broiler crosses :practical The appropriate environmental	:theoretical The :a6 student learns about the methods and management	2 Theoretical 3Practical	Seventh

		factors that must be provided ,for raising poultry (ventilation lighting, ,Humidity ,the heat (brush	of broiler hybrids :practical Shows B11: the appropriate environmental factors that must be provided for raising poultry ,ventilation) ,the heat ,Humidity lighting, (brush	ctical	
Exams Assignment of duty discussions	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	:theoretical Methods and management of Field _ laying hen crosses project :practical Hatching methods – types of hatcheries – specifications of eggs suitable for hatching – hatching components – field project	:theoretical The :a7 student learns about methods and management of laying hen crosses Field project_ :practical The B12: student enumerates hatching methods – types of hatcheries – specifications of eggs suitable for hatching – components of hatching – field project	2 Theo retic al 3Pra ctical	VIII
Exams	Theoretical: visual and	:theoretical	:theoretical	2	Ninth

Assignment of duty discussions	auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	Forced moulting and methods of performing it :practical Methods of preparing poultry halls to receive a new meal of chicks – a field project	The :a8 student understands the compulsory pruning and the methods for performing it :practical The B13: student explains the methods of preparing poultry halls to receive a new meal of chicks a field – project	Theo retic al 3Pra ctical	
Exams Assignment of duty discussions	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	:theoretical Management of broodstock, eggs and commercial flocks :practical Broiler management – poultry meat production – factors affecting it	:theoretical The :b2 student distinguishes between the management of broodstock, eggs, and commercial flocks :practical shows the :c3 management of broilers – poultry meat production – the factors affecting it	2 Theo retic al 3Pra ctical	The tenth
Exams Assignment of duty discussions	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks	:theoretical Poultry flocks from heat stress :practical Management of laying hens –	:theoretical :b3 Preserves poultry flocks from heat	2 Theo retic al	elev enth

	and reporting	egg production in poultry – factors affecting it	stress :practical It explains C4: the management of laying hens egg – production in poultry – the factors affecting it	3Practical	
Exams Assignment of duty discussions	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	:theoretical Administrative measures to enhance the health and immunity of birds :practical Management of maternal : flocks – reproduction – fertility factors affecting fertility –	:theoretical The :b4 student employs some management procedures to enhance the health and immunity of birds :practical shows :c5 the management of maternal flocks – reproduction – fertility – factors affecting fertility	2 Theoretical 3Practical	twelfth
Exams Assignment of duty discussions	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	:theoretical Methods of managing and raising turkeys, ducks and geese :practical Health care – vaccination process and methods	:theoretical The A9: student distinguishes between methods of managing and raising turkey chickens, ducks, and	2 Theoretical 3Practical	Thirteenth

			geese :practical The C6: student explains health care – the vaccination process and its methods		
Exams Assignment of duty discussions	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	:theoretical Breeding, management and production of poultry flocks – a field project :practical Massacres – stages of the carrot operation – a field project	:theoretical The C1: student documents data on raising, managing, and producing poultry flocks Field project_ :practical The :c7 student explains the massacres – the stages of the massacre process Field project_	2 Theo retic al 3Pra ctical	fourt eenth
Exams Assignment of duty discussions	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	:theoretical Feeding poultry flocks :practical Keeping and organizing records	:theoretical The C2: student prepares rations for feeding poultry flocks :practical The C8: student demonstrates keeping and organizing records	2 Theo retic al 3Pra ctical	Fiftee nth

Course evaluation .11				
Relative % weight	Class	Calendar date (week)	Calendar methods	T
%13	theoretical + 6 7 practical	My theory is week 15 My work week is 1-15	Theoretical final report + practical experience reports	1
%6	theoretical + 2 4 practical	week (3)	Quis Short test (1)	2
%15	theoretical + 5 10 practical	week (9)	Midterm test (theoretical (and practical	3
%6	theoretical + 2 4 practical	week (12)	Quis Short test (1)	4
%20	20	Practical exam week	Final practical test	5
%40	40	Theory exam week	Final theoretical test	6
%100	100	the total		
Learning and teaching resources .12				
Poultry Production Dr. Suhaib Abdel Razzaq, 1985 Ministry of Higher Education and Scientific Research - University of Baghdad Management of broilers, written by Dr. Saad Abdel Hussein Naji, 2006, College of Agriculture / University of Baghdad - technical bulletin affiliated with the Poultry Sciences Association Management of laying hens, written by Dr. Saad Abdel Hussein Naji, 2007, College of Agriculture - University of Baghdad - Technical Bulletin of the Association I go crazy Aldo Sciences Management of broiler breeders, written by Dr. Saad Abdel Hussein Naji, 2008, College of Agriculture - University of Baghdad - affiliated technical bulletin med, Iyad Shehab and others. 2021. Management and - 5 For the Poultry Science Association production of poultry birds. University of Kufa			described books required Methodology) (If any	
Poultry Production Dr. Suhaib Abdel Razzaq, 1985 Ministry of Higher Education and Scientific Research - University of Baghdad Al-Zajjaji, Reda Jawad and Ismail Khalil Ibrahim 1981. Hatching and hatchery management. .First edition, University of Baghdad Al-Yassin, Ali Abdel-Khaleq and Muhammad Hassan Abdel-Abbas. 2010. Feeding poultry .birds, University of Baghdad Management of broilers, written by Dr. Saad Abdel Hussein Naji, 2006, College of Agriculture / University of Baghdad - technical bulletin affiliated with the Poultry Sciences Association Management of laying hens, written by Dr. Saad Abdel Hussein Naji, 2007, College of Agriculture - University of Baghdad - Technical Bulletin of the Association Poultry science Management of broiler breeders, written by Dr. Saad Abdel Hussein Naji, 2008, College of Agriculture - University of Baghdad - Technical Bulletin of the Poultry Science Society Guide to biosecurity in poultry farming in the Middle East and North Africa			in references (sources)	
Iraqi academic scientific journals ,Sources: Naji, Saad Abdel Hussein. 1999. Guide to raising broilers ,Hyline Company ,Arab Food Organization guide to raising laying hens			Recommende d supporting books and references scientific) journals, (....reports	

https://www.hyline.com/userdocs/pages/BRN_COM_ARB.pdf Broiler Breeding Guide, Inc http://en.aviagen.com/brands/ross/products/ros ,Aviagen Lohman Company's Guide to Raising Chickens http://www.ltz.de/en/downloads/management , Whiteness 1. https://www.wikiwand.com 2. https://www.thepoultrysite.com/ 3. https://www.cobb-vantress.com/en_US/ https://www.bigdutchman.com/en/egg-production/products	electronic ,references Internet sites
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Theoretical subject teacher:
L. nawaf Gazi Abuud



Practical subject teacher:
L. Khaled Hadi Mustafa




Chairman of the Scientific Committee:
A. Dr. Muthanna Ahmed Muhammad Tayyib



Head of Department:
A. Dr., Omar Dhiaa Muhammad

Molecular Biology Course Description

1. Course Name:
Molecular Biology
2. Course Code:
MOBI435
3. Semester/ Year: Annual
Second Semester / Fourth Stage / 2023–2024
4. Date of preparation of this description
1/2/2024
5. Available Attendance Forms:
Came
6. Number of credit hours (total) / number of units (total):
2 hours theoretical / 3 hours practical (5 hours) / 3.5 units
7. Course administrator's name (if more than one name)
Assoc. Prof. Ghadeer Abdel Moneim Mohamed ghadeer_abd@uomosul.edu.iq L. Rowaida Zuhair Younis rwaida_al_gha@uomosul.edu.iq
8. Course Objectives
<p>The learner should be able to describe the animal cell and identify its molecular components from the nucleus, its membrane, cytoplasm and other contents.</p> <p>Study the functions of cell components and organelles.</p> <p>differentiating between types of DNA and RNA,</p> <p>Identify genetic material (DNA), its components and molecular structure, distinguish between garden types and their divisions according to the type of planning</p> <p>Familiarity with the ways in which substances pass through the cell membrane</p> <p>monstrates cell reproduction methods</p> <p>omprehensive study of RNA (and its types</p>
9. Teaching and learning strategies
<ul style="list-style-type: none"> - Interactive Lecture - Brainstorming - Dialogue and discussion - Field Training

- Practical exercises
- Field Project
- Self-learning

10. Course Structure

The week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theoretical	A1: Recognize molecular biology and describe the cell and its types	An overview of the concept of molecular biology and an introduction and definition of cell description and its types	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester1 exam, final exam
	3 Practical	A1: To learn about the microscope, identify its types, the difference between microscopes, and how each type works	General information about the microscope and its types and to identify its importance in the examination of all samples that the microscope is used to detect and identify it and know the parts of the microscope through the identification and dealing with the microscope	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Practical quiz1
2	2 Theoretical	A2: Differentiates between DNA and RNA E1: contributes to the identification of the cell nucleus and its components	The nucleus and its components, nitrogenous bases and how to reproduce nucleic acids	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester1 exam, final exam
	3 Practical	A1: Introduce the student to what a cell is, what it consists of, what types of cells in the body and how they perform their functions within the body	Providing the opportunity for the student to examine with light microscopy to identify the cell and its contents, as well as to identify its types through the examined samples of cell types taken from various tissues, and to identify their functions.	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Practical quiz
3	1 Theoretical	A2: Recognizes the cytoplasm and identifies the types of cytoplasmic reticulum	Definition of cytoplasm, cytoplasm,	Interactive lecture, brainstorming, dialogue and discussion, self-	Semester1 exam, final exam

			cytoplasmic reticulum and their types and colgi bodies	learning	
	3 Practical	A2 : The student's knowledge of the types of tissues in the animal's body	The student's knowledge of the types of tissues in the animal's body	Interactive lecture, brainstorming, dialogue and discussion, field training, self-learning	Practical quiz
4	1 Theoretica l	A2: Determines the role of mitochondria in energy production and familiarity with the role of lysosomes and peroxisomes	Energy production and the role of lysosomes, peroxisomes and central bodies	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester1 Exam, Final Exam, Report
	3 Practical	A3: Introducing the student to what is connective tissue, what are its types, and what is meant by muscle tissue	Introducing the student to the types of connective tissue as well as muscle tissue	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Short practical test, report
5	1 Theoretica l	A1: Familiarize themselves with the ways in which substances cross the cell membrane	Methods and steps of crossing substances through the cell membrane	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester1 Exam, Final Exam, Report
	3 Practical	A5: Knowing what blood is, what is compounded and what are the types of blood cells	Introducing the student by examining blood samples with a light microscope and identifying the types of blood cells	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Semester Practical Test 1
6	1 Theoretica l	A1: Defines what osmosis is and the most important benefits of the sodium-potassium pump-	Crossing materials by osmosis and explaining the benefits of sodium-potassium pump -	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Quiz, Final Quiz
	3 Practical	A1: The student knows what the cell cycle is and when interphase occurs	Introduce the student to the cell cycle by displaying slides that show the cell cycle and clarify the cell interphase,	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Practical quiz with report
7	1 Theoretica l	A1: Recognizes cellular ingestion, drinking and cellular vomiting	Crossing large molecules through the cell membrane through ingestion, cellular drinking, and cellular vomiting	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester2 exam, final exam
	3 Practical	B3: Introducing the student to the concept of cell division, what it means, and how the process of division of the nucleus and cytoplasm takes place.	Explain and introduce the student to how the process of cell division, which includes the division of the nucleus as well as the division of the cytoplasm, is carried out by showing illustrative images of these divisions processes.	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, field project, self-learning	Practical quiz with report

8	1 Theoretical	A2: Efficient transport methods explained	The most important effective mobile methods	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester2 exam, final exam
	3 Practical	A1: The student knows how cells are multiplied and identify the types of cells	Introducing the student to the process of cell proliferation through light microscopy as well as slideshows that illustrate the process of cellular reproduction in the tissue	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Practical quiz with report
9	1 Theoretical	A1: Defined on energy	Stages of cellular respiration and energy production	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester2 exam, final exam
	3 Practical	A1 : The student knows how cell division is done and identify its types	After the student knows the process of reproduction of cells, it is necessary to know how this is done and what are the steps gradually for this process through the division and reproduction of all the contents of the cell, as well as the reproduction of the genetic material in it, which is the clone of DNA, RNA .	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Semester Practical Test 2
10	1 Theoretical	A1: Material-level phosphorylation	Phosphorylation at the material level	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester Exam2
	3 Practical	A1: Introduce the student to the phases of mitosis that occur in the cell.	The importance of introducing the student to the phase of mitosis of the cell through the presentation of explanatory posters for this process and the need for the student to know the important changes that occur to the cell in this phase.	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Practical quiz
11	1 Theoretical	A1: Identify the chemical composition of substances involved in cell structure	Types of chemicals involved in the structure of a living cell	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Final Exam
	3 Practical	A1: Introducing the student to cytoskeleton, what it means and how it occurs	The student's knowledge and	Interactive lecture, brainstorming, dialogue	Practical quiz

			distinction of the types of divisions that occur to the cell and how the cytoplasmosis is carried out and the need to know the difference from other divisions.	and discussion, field training, practical exercises, self-learning	
12	1 Theoretical	A1: Identifies carbohydrates and glycogen types	Types of carbohydrates	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Final Exam
	3 Practical	A1 : Identify by the student when meiosis occurs and how	Knowing and realizing the student of the time that In which meiosis occurs and what changes occur in the cell.	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Practical quiz ,report
13	1 Theoretical	B2: Demonstrates cell reproduction methods	Types and methods of cell reproduction	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Final Exam
	3 Practical	A1: Introduce the student to the stages of meiosis and how it is done.	The need for the student to know the meiosis and where it starts, as well as the need to display explanatory posters for that.	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Practical quiz
14	1 Theoretical	A2: Familiarity with the phases of mitosis	Know the phases of mitosis	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Quiz, Final Quiz
	3 Practical	A4: Identify the different phases of meiosis and how those phases are formed	Introduce the student to the different phases of meiosis, how these phases are formed and when they begin.	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Practical quiz , report
15	1 Theoretical	A2: Meiosis Phase Familiarity	The most important phases of meiosis	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Quiz, Final Quiz
	3 Practical	A5 : Introducing the student to the second meiosis and what are its phases	The student's knowledge of the second meiosis, when it begins, what phases it goes through, what differs from previous divisions, and what changes occur to the cell.	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, field project, self-learning	Short practical test with report

11. Course Evaluation

t	Evaluation methods	Calendar date (week)	Grade	Relative weight %
1	Report 1	Fourth week	2.5	2.5
2	Report 2	Fifth week	2.5	2.5
3	Quiz (1)	Sixth week	2	2
4	Quiz (2)	Fourteenth week	2	2
5	Quiz (3)	Fifteenth week	1	1
6	Semester Exam (1)	Sixth week	7.5	7.5
7	Semester Exam (2)	The first week is difficult	7.5	7.5
8	Final theoretical test	Final Semester Exams	40	40
9	Practical field project	Fifteenth week	5	5
10	Field Assessment	Third and fifth week	2	2
11	Practical Quiz (1)	First week	1	1
12	Practical Quiz (2) Quiz	Fourth week	0.5	0.5
13	Practical Quiz (3) Quiz	Fourteenth week	1	1
14	Live drawings and homework	Weeks 6, 8, 9, 10, 11, 12 and 13	5.5	5.5
15	Final Practical Test	Final Semester Exams	20	20
	Total	100	100%	100%

12. Learning and Teaching Resources

Required textbooks (methodology, if any)	
References (sources)	
Recommended books and references (scientific journals, reports...)	There isn't any
Electronic References, Websites	There isn't any



Theoretical Subject Teacher
Assoc. Prof. Ghadeer Abdel Moneim
Mohamed



Practical Subject Teacher
Eng. Rowaida Zuhair Younis



Head Of Department




Chairperson of the Scientific
Committee

Course Description of the Poultry diseases

1.Course Name					
Poultry diseases					
2.Course Code					
PODI434					
3.Term / Year					
Second Semester 2023–2024					
4.Description Preparation Date:					
1/2/2024					
5.A. Available Attendance Forms					
learning in presence					
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. Hanan Waleed Kasim Agwaan Alaa Shamil Fakhri Al-Allaf					
8.Course Objectives					
1-Classification of diseases according to the duration of their spread, causes, and factors that contribute to the occurrence of the disease 2- Identify the different diseases that affect poultry 3-Knowing the diseases that affect poultry, their clinical signs, and methods of treating them					
9.Teaching and Learning Strategies					
1-Methods of using appropriate disinfectants in poultry halls 2- Using insecticides to combat external parasites in poultry 3-Diagnosing diseases in the fields and how to treat them					
10.Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject Name	Learning method	Evaluation Method
1	2 Theoretical	A1: The student understands the disease, infection factors, and clinical signs	Disease and factors Infection and clinical signs	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A7: The student understands nutritional diseases	Nutritional diseases	Laboratory work.	Exams , assignment, discussions.
2		A2: The student understands	Infectious diseases in chickens	Auditory styles,	Exams , assignment,

	Theoretical	infectious diseases in chickens		writing style on the board, direct dialogue style.	discussions.
	3 Practical	C6: The student explains the importance of Vitamins	vitamins	Laboratory work.	Exams , assignment, discussions.
3	2 Theoretical	B1: Shows the student an inflammatory Yolk sac disease and pleuroma disease	yolk cystitis and pulurum disease	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C7: Explain to the student the importance of vitamin A	Vitamin A	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
4	2 Theoretical	C1: Explains to the student Chicken typhoid disease / chicken paratyphoid disease	Typhoid Chicken disease / paratyphoid chicken disease	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C8: Explains to the student's Nutritional requirements for Vitamin A	Nutritional requirements for vitamin A	Laboratory work.	Exams , assignment, discussions.
5	2 Theoretical	A3: The student understands the infectious Chorizoa disease /poultry cholera disease	Infectious chorizorrhea disease /poultry cholera disease	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B5: The student knows the importance of vitamin K	Vitamin K	Laboratory work.	Exams , assignment, discussions.

6	2 Theoretical	C2: Explains the to the student the cases of infection With different E.coli	Diseases caused by E.coli in poultry	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A8: The student learns about the vitamin B group/vitamin B1	Vitamin B group / Vitamin B1	Laboratory work.	Exams , assignment, discussions.
7	2 Theoretical	A4: The student gets to know Granulomatous disease coli in chicken	Colon granulomatous disease in chickens	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C9: The student explains the importance of vitamin B2	Vitamin B2	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
8	2 Theoretical	C3: Explains to the student an Oviduct inflammation /Inflammation of the synovial membrane	oviduct inflammation/synovitis	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C10: Explains to the student the importance of acid Pantothenic	Pantothenic acid	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
9	2 Theoretical	B2: Explain to the student bird syphilis	avian syphilis	Auditory styles, writing style on the board,	Exams , assignment, discussions.

				direct dialogue style.	
	3 Practical	A9: The student understands the importance of biotin	Biotin	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
10	2 Theoretical	C4: Explains to the student an Hepatitis disease	viral hepatitis	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A10: The student learns about folic acid	folic acid	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
11	2 Theoretical	A5: The student learns about Newcastle disease of birds	Newcastle disease of birds	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A11: The student understands the control of infectious diseases and outlets The infection enters the body	Controlling infectious diseases and the entry points for infection into the body	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
12	2 Theoretical	B3: Explains to the student the inflammation of the larynx and trachea	Inflammation of the larynx and bronchus	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

	3 Practical	B6: The student remembers the vitamin B12	Vitamin B12	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
13	2 Theoretical	B4: Explains to the student an Cumboro disease, Bird pox disease	Camboro disease / bird pox disease	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C11: Explains to the student the importance of manganese	manganese	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
14	2 Theoretical	C5: Explains to the student Mark's disease/avian coccidiosis disease	Mark's disease / avian coccidiosis	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A12: The student understands the calcium and phosphorus deficiency	Calcium and phosphorus deficiency	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
15	2 Theoretical	A6: The student understands hemorrhagic enteritis/ Blue crest disease in the birds	Hemorrhagic enteritis/blue crest disease in birds	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

	3 Practical	B7: The student remembers a deficiency of Sodium and chlorine	Sodium and chlorine deficiency	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
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11.Course Evaluation

No.	evaluation methods	Calendar Appointment (Week)	Score	Relative Weight%
1	Midterm test (theoretical and practical)	Week 9	25 Theoretical + 15 Practical	40 %
2	Final Practical Test	Practical Exams Week	20	20%
3	Final theoretical test	Theoretical Exam Week	40	40 %
4	Total		100	100%

12.Learning and Teaching Resources

Required textbooks (methodology if any)	Animal and poultry diseases, written by Dr. Sameh Hedaya Arslan Nizar Jabbar Musleh and Dr. Hisham Abdullah Bash
Key References (Sources)	
Recommended supporting books and references (scientific journals, reports...)	
E-References , Websites	



Alaa Shamil Fakhri Al-Allaf

Instructor of practical subject



Dr. Hanan waleed kasim Agwaan

Instructor of theoretical subject



Head Of Department




Chairperson of the Scientific Committee

Course Description Form

1.Course Name:	
Buffalo Production	
2.Course Code:	
BUPR436	
3.Semester / Year:	
Second season,2023-2024.	
4.Description Preparation Date:	
01/02/2024	
5.Available Attendance Forms:	
Blended learning (theoretical in-person)	
6.Number of Credit Hours (Total),	
30 hours (2 hours theoretical per week),No. of units 2.	
7.Course administrator's name (mention all, if more than one name)	
Name: Mozhir Kadhun Kuaiber Almahdawi Email: mozhir2007@uomosul.edu.iq	
8.Course Objectives	
<p>Course Objectives</p> <p>1.To identify the historical emergence of the buffalo, its classification within the animal kingdom and numbers of buffalo in neighboring countries and its distributed in the world especially the breeds that exist in the Asia and African buffalo.</p> <p>2.To describe the appropriate environment for raising buffalo in the world and types of housing for according to the region in which they are found.Learn about the productivity of buffalo in terms of milk and meat and most important factors affecting them</p> <p>3. To identify most important morphological, physiological and nutritional characteristics of buffalo, as well as the most important modern technologies for feeding and breeding buffalo.</p>	
9.Teaching and Learning Strategies	
Strategy	<p>The main objectives of the strategy in buffalo breeding and production are to develop and improve local buffalo breeds specialized in producing milk and meat with high productivity and adapted to local conditions, in order to achieve increased productivity of milk and meat, improve self-sufficiency, reduce import gaps, and raise the standard of living of small breeders and farmers.</p> <p>The most important challenges facing the development and breeding of buffalo production in Iraq can be summarized in the following points:</p> <ol style="list-style-type: none"> 1.The lack of a database on the distribution of animals in different governorates. 2.The lack of natural pastures with the rise in global prices for feed and its components. 3.The growing phenomenon of climate change and rising temperatures, which has led to creation of new areas attractive to families and disease vectors. 4. The need to increase awareness among small breeders of care methods that are appropriate for new breeds.

5. Accelerated growth in demand for animal products, especially buffalo milk, as a result of the steady increase in population.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 st	Theoretical 2	a1 The student should be to know the basic principles a historical overview of the buffalo origin and and breeding, production of the buffalo.	A historical overview of the buffalo origin and the economic importance of raising and producing of buffalo.	Lectures and reports. Scientific bulletins, PowerPoint	Exams, reports, discussions and quizzes.
2 nd	Theoretical 2	a2 The student will be to know the basic principles of the buffalo's classification position within the animal kingdom and its advantages	Location and classification of buffalo buffalo in the Animal Kingdom. Advantages buffalo breeding, obstacle facing buffalo breeding and its methods of improvement.	Lectures and reports. Scientific bulletins, PowerPoint	Exams, reports, discussions and quizzes.
3 rd	Theoretical 2	a3 The student should be to know about the types of buffalo, the distinctive characteristics of the buffalo and its appearance and production characteristics.	Sections of buffalo, phenotypic and genetic differences between Asian and African buffalo.	Lectures and reports. Scientific bulletins, PowerPoint	Exams, reports, discussions and quizzes.
4 th	Theoretical 2	a4 The student should be to know the basic principles of buffalo breeds spread in Iraq and the Arab world.	Wild and domesticated of buffalo breeds which spreads in Iraq, Arab homeland world and the world.	Lectures and reports. Scientific bulletins, PowerPoint	Exams, reports, discussions and quizzes
5 th	Theoretical 2	b1 The student should be learns about the nature and types of buffalo barns.	Buffalo barns, their types and specifications.	Lectures and reports. Scientific bulletins, PowerPoint	Exams, reports, discussions and quizzes

6 th	Theoretical 2	b2 Through the scientific visit the student should be learns about the manufacture of feeds which its used in feeding and the buffalo diet .	Nutrition and diet of buffalo, a scientific visit to the Erbil feed factory.	Lectures and reports. Scientific bulletins, PowerPoint	Exams,reports, discussions and quizzes
7 th	Theoretical 2	b3 The students should be to learn about the origin of the Iraqi buffalo and its advantages and disadvantages of raising .	The Iraqi buffalo, introduction, advantages, and obstacles to its rearing.	Lectures and reports. Scientific bulletins, PowerPoint	Exams,reports, discussions and quizzes
8 th	Theoretical 2	c1 The student should be to know the principles of meat production, muscle composition and degree of demand for meat.	The meat production of buffalo.	Lectures and reports. Scientific bulletins, PowerPoint	Exams,reports, discussions and quizzes
9 th	Theoretical 2	b4 The student should be to know about the physical characteristics of milk and its productive performance of buffalo.	Milk production, effect of factors on milk production of buffaloes and milk substitutes.	Lectures and reports. Scientific bulletins, PowerPoint	Exams,reports, discussions and quizzes
10 th	Theoretical 2	c2 The student should be to know the basic principles of reproduction and methods for examining pregnancy in female buffalo.	Reproduction in female buffalo and methods for examining pregnancy in female buffalo.	Lectures and reports. Scientific bulletins, PowerPoint	Exams,reports, discussions and quizzes
11 th	Theoretical 2	c3 The student should be to know basic principles of the parts of the male reproductive system and function of each part for male buffalo.	The male reproductive system, its parts and functions for male buffalo.	Lectures and reports. Scientific bulletins, PowerPoint	Exams,reports, discussions and quizzes
12 th	Theoretical 2	c5 The student should be knows the basic principles of raising and caring for buffalo calves.	Caring for buffalo calves and lactation systems for suckling calves.	Lectures and reports. Scientific bulletins, PowerPoint.	Exams,reports, discussions and quizzes

13 th	Theoretical 2	c5 The student knows the basic principles of weaning and fattening systems for buffalo calves.	The weaning and fattening systems for buffalo calves.	Lectures and reports. Scientific bulletins, PowerPoint.	Exams,reports, discussions and quizzes
14 th	Theoretical 2	b5 Students can learn about internal and external parasites that infect buffalo determine the causes and its provide treatment.	Internal and external parasites, causes, symptoms and treatment.	Lectures and reports. Scientific bulletins, PowerPoint	Exams,reports, discussions and quizzes
15 th	Theoretical 2	b6 The student knows the basic principles of common infectious diseases in buffalo.	Common infectious diseases in buffalo.	Lectures and reports. Scientific bulletins, PowerPoint .	Exams,reports, discussions and quizzes

11.Course Evaluation:

No.	Evaluation methods	Evaluation date (week)	marks	Relative weight (%)
1	The first short test Quiz. Theoretical:	Week 4: Theoretical: Short test (1) Quiz.	Theoretical: 2.5	2.5%
2	Monthly exam (1).	Week 9: Theoretical test (1).	Theoretical: 15	15%
3	Second short test Quiz.	Week 11: Theoretical:Short Test (2) Quiz.	Theoretical: 2. 5	2.5%
4	Monthly exam (2).	Week 13: Theoretical test (2).	Theoretical: 15	15%
5	Reports	Week 15 : Submit reports.	Theoretical: 5	5%
6	Quest rate.	Seasonal rates are announced at end of the semester.	Theoretical: 40	40%
7	Final theoretical test.	The week of theoretical exams.	60	60%
8	Total	The final score of the theoretical of final exam at the end of academic year.	100	100%

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc .

12.Learning and Teaching Resources

Required textbooks (curricular books, if any).	<p>1.Buffalo production lectures: Prof. Dr. Mozhir Kadhum Kuaiber / Department of Animal Production ,College of Agricultural and Forestry/University of Mosul, for the year 2023.</p> <p>2.Buffalo breeding and improvement/Professor Samim Fakhri</p>
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	Al-Dabbagh/Animal Production Department College of Agriculture and Forestry/University of Mosul. for the year 2020.
Main references (sources)	<p>1.Production of meat from buffalo/ Dr. Tariq Abdel Wahab Ahmed Daraz. Dr. Adolf Abdel Malak Khair Beshai. Dr. Hassan Bayoumi Abu El-Ela Agricultural Research Center / Animal Production Research Institute / Ministry of Agriculture and Reclamation Territories/Egypt. for the year 2004.</p> <p>2.Buffalo Production /Dr. Hassan Khalil Abdullah /Anglo-Egyptian Library/2003.</p>
Recommended books and references (scientific journals, reports...)	<p>1.Buffalo Health and Production. https://www.frontiersin.org/articles/10.3389/fvets.2021.810923/full</p> <p>2. Journal of Buffalo Science. https://journals.indexcopernicus.com/search/journal/issue?issueId=325199&journalId=64237</p> <p>3.Buffalo Health and Production. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8873098/</p> <p>4.Journal of Dairy Science. https://www.sciencedirect.com/science/article/pii/S0022030209703984</p>
Electronic References, Websites	<p>Buffalo Breeding Research Department/Animal Production Research Institute/Dokki - Giza/Egypt. http://www.arc.sci.eg/InstsLabs/Default.aspx?OrgID=135&TabId=0&NavId=2&lang=ar</p> <p>2. Milk production in buffalo./ Written by Prof. Dr. Natiq Hamid Saleh Al-Qudsi./ College of Agricultural Engineering Sciences.University of Baghdad.Iraq.https://almerja.net/reading.php?idm=45840</p>

Signature:
Prof.Dr.Mozhir Kadhum Kuaiber Almahdawi
Instructor of theoretical subject
Date: / /2024

Signature:
Prof.Dr.Muthanna Ahmed Mohammed Tayeb
Chairman of the Scientific Committee
Date: / /2024



Signature:
Prof.Dr.Omer Dhiyaa Mohammed Al-Mallah
Head of Department
Date: / /2024,

Course description form

1. : Course Name	
Meat production	
2. :Course Code	
MEPR431	
3. Semester/Year: Annual	
First semester / fourth stage / 2023-2024	
4. Date this description was prepared	
2024/4/1	
5. Available forms of attendance:	
My presence	
6. :Number of study hours (total)/number of units (total)	
theoretical hours / 3 practical hours (5 hours) / 3 units 2	
7. Name of the course administrator (if more than one name is mentioned)	
D. Safwan Luqman Shjhab Haitham Muhammad Sabeih	
8. Course objectives	
<p>practical</p> <p>1- Identify and learn about different animals .the most famous breeds</p> <p>2- Knowing the requirements for any type production and the ideal conditions that .those animals</p> <p>3- . Field operations necessary for farm animals</p>	<p>theoretical</p> <p>1- The most important operations performed on a .types of meat</p> <p>2- Knowing the most important fodder crops that .contribute to a specific type of animal product</p> <p>3- Knowing the most important animals spread in the region and thus creating programs to raise .them and increase their production</p> <p>4- Identify the most important nutritional element .and compounds that animals need</p>
9. Teaching and learning strategies	
<p>practical</p> <p>Assigning group work to reveal leadership skills</p> <p>Assigning tasks and reporting on each breed</p>	<p>theoretical</p> <p>Interactive lecture</p> <p>Dialogue and discussion</p>

Utilizing office hours for department professors			Reports Study groups		
10. Course structure					
Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	hours	the week
Short exams Assignment of duty discussions	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct practical Assigning tasksAnd report	theoretical The importance of meat practical The importance of meat in nutrition .Human	theoretical A1 He knows the importance of meat And its connection with other sciences practical A12Recognizes the importance of meat in human nutrition	Theoretical 2 practical 3	1
Short exams Assignment of duty discussions	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct practical Assigning tasks And report	theoretical .Raising beef cattle practical General features of the model Meat animal	theoretical A2 Explains special operations Raising beef cattle practical B3 Knows the gene features For farm animal model	Theoretical 2 practical 3	2

Short exams Assignment of duty discussions	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct practical Assigning tasks And report	theoretical .Beef cattle breeds practical Arbitration schedule	theoretical B1 Distinguishes between breeds Beef cattle practical A13 Explains a table Arbitration is described	Theoretical 2 practical 3	3
Short exams Assignment of duty discussions	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct practical Assigning tasks And report	theoretical .Meat sources practical Field operations	theoretical A3 Tabulates and compares sources Meat practical B4 Recognizes and understands operations Field in fields the animals	Theoretical 2 practical 3	4
Short exams Assignment of duty	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct	theoretical Growth and development of the .body practical Field operations	theoretical A4 Understands the meaning of growth and development in meat animals practical	Theoretical 2 practical 3	5

discussions	practical Assigning tasks And report		B5 Recognizes and understands operations Field in fields the animals		
Short exams Assignment of duty discussions	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct practical Assigning tasks And report	theoretical Factors affecting meat .production practical Field operations	theoretical A5 Discusses the factors affecting Meat production practical C3 Recognizes and understands operations Field in fields the animals	Theoretical 2 practical 3	6
Short exams Assignment of duty discussions	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct practical Assigning tasks And report	theoretical The relationship between live weight .and carcass weight practical Demands of meat . beneficiaries	theoretical C1 Shows the relationship between weight Livestock and carcass weight practical A14 Explains the demands of beneficiaries of meat animals	Theoretical 2 practical 3	7

Short exams Assignment of duty discussions	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct practical Assigning tasks And report	theoretical cattle production program . practical Purebred cattle breeds	theoretical A6 Describes special programs Production of beef cattle practical C5 Explains meat breeds Famous in the world	Theoretical 2 practical 3	8
Short exams Assignment of duty discussions	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct practical Assigning tasks And report	theoretical Methods for measuring efficiency Meat production practical Livestock breeds Dual purpose	theoretical A7 Lists the most important methods Used to measure meat production efficiency practical A15 Expresses and explains about cows Dual purpose	Theoretical 2 practical 3	10
Short exams Assignment of duty	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct	theoretical Changes in the proportions of components The carcass during the growth stage And evolution Distribution difference muscles and bones	theoretical A8 Know the most important Approved variations By distributing muscle and fat practical	Theoretical 2 practical 3	11

discussions	practical Assigning task And report	practical Animal follow-up records The farm	A16 Shows the type of records		
Short exams Assignment of duty discussions	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct practical Assigning tasksAnd report	theoretical Energy and its effect on formation Muscles and factors affecting them practical Weight, feeding and health records of animal The farm	theoretical A9 Discusses the effect of energy on Meat production practical A17 Explains the importance of record Weight and nutrition And health records	Theoretical 2 practical 3	12
Short exams Assignment of duty discussions	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct practical Assigning tasks And report	theoretical Energy and its effect on formation Fat and factors affecting it practical Birth and death report and its importance in meat production projects	theoretical A10 Discusses the effect of energy on Meat production practical B6 Shows the importance of a report Birth	Theoretical 2 practical 3	13
Short exams	theoretical Auditory methods Writing style	theoretical Reproduction in beef ca And the factors affecting practical	theoretical C2 Explains the concept of reproduction in farm animals	Theoretical 2 practical 3	14

Assignment of duty discussions	on the blackboard Dialogue style Direct practical Assigning tasks And report	Measuring the degree of body composition Animal by equations Predictive	practical B8 Explains how to take Body measurements		
Short exams Assignment of duty discussions	theoretical Auditory methods Writing style on the blackboard Dialogue style Direct practical Assigning tasks And report	theoretical The concept of fattening in beef cattle And the factors affecting it practical	theoretical B2 Identify the most important factors Influencing fattening process practical E1 Decide which operations Field follow-up and participation Working in the field	Theoretical 2 practical 3	15

11. Course evaluation

% Relative weight	Class	Calendar date (week)	Calendar methods	T
%13	+ theoretical 7 practical 6	Theoretical (15 weeks) My work is 1-15 weeks	+ Theoretical final report practical reports	1
%6	theoretical + 2 4 practical	Week 3	Short test (1)Quiz	2
%15	+ theoretical 10 practical 5	Week 9	Exam theoretical and) (practical	3
%6	theoretical + 2 4 practical	Week 12) Short test2 (Quiz	4
%20	20	Practical exams week	Final practical test	5

%40	40	The week of theoretical exams	Final theoretical test	6
%100	100	the total		
12. Learning and teaching resources				
Meat production and preservation book			Required textbooks (methodology , if any)	
			Main references (sources)	
			Recommended supporting books and references (scientific journals, reports....)	
organized the health Globalism , And organized Food And the medicine American H			Electronic references , Internet sites	


 م. م. هيثم محمد صبيح
 مدرس المادة العملية




 ا. م. د. صلفوان لقمان شهاب
 مدرس المادة النظري


 ا. د. عمر ضياء محمد الملاح
 رئيس القسم


 أ. د. مثنى احمد محمد طيب
 رئيس اللجنة العلمية

Course Description Form

1. Course Name:					
English Language 4					
2. Course Code:					
ENGL 400					
3. Semester / Year:					
2023/2024					
4. Description Preparation Date:					
01/02/2024					
5. Available Attendance Forms:					
presence					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2 Hours 2 Unit					
7. Course administrator's name (mention all, if more than one name)					
Name: Omar AbdulHameed Al-Kurjia Email : omarkj @uomosul.edu.iq					
8. Course Objectives					
Course Objectives		<ul style="list-style-type: none"> To going on studying the English language in special and scientific language Widening student mind about scientific and literature English vocabularies Helping the students to think and write in English 			
9. Teaching and Learning Strategies					
Strategy		Making use of the electronic available methods alike auditory or the visual in addition to the white board			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2hours Presence	(a1)The student should be able to know the basics of the English language	Practicing English with “ No Place like Home” + Reading out clearly and learning pronunciation + Vocabulary	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
2	2hours	(a2)The student should	Expat Tales : Ian	Electronic lectures,	Exams -

	Presence	be able to know the tenses of the English language	Walker in Chile: Spoken English informal Reading out, Listening, speaking, everyday English	videos, posters and other methods related to learning	Reports Discussions - quiz
3	2hours Presence	(a3)The student should be able to know the rules of the English language	Expat Tales 2 : Thomas Creed in Korea: Language + conversation with students	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions - quiz
4	2hours Presence	(a4)The student should be able to know the basics of the English language	Practicing English with “ The Blind Assassin” + Reading out clearly and learning pronunciation + Vocabulary	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions - quiz
5	2hours Presence	(a5)The student should be able to know the basics of the English language	Starting with Sheep” Dealing with English in Agriculture within different specialties (reading and pronunciation)	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions - quiz
6	2hours Presence	(a6)The student should be able to know the basics of the English language	Language Focus Part 1 English in Agriculture 2 : Homemade butter	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions - quiz
7	2hours Presence	(a7)The student should be able to know the basics of the English language	Conspiracy Theory 1 : The Death of Diana Reading out, Listening, speaking,	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions - quiz
8	2hours Presence	(a8)The student should be able to know the basics of the English language	Two Famous Brands : Starbucks Coffee Reading out, Listening, speaking, everyday English	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions - quiz
9	2hours Presence	(a9)The student should be able to know the basics of the English language	Conspiracy Theory 2 : The Apollo Moon Landings , Reading out, Listening, speaking,	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions - quiz

10	2hours Presence	(a10)The student should be able to know the basics of the English language	Cospiracy Theory 3 : The death of JFK ., Reading out, Listening, speaking, everyday English	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions - quiz
11	2hours Presence	(a11)The student should be able to know the basics of the English language	Apple Macintosh Progressive interaction with students+ feedback+	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions - quiz
12	2hours Presence	(a12)The student should be able to know the basics of the English language	The Kippers” Read, Digest and Analyze”	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions - quiz
13	2hours Presence	(a13)The student should be able to know the basics of the English language	The Coldest & Earliest places on Earth Reading out , Translation to Arabic , learning pronunciation	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions - quiz
14	2hours Presence	(a14)The student should be able to know the basics of the English language	F.R.I.E.N.D.S Past .Reading out , Translation to Arabic , learning pronunciation	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions - quiz
15	2hours Presence	(a15)The student should be able to know the basics of the English language	West was Won . Progressive interaction with students+ feedback+	Electronic lectures, videos, posters and other methods related to learning	Exams - Reports Discussions - quiz

11. Course Evaluation

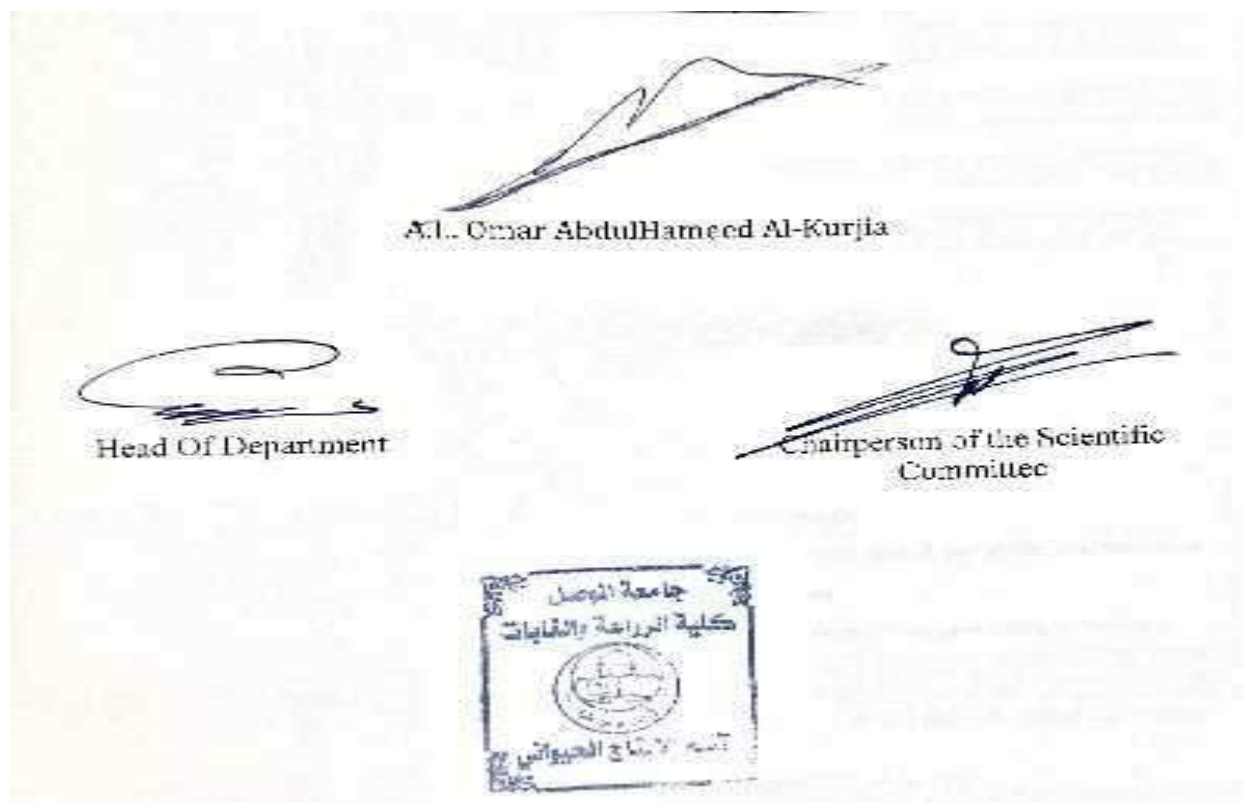
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

No.	Evaluation Methods	Evaluation Date (Week)	Marks	Relative Weight (%)
1	Quiz (1)	Week 4	Theoretical (5)	5
2	Monthly Exam (1)	Week 6	Theoretical (15)	15
3	Quiz (2)	Week 8	Theoretical (5)	5
4	Monthly Exam (2)	Week 13	Theoretical (15)	15
5	Quest rate.	Seasonal rates are announced at the end of the semester.	Theoretical: (40)	40
6	Final Theoretical Test.	The Week Of Theoretical Exams.	60	60
Total			100	100

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	New Headway - English course Upper Intermediate 2020

Recommended books and references (scientific journals, reports...)	New Headway - English course Upper Intermediate 2020
Electronic References, Websites	translate.yandex.com www.reverso.net /The Library Genesis junkybooks / cole13 / pdfdrive



Course description form

1.	: Course name
	Milk cow production
2.	Course Code:
	DACP436
3.	Semester/Year:
	Semester (Spring Semester)
4.	Date this description was prepared:
	1/2/2024
5.	Available forms of attendance:
	in person
6.	Number of study hours (total) / number of units (total):
	hours (2 theoretical + 3 practical) * 15 weeks 75
7.	Name of the course administrator
	M. Nadia Muhammad Bashir (theoretical teacher) M.M. Muhammad Abdel-Ilah (practical teacher)
	A- Cognitive objectives A1- One of the most important goals of the program is to know the most important processes performed on milk A2 - Preparing all requirements for establishing livestock projects by providing him with information related to the implementation of these projects and their administrative and nutritional .organization. Physiologically and economically A3 - Exploiting the different productive capabilities of animals and their interaction with appropriate feed materials to achieve an optimal production level, advance livestock for the better, and meet the market needs as much as possible for livestock products, especially milk, for which there is an increasing demand.
	B - The skills objectives of the course. B1 - Identify and learn about different animals and the most famous breeds in milk production worldwide. B2 - Knowing the requirements necessary for any type of production and the ideal conditions that suit those animals. B3 - Field operations necessary for farm animals.
8.	Teaching and learning strategies
	1- Theoretical lectures (audio, visual, computer-based presentation) 2- Practical lessons. (The student participates in field operations in the college field) 3- Field visits and observing the most important daily field operations that can be performed .on animals 4- .Search the internet

9. Course structure					
Evaluation method	Learning method	Required learning outcomes	the unit or topic	hours	the week
Short exams, assignments, discussions.	Theoretical: audio methods, And visual Brainstorming Direct dialogue Practical: Write a report on College field	Theoretical: a1 The economic importance of dairy cattle. Production and consumption (high milk). Arab and local milk production and consumption. -Factors that led to increased milk production. -Factors that led to a decline in milk production in Iraq. -Advantages and disadvantages of raising cows the milk Practical: c4 A visit to the college fields	The student gets to know Local and global production and consumption	2Theoretical 3 practical	First
Short exams, assignments, discussions.	Theoretical: audio methods, And visual brainstorming style Direct dialogue Practical: describe parts Milk animal body report	Theoretical: a2 Characteristics and advantages of types of dairy cattle Origin of livestock. Types of purebred dairy cattle. Dual-purpose cattle. Livestock in the Arab world. Iraqi livestock Practical: c5 Milk animal model	Recognize and distinguish types Global dairy cattle And local	2Theoretical 3Practical 1	Second
Short exams, assignments, discussions.	audio methods, Writing style on Chalkboard style Direct dialogue Practical: Learn about the most important objecti	Theoretical: a3 Methods of caring for and feeding livestock a To care for pregnancy and dry periods.	Identify and explain to the student Methods of care and feeding Livestock	2Theoretical 3Practical 1	Third

	of arbitration and the tools used	Birth and care of newborn calves and cows. Practical: c5 Livestock arbitration			
Short exams, assignments, discussions.	Auditory method And visual Writing style on Chalkboard style Direct dialogue Practical: Write a report On the importance of exhibitions	Theoretical: c1 Physiology and structure of the digestive system. - The mechanism of work of the digestive system Practical: a11 Exhibitions and their importance	The student recalls digestive system in Livestock	2Theoretical 3Practical 1	Fourth
Short exams, assignments, discussions.	Theoretical: Audio-visual methods Writing style on Chalkboard style Direct dialogue Practical: participates in Animal numbering process In the field, field practice	Theoretical: A4 Breastfeeding methods Methods of artificial feeding Weaning methods Practical: c6 Numbering and its methods	Feeding suckling calves	2Theoretical 3Practical 1	Fifth
Short exams, assignments, discussions.	Theoretical: audio methods, Writing style on Chalkboard style Direct dialogue Practical: attempt to estimate age in animals field in a practical way, Field practice Self-education	Theoretical: A5 Milk composition Factors affecting milk production Properties of milk Practical: d1 Estimate age	The student remembers and enumerates Factors affecting Milk production	2Theoretical 3Practical 1	Sixth

Short exams, assignments, discussions.	Theoretical: audio methods, Writing style on Chalkboard style Direct dialogue Practical: particip in Animal milking In a practical way Self-learning practice Field	Theoretical: A6 Shape and physiology of the udder Practical: A12 Milking methods	The student remembers parts Installation and physiology of the udder	2Theoret ical 3Practica l	Seventh
Short exams, assignments, discussions.	Theoretical: audio methods, Writing style on Chalkboard style Direct dialogue Practical: Write a report on Udder installation	Theoretical: c2 Factors affecting milk production Practical: c7 Installation and physiology of the udder	Milk secretion	2Theoret ical 3Practica l	Eighth
Short exams, assignments, discussions.	Theoretical: Auditory method And visual Writing style on Chalkboard style Direct dialogue Practical: Views and views the records in the field Field practice Self-education	Theoretical: A7 Adjust the milk to 4% fat Laws for adjusting the milk season Laws of perseverance calculation Practical: a13 Records	milk period (calculations)	2Theoret ical 3Practica l	Ninth
Short exams, assignments, discussions.	Theoretical: audio methods, Writing style on Chalkboard style Direct dialogue Practical: Watch and write a report	Theoretical: b1 Laws for calculating fertility rates Practical: d2 Animal habitats	Reproductive efficiency And fertility	2Theoret ical 3Practica l	Tenth

	About housing in the field				
Short exams, assignments, discussions.	:Theoretical Auditory method And visual Writing style on Chalkboard style Direct dialogue :Practical Participates in operations Field by field, field practice	Theoretical: A8 Anatomy of the reproductive organs Practical: c8 Daily operations on the farm	Reproductive organs in Cows	2Theoretical 3Practical 1	Eleven
Short exams, assignments, discussions.	:Theoretical ,audio methods Writing style on Chalkboard style Direct dialogue :Practical Learn about ways to establish a herd	Theoretical: A9 Health care for vaccination bulls Practical: d3 Establishing the herd	Factors affecting fertility in theran	2Theoretical 3Practical 1	Twelfth
Short exams, assignments, discussions.	:Theoretical ,audio methods Writing style on Chalkboard style Direct dialogue :Practical Knows the roads The process of estimating the percentage of fat	Theoretical: a10 Methods of pregnancy screening and embryo transfer Practical: a14 Calculations for estimating the percentage of fat and adjusting jewelry b	Pregnancy examination in cows	2Theoretical 3Practical 1	Thirteen
Discussions and dialogue	:Theoretical ,audio methods Writing style on Chalkboard style Direct dialogue :Practical It solves some issues related to milk season	Theoretical: c3 The origin and production of buffalo Buffalo care and feeding Practical: A15 Calculations to evaluate reproductive efficiency	Economic importance For buffalo	2Theoretical 3Practical 1	Fourteen
He writes a report about what he saw		A scientific trip to one of the animal production fields			Fifteen

during the visit					
10. Course evaluation					
Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc					
	Relative % weight	Class	Calendar date (week)	Calendar methods	T
	%13	7 theoretical + 1 6 practical	My theory for a week (15) My work week (15)	A theoretical final report + a final report on the subject the operation	1
	%6	4 Theoretic + al 2Practic al	week (3)	Quiz Short test (1)	2
	%15	10 theoretical +1 5 practical	week (9)	Midterm test (theoretical and practical)	3
	%6	4Theoret + ical 2Practic al	week (12)	Quiz Short test (2)	4
	%20	20	Practical exams week	Final practical test	5
	%40	40	The week of theoretical exams	Final theoretical test	6
	%100	100		the total	
Milk cattle production 2010			Required textbooks (methodology, if any)		
			Main references (sources)		
Animal Science magazine			Recommended supporting books and references (scientific journals, reports....)		
Agricultural sites specialized in raising dairy cows			Electronic references, Internet sites		

M. Nadia Muhammad Bashir
School subject



Mallah-Omar Diaa Al .Prof. Dr
head of department

Prof .Dr . Muthanna Ahmed Muhmmad Tayyeb

Head of ofientific Committee