Course Description

1.Course Name
Animal Production Health
2.Course Code
ANPH222
3.Term / Year
Autumn Semester 2024-2025
4.Description Preparation Date:
1/9/2024
5.A. Available Attendance Forms
learning in presence and electronic
6.Number of Credit Hours (Total of Units
75 hours 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- Learn about the examinations before and after slaughter 2- Identify methods of animal slaughter and forced slaughter 3- Knowledge of diseases caused by microorganisms in large animals that affect the meat of carcasses Skills objectives for the course 1- Ways to preserve meat for long periods 2- Using different vaccines to maintain the health of animal meat 3- Diagnosing the different microorganisms in meat and how to treat them
9.Teaching and Learning Strategies
- 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	A : The student understands the concepts of health and disease.	Introduction to the concepts of health and disease Definition of meat health and the factors	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .

			affecting it		
	3 Practical	A : The student understands the types of meat and their composition.	Classification, types and composition of meat	Laboratory work.	Exams , assignment , discussions .
2	2 Theoretical	A : The student learns about the types of meat animals	Meat animals and their types	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .
	3 Practical	B : Shows the student the steps for preparing healthy red meat.	Steps to prepare healthy red meat	Laboratory work.	Exams , assignment , discussions .
3	2 Theoretical	C : Explains to the student the factors affecting meat production and how animals are handling before slaughter.	Factors affecting meat production Animal handling before Slaughter	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .
	3 Practical	B : Shows the student the steps for preparing healthy white meat.	Steps to prepare healthy white meat	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .
4	2 Theoretical	A : The student understands how to estimate the age of cattle, sheep, and horses by teeth.	Teeth: : Estimating age by teething in cows, sheep and horses	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .
	3 Practical	A : The student learns about the measures taken to prevent the spread of infectious diseases.	Measures taken to prevent the spread of infectious diseases in animals. Quarantine	Field practice	Exams , assignment , discussions .
5	2 Theoretical	B : Shows the student what factors affect the bleeding process	Bleeding from slaughtered animals, factors affecting the	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .

		in animals.	bleeding process		
	3 Practical	B : The student understands what pre-slaughter tests are	Pre-slaughter examinations	Laboratory work.	Exams , assignment , discussions .
6	2 Theoretical	A : The student understands what emergency slaughter is and the methods of emergency slaughter.	Emergency Slaughter emergency Slaughter Technique Judgment on the Slaughter	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .
	3 Practical	C : The student explains what Health examinations for sheep after slaughter	Health examinations for sheep after slaughter	Laboratory work.	Exams , assignment , discussions .
7	2 Theoretical	A : The student understands how to conduct health checks for animals after slaughter and skinning. Scientific visit	Health checks for animals after slaughter and skinning Methods for examining animals after slaughter	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .
	3 Practical	C : Explains to the student the changes that occur to meat after slaughter and the factors that contribute to its palatability.	Changes that occur in meat after slaughter Factors that improve meat palatability	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .
8	2 Theoretical	B : The student learns about the methods of examining animals before slaughter and how to treat slaughter animals.	Pre-slaughter animal inspection Handling of slaughter animals Things to consider before Slaughter	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .

	3 Practical	C : Explains to the student the nutritional value of meat and the effects of processing processes on it.	Nutritional value of meat and the effect of processing processes on it	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .
9	2 Theoretical	A: The student learns about the main foodborne diseases and their causes.	Animal health and its impact on the health of meat consumed by humans Major foodborne diseases and their causes	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .
	3 Practical	C : Explains to the student ways to preserve meat	Methods of preserving meat Field practice	A visit to the fields	Exams , assignment , discussions .
10	2 Theoretical	B : The student understands what chemical contamination of meat is and how meat is preserved using preservatives.	chemical Contamination of meat Preserving Meat Using Preservatives	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .
	3 Practical	A : The student learns about the causes of meat spoilage	Causes of meat spoilage	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .
11	2 Theoretical	B : The student understands the factors affecting the characteristics of meat and its shelf life.	Factors affecting meat characteristics and shelf life Methods of transporting slaughter animals Handling of Slaughter animals stressed by transport	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .

	3 Practical	C : Explain to the student what are the signs of unhealthy products that are unfit for consumption.	Signs of unfit products	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .
12	2 Theoretical	B : The student learns about the health principles of red meat production.	Healthy principles for red Meat Production methods for obtaining healthy poultry meat	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .
	3 Practical	A : The student learns about the mechanisms for protecting humans from diseases and preventing them.	Mechanisms for protecting humans from diseases and preventing them	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .
13	2 Theoretical	B : The student understands the methods of examining milk (physical and chemical).	Healthy milk testing and production	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .
	3 Practical	C : Explain to the student the characteristics of healthy animal products that are free from disease.	Identify healthy animal products free from diseases	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .
14	2 Theoretical	B : The student learns about eggs and their chemical and physical properties.	Healthy egg testing and production Field practice	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .
	3 Practical	C : Explains to the student the methods of examining eggs and their properties.	Egg testing methods and properties	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .

15	2 Theoretical	C : Explain to the student the contamination of eggs and the spread of infectious diseases.	Egg contamination causes infectious diseases.	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment , discussions .
	3 Practical	A : The student learns the health requirements for drinking water for animals.	Water and its health importance for animals	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 a)	1- Animal health, written by Dr. Abdel Moez Ahmed Ismail and Dr. Mahmoud Abdel Rahman Metwall 2- Meat production and preservation, written by I 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	

2025

Alaa Shamil Fakhri Al-Allaf
Instructor of practical subject

Dr. Hanan waleed kasim Agwaan
Instructor of theoretical subject

Dr. Muthanna Ahmed Muhammad
Chairman of the Scientific Committee

Dr. Omar Diaa Muhammad
Head of Department

جامعة الموصل
كلية الزراعة والغابات

Course Description Form Biochemistry

1. Course Name:

Biochemistry

2. Course Code:

BICH204

3. Semester / Year:

First semester / 2024-2025

4. Description Preparation Date:

2024\9\1

5. Available Attendance Forms:

Presence + Electronic

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)

Dr.Qaswaa yousif jameel dr.qaswaa_yousif@uomosul.edu.iq
Afkar yahya ahmed

8. Course Objectives

Theoretical	Practical
-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**	**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:	Practical:
- Interactive lecture - Brainstorming - Dialogue and discussion - Assigning reports	Interactive lecture -Discussion, dialogue, brainstorming -Conducting laboratory experiments -Assigning reports

-Conducting monthly and daily examinations	-Conducting daily and monthly examinations

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theoretical 3Practical	Theoretical: B: Explains to the student the concept of chemistry Biotechnology and the study of water properties Practical: B: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 C: Explains to the student the most important differences in the chemical composition of carbohydrates practical: A: 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 discussions	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
3	2Theoretical 3Practical	THEORETICAL :B The student is familiar with the factors affecting amino acids and peptides practical: : B 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 A: The student learns abo the mechanism of action proteins, their properties	THEORETICAL auditory methods, Writing on the board Dialogue style	THEORETICAL audio methods, Writing on the board Direct dialogue Style	Shortexams, assignments, discussions

		and their structure **practical:** **B: The student learns abo the reduction tests for carbohydrates**	**Direct** **Practical: Assigning tasks And reports Short exams, assignments, discussions**	**PRACTICAL Assigning tasks and reports**	
5	**2Theoretical 3Practical**	**THEORETICAL** **C: Explains to the student the changes that occur in lipids, their composition and properties.** **practical:** **B: Explains the tests to the student Description of carbohydrates**	**Theoretical** **Amino acids and peptides** **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** **C: Proposes to the student a method suitable for the natural and chemical properties of neutral fats** **practical:** **A: Tests related to fats are 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** **C: The student is familiar with the most important changes that occur in phosphorylated fats (phospholipids).** **practical:** **A: The student is familiar with screening tests Clycerol**	**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** **A :The student recognizes the most important changes Which occurs in enzymes and restriction Its agents** **practical:** **A: The student learns**	**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**

		how to examine The pH of many solutions the organization			
9	2Theoretical 3Practical	THEORETICAL B :The student judges his competence Nucleotides and nucleic acids In the metabolic processe of living organisms Practical: A: The student is given general and descriptive tests for amino acids	THEORETICAL Lipids Practical: Descriptive tests For carbohydrates	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
10	2Theoretical 3Practical	THEORETICAL A: The student learns abo the most important chemical structures of nucleic acids (polynucleotides). practical: B: Explains to the studen methods for detecting amino acids containing sulfur	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
11	2Theoretical 3Practical	THEORETICAL B : The student masters t method and types of nucl acids practical: A: The student takes the Millon test and the xanthoproteic test	THEORETICAL Physical and chemical properties of neutral fats Practical: special tests for lipids	THEORETICAL audio methods, Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	Shortexams, assignments, discussions
12	2Theoretical 3Practical	THEORETICAL E: The student determines the mode of action and the importance of vitamins in the body of a living organism practical: C: The student mentions descriptive tests for proteins	THEORETICAL . audio methods, Writing on the board Dialogue style Direct 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
13	2Theoretical 3Practical	THEORETICAL A: The student learns	THEORETICAL Common	THEORETICAL audio methods,	Shortexams, assignments,

		about the types of fat-soluble vitamins and common diseases resulting from their deficiency in the organism's body. practical: A 8: The student learns about a test Biuret	diseases resulting from vitamin deficiency Practical: protein precipitation With heavy metal salts,	Writing on the board Direct dialogue style PRACTICAL Assigning tasks and reports	discussions
14	2Theoretical 3Practical	THEORETICAL B :The student learns abo the types of fat-soluble vitamins and common diseases resulting from their deficiency in the organism's body. practical: A: 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 C: The student is familiar how to write reports Result of field visit to laboratories Biochemistry practical: C: The student is familiar how to write reports Result of field visit to laboratories Biochemistry	THEORETICAL biochemistry laboratorie 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 of the Principles of microbiology

1.Course Name
Principles of microbiology
2.Course Code
PRMB205
3.Term / Year
Autumn Semester 2024-2025
4.Description Preparation Date:
1/9/2024
5.A. Available Attendance Forms
learning in presence and electronic
6.Number of Credit Hours (Total of Units
75 hourse/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
1- Interactive lecture. 2- Brain storming. 3-Dialogue and discussion. 4 - Practical exercises.
10.Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject Name	Learning method	Evaluation Method
1	2 Theoretical	A : The student learns about microbiology and its stages of development.	A historical overview of microbiology and the scientists who contributed to its development Departments of Microbiology	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B : The student learns about the microscope and its uses.	Microbiology laboratory equipment	Laboratory work.	Exams , assignment, discussions.

2	2 Theoretical	A : The student understands the morphological and physical characteristics of microorganisms.	Morphological and morphological characteristics of microorganisms	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B: The student understands the types of agricultural media	Agricultural media	Laboratory work.	Exams , assignment, discussions.
3	2 Theoretical	C : The student explains what microbial stains are and the anatomy of a bacterial cell.	Microbial stains and bacterial anatomy Structures outside the cell wall	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B : The student learns how to stain microscopic cells with acidic, basic, and neutral stains.	Methods of staining microscopic cells	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
4	2 Theoretical	C: Shows the student what structures are located inside the cell wall.	Flagella, cilia, structures located within the cell wall, cytoplasmic membrane, protoplast, cytoplasm, nuclear material, granules stored in the cytoplasm, bacterial spores, vesicles	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A : The student learns about Gram-positive and Gram-negative bacteria.	dyeing with Gram dye	Laboratory work.	Exams , assignment, discussions.
5	2 Theoretical	B : The student is familiar with the chemical and physical factors affecting bacterial growth	Bacterial growth, , chemical factors affecting bacterial growth, physical factors affecting bacterial growth	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

	3 Practical	A : The student learns about bacterial cells under the microscope	Bacterial examination	Laboratory work.	Exams , assignment, discussions.
6	2 Theoretical	A : The student learns about the nutritional environments for bacteria and how bacteria grow and reproduce. Scientific visit	Nutritional media for bacteria, growth and reproduction of bacteria	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A : The student learns about differential stains such as capsule stains, media stains, and Giemsa stain (protozoal stain).	Dyeing with differential dyes	Laboratory work.	Exams , assignment, discussions.
7	2 Theoretical	C : Explains to the student how to grow bacteria Methods for quantitatively measuring bacterial growth.	Methods used in bacterial culture Methods for quantitative measurement of bacterial growth	The student writes a report About what he saw in Scientific trip	Exams , assignment, discussions.
	3 Practical	A : The student learns about negative staining, where the background appears dark while the capsule is illuminated.	Negative staining Scientific visit	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
8	2 Theoretical	B : Shows the student what viruses are and how they are classified	Viruses, virus classification, virus replication	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C : The student shows how bacteria move.	Study of bacterial movement Scientific visit	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

9	2 Theoretical	C : The student explains the methods used in virus cultivation.	Virus cultivation methods	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C : Explain to the student what mold is.	Mold	visit to the field	Exams , assignment, discussions.
10	2 Theoretical	B : The student understands what mold is, its body structure, and its reproduction.	Fungi: Molds, morphological characteristics, body structure, reproduction, and some examples.	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A : 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	C : It shows the student what yeasts are, their morphological and physiological characteristics, and body structures.	Yeasts, morphological and physiological characteristics Body structures	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C : The student demonstrates direct counting of bacteria.	direct bacterial count	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
12	2 Theoretical	A : Explain to the student what yeasts and molds are, their types, and sexual and asexual reproduction.	Yeasts and molds, their types, sexual and asexual reproduction	Auditory styles, writing style on the board, direct dialogue styl	Exams , assignment, discussions.
	3 Practical	B : The student learns about microscopic soil organisms, microscopic air organisms, and industrial microorganisms	Applied microbiology Scientific visit	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

13	2 Theoretical	B : The student learns about algae, their characteristics, reproduction, classification, and the economic importance of algae.	Algae, their characteristics, reproduction, classification, economic importance of algae	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C :Shows the student how to control microorganisms. .	Control of microorganisms	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
14	2 Theoretical	A : The student understands what protozoa are.	Protozoa: definition, characteristics, and reproduction	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C : Explains to the student the process of metabolism in microscopic organisms. .	Metabolism in microorganisms	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
15	2 Theoretical	C : Student introduction to pathogenic microorganisms	The relationship between microorganisms and diseases Scientific visit	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B : The student learns about food , dairy microbiology, and industrial microbiology.	Applied microbiology	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

Dr. Muthanna Ahmed Muhammad
Chairman of the Scientific Committee

Dr. Omar Diaa Muhammad
Head of Department

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course Description

1. Course Name:
Principles of agricultural extension
2. Course Code:
PAEX206
3. Semester / Year:
First semester Autumn / 2024-2025
4. Description Preparation Date:
1 / 9 / 2024
5. Available Attendance Forms:
presence+ Electronic
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: Name: rayan rayadh kadhem Email: : rayan.rayadh@uomosul.edu.iq
8. Course Objectives

Course Objectives	
Introducing students to the importance of agricultural extension Introducing students to the objectives of agricultural extension Enabling students to understand and know the agricultural extension system Introducing students to the principles of agricultural extension Introducing students to the philosophy of agricultural extension	Enabling students to recognize the most important guidance objectives and how to formulate them Enabling students to become familiar with the agricultural extension system

9. Teaching and Learning Strategies	
Strategy	
Lecture Group discussion Assigning the student prepare a report Brainstorming method to ask the question	Lecture Group discussion Assigning the student to prepare a report Training the student to give examples and dra diagrams

10. Course Structure

Course Description

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theoretica 3 practical	My theory (A) The student gets to know the concept Agricultural guidance Practice (A) The student explains about Agricultural extension	Theoretical: Introductio agricultural extension ar the concept of agricultu extension Practical: Preparing rep on agricultural extensio	My theory: lecture the blackboard Audio aids Practical: Assigning a report	Short exams Duties
2	2 Theoretica 3 practical	My theory: (A) For the student to get to know Agricultural extension qualifications For the student to get to know Qualifications of the extension specialist (A) Practical: for the student to acquire Agricultural extension qualifications (B)	My theory: Qualifications agricultural guide extension specialist practical: training students to practice duties of guide through class assignments	My theory: lecture the blackboard Audio aids Practical: Assigning tasks and reporting	Short exams Duties
3	2 Theoretica 3 practical	My theory: (A) The student explains the importance Agricultural guidance To summarize the student Agricultural extension philosophy (A) Practical: The student draws a diagram The philosophy of agricultural extension (B)	My theory: The importance of agricultural extension and the philosophy of agricultural extension Practical: Assigning students prepare reports on the importance agricultural extension	My theory: lecture the blackboard Practical: Audio aids Assignin tasks and reporting	Short exams Duties
4	2 Theoretica 3 practical	My theory: (A) The student classifies levels Indicative objectives For the student to get to know Characteristics of indicative objectives (A) Practical: to practice drafting Indicative objectives (B)	My theory: Agricultural extension objectives, characteristics and levels Practical: Training students to formu indicative objectives	My theory: lecture the blackboard Audio aids My work: assignment With practical exercises	Short exams Duties
5	2 Theoretica 3 practical	My theory: (B) The student should be able to Determine the principles of agricultural extension The student draws a diagram of the relationship between agricultural extension and local authorities (B) Practical: to practice using Forms and drawings to understand the principles agricultural extension (B)	My theory: Principles of agricultural extension Practical: Using illustrations agricultural extension principles some points that h relationships with private and governme organizations	My theory: lecture the blackboard Audio aids My work: assignme With illustrations And practical report	Short exams Duties
6	2 Theoretica 3 practical	My theory: (A) To give the student an example	My theory: Social change in the	My theory: lecture	Short exams

Course Description

		Sources of social change For the student to distinguish between levels Social change (C) Practical: To classify the studentSources and levels of change (C)	field of agriculture, its levels and causes My work: preparing reports on social changeAssigning class assignments on causes of social change	the blackboard Audio aids Practical: Assigning tasks and reporting	Duties
7	2 Theoretica 3 practical	My theory: (B) The student must be able To present the characteristics of adult education To be able to apply the principles of adult education (B)Practical: The student must practice Principles and characteristics adult education (B)	My theory: Adult education, its characteristics and principles Practical: Training students to formulate adult education goals	My theory: lecture the blackboard Audio aids My work: assignmentWith practical exercises	Short exams Duties
8	2 Theoretica 3 practical	My theory: (A) The student explains the stages the process Adoption Practical: The student applies stages Adoption process (B)	Theoretical: Adoption and its stages Practical: Preparing reports on adoption agricultural extension	My theory: lecture the blackboard Audio aids Practical: Assigning tasks and reports	Short exams Duties
9	2 Theoretica 3 practical	My theory: (B) The student should distinguish between types of communicatio The student explains the elements of the guidance communication process Practical: The student categorizes the elements communication into illustrations (B)	Theoretical: Communication in agricultural extension, its types and elements Practical: Class assignments and assignment of fees for elements of the communication process Assigning students practice role-playing carry out the tasks communication element	My theory: lecture the blackboard Audio aids My work: assignment With illustrations Assigning tasks and reports	Short exams Duties
10	2 Theoretica 3 practical	My theory: (C) The student should distinguish between types of communicatio The student explains the elements of the guidance communication process (A) Practical: The student categorizes the elements of communication into illustrations (C)	Theoretical: Communication in agricultural extension, its types and elements Practical: Class assignments and assignment of fees for elements of the communication process Assigning students practice role-playing carry out the tasks communication element	My theory: lecture the blackboard Audio aids Practical: Assigning tasks and reports	Short exams Duties
11	2 Theoretica 3 practical	My theory: (A) To give the student an example Types of agricultural extension methods Practical: The student classifies each	Theoretical: agricultural extension methods and their types Practical: Displaying examples of illustrations and posters for individua	My theory: lecture the blackboard Audio aids My work: assignmer Preparing posters	Short exams Duties

Course Description

		Indicative method according to type (C)	communication methods Show examples of f clarifications	Tasks and reports	
12	2 Theoretica 3 practical	My theory: (B) The student should be able to Use leadership metrics Practical: The student applies everything Measure separately (B)	Theoretical: Leadership, elements, and leadership standards Practical: Preparing reports on leadership in agricultural extension Give examples leadership standards	My theory: lecture the blackboard Audio aids Practical: Assigning reports and tasks	Short exams Duties
13	2 Theoretica 3 practical	My theory: (A) The student gets to know the concept Guidance management Practical: for the student to practice Guidance management tasks (B	Theoretical: Managemer its concept and function Practical: Assigning students to class assignments how to prepare a poster administration tasks	My theory: lecture the blackboard Audio aids Practical: Assigning duties	Short exams Duties
14	2 Theoretica 3 practical	My theory: (B) The student should be able to Applying the principles of indicative planning Practical: for the student to trair Planning the extension Program (B)	Theoretical: Indicative planning, its concept and principles Practical: Preparing rep on extension planning	My theory: lecture the blackboard Audio aids Practical: Assigning tasks And reports	Short exams Duties
15	2 Theoretica 3 practical	My theory: (B) The student should be able to Acquiring counseling skills Practical: The student must practice Skills for guiding tasks during visit (D)	My theory: Organizing a scientific visit to the Nineveh Agriculture Directorate Practical: Students wa the guidance tasks dur the visit	My theory: lecture Audio aids My work: report on the visit	Short exams Duties

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

	Calendar methods	Calendar date (one week)	Class	Relative weight
1	Final theoretical report + practical report	My theory is week 15 My work week is 1-15	7 theoretical + 6 practica	13%
2	Quiz (1)	Week (3)	4 theoretical + 2 practical	6%
3	Midterm Exam	Week (9)	10 theoretical + 5 practical	15%
4	Quiz (2)	Week (12)	4 theoretical + 2 practical	6%
5	Final practical test	Practical exams week	20	20%
6	Final theoretical test	week of theoretical exams	40	40%
	Total		100	100

Course Description

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Agricultural extension book - lectures on agricultural extension principles
Main references (sources)	Introduction to agricultural extension book Agricultural extension science
Recommended books and references (scientific journals, reports...)	---------
Electronic References, Websites	FAO is the Food and Agriculture Organization of the United Nations

Theoretical subject teacher
M. Rayan Riyad kadhem

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Chairman of the Scientific Committee
Professor Dr. Muthanna Ahmed Muhammad

Head of Department
Assistant Professor Dr. Omar Diaa Muhammad

Course description template for fish principles

1. Course Name:
Principles of fish
2. Course Code:
PRF1223
3. Semester / Year:
Autumn semester 2024–2025
4. Description Preparation Date:
1/9/2024
5. Available Attendance Forms:
My presence + electronic
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. 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 throu the smart board	practical: - Assigning work in groups to rev leadership skills - Assigning tasks and reports for ea practical lesson

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theoretical 3 practical	Theoretical:: A-The student learns what fish are, ichthyology, related sciences, and their types. practical: B fish	theoretical: - Ichthyology- the science specialized in the study of fish. practical: - fish..	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	Exams Assignment of duty discussions
2	2 Theoretical 3 practical	My theory: A - The student learns about fish - the shape of fish and fins - internal characteristics - types of fish - jawless type - cartilaginous fish type - bony fish type. practical: B - The student knows the body parts of the fish.	theoretical: - The shape of fish and fins - internal characteristics - types of fish - jawless type - cartilaginous fish type - bony fish type. practical: - body parts of the fish.	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	Exams Assignment of duty discussions
3	2 Theoretical 3 practical	theoretical: A - The student understands the relationship of fish with living and non-living factors. Firstly, fish adaptations to non-living environmental factors: 1. Density and pressure in the water. 2. Salinity. 3. Water temperature. 4. Dissolved gases. 5. Light. 6. Water movement and turbidity. 7. Sound and its transmission in aqueous medium. practical: B - The student knows the openings in the fish's body	theoretical: - The relationship of fish to living and non-living factors. Firstly, fish adaptations to non-living environmental factors: 1. Density and pressure in the water. 2. Salinity. 3. Water temperature. 4. Dissolved gases. 5. Light. 6. Water movement and turbidity. 7. Sound and its transmission in aqueous medium. practical: - Fish body openings	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	Exams Assignment of duty discussions
4	2 Theoretical 3 practical	theoretical: A - The student learns about the relationships between fish and living and non-living factors. Living relationships between fish: 1. Relationships within a single species. 2. Relationships between different	theoretical: - Relationships between fish and living and non-living factors Living relations between fish: 1. Relationships within a single species. 2. Relationships between different species of fish.	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting Practical: Assigning tasks and reporting	Exams Assignment of duty discussions

		species of fish. a. Predation b. Intrusion c. Competition d. Eating E. Mutual benefit. practical: B - The student is familiar with the respiratory system of fish	a. Predation b. Intrusion c. Competition d. Eating E. Mutual benefit. practical: - The respiratory system of the fish		
5	2 Theoretical 3 practical	theoretical: B - The student is familiar with food and feeding habits: feeding habits - quality of fish food in the aquatic environment - food seeking rate - food conversion rate - methods of studying feeding habits - 1. Predators. 2. Grazer 3. Filter 4. Absorbent 5. Parasitoid. practical: B - The student shows the fish's circulatory system.	theoretical: - Food and feeding habits: feeding habits - quality of fish food in the aquatic environment - food seeking rate - food conversion rate - methods of studying feeding habits - 1. Predators. 2. Grazer 3. Filter 4. Absorbent 5. Parasitoid. practical: - the circulatory system of the fish.	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	Exams Assignment of duty discussions
6	2 Theoretical 3 practical	theoretical: A - The student understands the nutritional and other relationships of fish - phytoplankton and zooplankton - the nutritional nature of fish and their relationship to the environmental environment - examples of the diversity of the nutritional pattern of fish according to the environment - the food pyramid - enemies of fish. practical: B - The student shows the digestive system of the fish.	theoretical: - Nutritional and other relationships of fish - phytoplankton and zooplankton - the nutritional nature of fish and their relationship to the environmental environment - examples of the diversity of the dietary pattern of fish according to the environment - the food pyramid - enemies of fish. practical: - The digestive system of the fish.	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	Exams Assignment of duty discussions
7	2 Theoretical 3 practical	theoretical: B - The student is familiar with the process of digestion and excretion of waste in fish: Digestion - parts of the digestive canal -	theoretical: - In the process of digestion and excretion of waste in fish: Digestion - parts of the digestive canal - digestion process	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	Exams Assignment of duty discussions

		digestion process - excretion of wastes - excretion of nitrogenous substances in lungfish. practical: B - The student is familiar with the muscular system of the fish.	- excretion of wastes - excretion of nitrogenous substances in lungfish. practical: b - the muscular system of the fish		
8	2 Theoretical 3 practical	theoretical: A - The student learns about growth: definition of growth - metabolic energy - factors affecting growth: 1. Internal growth factors Internal growth factors. practical: C - The student distinguishes the skeletal system of the fish.	theoretical: - Growth: Definition of growth - Metabolic energy - Factors affecting growth: 1. Internal growth factors Internal growth factors. practical: - the skeletal system of the fish.	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	Exams, reports, Exams Assignment of duty discussions
9	2 Theoretical 3 practical	theoretical: B - The student is familiar with the external growth factors: 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 maturity of the fish. practical: C - The student explains the nervous system of the fish.	theoretical: - 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 maturity of the fish. practical: - the nervous system of the fish.	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	Exams Assignment of duty discussions
10	2 Theoretical 3 practical	theoretical: B- The student is familiar with osmotic pressure: osmoregulation - osmoregulation in marine gillfish fish - osmoregulation in fully ossified marine fish - osmoregulation in freshwater fish - diploid fish. practical:	theoretical: - Osmotic pressure: Osmoregulation - Osmoregulation in marine gillfish fish - Osmoregulation in marine fully ossified fish - Osmoregulation in freshwater fish - Dimigratory fish.	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasl and reporting	Exams Assignment of duty discussions

		C - Explains to the student the excretory (urinary) system of the fish.	practical: - the excretory (urinary) system of the fish.		
11	2 Theoretical 3 practical	theoretical: A - The student remembers the mechanism of buoyancy in fish - specific density - gas bladder - lipids - types of buoyancy found in fish 1. Squalene 2. Wax esters. practical: C - The student distinguishes the reproductive system of the fish.	theoretical: - Buoyancy mechanism in fish - Specific density - Gas bladder - Lipids - Types of buoyancy found in fish 1. Squalene 2. Wax esters. practical: - The reproductive system of the fish.	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	Exams Assignment of duty discussions
12	2 Theoretical 3 practical	A scientific trip to a fish facility	A scientific trip to a fish facility	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	Exams Assignment of duty discussions
13	2 Theoretical 3 practical	theoretical: Theoretical: B - The student explores reproductive reproduction: the reproductive strategy and its requirements - the environmental conditions that stimulate fish reproduction - the physiological response of fish for the purpose of reproduction - the terms used in the history of fish - male sex cells - the shape and size of fish eggs - places to lay eggs in the aquatic environment - the method of collective reproduction. practical: B - The student is familiar with collecting fish samples.	theoretical: - Reproductive reproduction: The reproductive strategy and its requirements - the environmental conditions that stimulate fish reproduction - the physiological response of fish for the purpose of reproduction - the terms used in the history of fish - male sex cells - the shape and size of fish eggs - places to lay eggs in the aquatic environment - the method of group spawning. practical: - Collect fish samples.	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting	Exams Assignment of duty discussions
14	2 Theoretical 3 practical	theoretical: A - Characteristics of oviparous fish - modifications of the reproductive organs	theoretical: - Characteristics of oviparous fish - modifications of the reproductive	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning	Exams Assignment of duty discussions

		in oviparous fish - nutrition of embryos in oviparous fish - sexual differentiation and sex differences - hermaphroditic fish - simultaneous or sequential hermaphrodite fish. 2- Pollution: Definition of pollution - types of pollution. practical: B - Environment and geographical distribution of fish.	organs in oviparous fish - nutrition of embryos in oviparous fish - sexual differentiation and sex differences - hermaphroditic fish - simultaneous or sequential hermaphrodite fish. 2- Pollution: Definition of pollution - types of pollution. practical: - Environment and geographical distribution of fish.	tasks and reporting	
15	2 Theoretical 3 practical	theoretical: A - The student learns about fish migration and the purpose of migration in water bodies. practical: B - The student is familiar with migration in fish.	theoretical: - Fish migration and the purpose of migration in water bodies. practical: - migration in fish	Theoretical: visual and auditory methods Explanation and dialogue style Practical: Assigning tasks and reporting Writing on the	Exams Assignment of duty discussions

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)	Principles of Ichthyology. Authored by Dr. Hashim Abdul Razzaq Ahmed. College of Agriculture, University of Basra. 1990.
Main references (sources)	1- Fish breeding and production / Muhammad Adel et al

	2- Breeding and management of fish farms / Kazem Abdel Amir 3- Fish diseases and parasites / Farhan Damad Muhaisen 4-Ichthyology: Study of fisges, by K. F. Lagler; J. E. Bardach and R.r. Miller ,1962
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) World Environment Organization (UNDP).

Course Description Principles of Horticulture

1. Course Name:
Principles of Horticulture
2. Course Code:
PRHS116
3. Semester / Year:
2024 – 2025
4. Description Preparation Date:
1/9/2024
5. Available Attendance Forms:
Presence + Electronic
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical + 3 practical (75) / Number of Units (3.5)
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Safwan Mohammed Hajem –– Assit. Teacher, Zhour Fouad Abd-Aljabar Email: Safwan.hajem**@uomosul.edu.iq** **Zhour.19@uomosul.edu.iq**
8. Course Objectives
Enabling the student to understand and comprehend the principles of horticulture and its relationship to other sciences. Enabling the student to know the most important agricultural processes in horticultural plants. Enabling the student to understand the concept of differentiating between different planning systems and the appropriate ones. Enabling the student to distinguish between the processes appropriate for fruit, vegetable, and ornamental crops. The student will be able to become familiar with the information needed by the agriculturalist and the available resources to understand horticulture and its divisions. Acquire practical skills in seed production methods for horticultural crops and methods of caring for them in terms of storage and marketing. A comprehensive study of how to establish vegetable farms or fruit orchards and establish nurseries for horticultural plant.
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	Unit or subject name	Learning method	Evaluation method
1	2 Theoretical	A: The student will learn about the concept of horticulture, its divisions, definition, and classification. A: List the branches of horticulture. A: Classify horticulture. A: Give examples of branches of horticulture. A: Classify horticultural crops according to their classification. D: List the branches of horticulture. C: Horticultural crops section.	About the concept of horticulture, branches of horticulture, and division of horticultural crops	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short exams, assignments, discussions
	3 Practical	A: Define horticulture A: Identify the most important branches of horticulture	Gardening basics	Interactive lecture, brainstorming, dialogue and discussion, field training, self-learning	Short practical test 1
2	2 Theoretical	A: Knows vegetable crops A: Can compare summer and winter vegetable crops C: Can classify vegetable crops according to their growth period	Reasons for development of vegetable cultivation in Iraq and examples of vegetables and the division of vegetable crop	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short exams, assignments, discussions

	3 Practical	A: Mention the general characteristics that must be present in a growing medium. A: Explain the components of a woody canopy.	Horticultural facility	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Scientific tour of horticultural facilities
3	2 Theoretical	A: Mention the reasons for the development of vegetable cultivation in Iraq. Then give examples of vegetable crops according to their growth period and growth nature. A: Discuss the most important reasons for the development of vegetable cultivation in Iraq. B: Explain the importance of vegetable crops in terms of nutritional value. C: Write a report on the nutritional importance of vegetable crops. C: Classify vegetable crops according to the botanical classification based on the structural and anatomical characteristics of the plants.	Reasons for the development of vegetable cultivation in Iraq, the nutritional value, and the botanical classification of vegetable crops.	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short exams, assignments, discussions
	3 Practical	A: Define seed propagation and its advantages.	Seed propagation	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Field evaluation
4	Theoretical	C: Classify vegetable	Vegetable	Interactive	Midter

		crops according to the edible part. C: Classify plants according to their heat requirements, with each vegetable crop having a specific temperature range that is suitable for its growth. B: Explain the effect of environmental conditions on vegetable production in Iraq.	crop division	lecture, brainstorming, dialogue and discussion, self-learning	m Exam 1, Final Exam, Report
	3 Practical	A: The student learns about vegetative reproduction and its advantages.	Vegetative propagation	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Short Practice Test 2, Direct Drawing
5	2 Theoretical	B: Shows the impact of technical factors on vegetable crop production in Iraq. B: Shows the impact of weather conditions on vegetable crops in Iraq.	Problems of vegetable cultivation in Iraq	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short exams, assignments, discussions
	3 Practical	A: Define the following terms: Fertilizer, Manure A: Differentiate between inorganic and organic fertilizers	Fertilization	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Short exams, assignments, discussions
6	2 Theoretical	C: List the meteorological factors that affect vegetable crops.	Factors affecting the growth of	Interactive lecture, brainstormin	Short exams, assign

		D: Explain the effect of meteorological factors on crops. B: Explain the effect of meteorological factors on vegetable crops. B2: Explain how growth regulators affect vegetable crops. B: Explain the effect of temperature on vegetable crop growth. B: Explain the effect of lighting on vegetable crop growth. B: Explain the effect of CO2 on plants.	vegetable crops	g, dialogue and discussion, self-learning	ments, discussions
	3 Practical	A: Number of irrigation methods	Irrigation	Interactive lecture, brainstorming, dialogue and discussion, field training, self-learning	Short exams, assignments, discussions
7	2 Theoretical	A: Define sexual reproduction B: Explain how farmers are satisfied with limited income in Iraq A: Define seeds B: Explain the characteristics of good seeds with a diagram C: List the methods for planting seeds A: Define transplanting B: Explain the importance of transplanting and the factors affecting the success of the transplanting process C: Classify vegetable	Sexual propagation of vegetable crops	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Midterm Exam 2, Final Exam

		crops according to their tolerance to transplanting, with examples A: Define acclimatization C: List the methods for acclimatization			
	3 Practical	A: Define the pruning process and its purposes. A: Mention the types of pruning and explain pruning in terms of the amount of wood removed. A: Mention the different methods of cultivation.	pruning	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, field project, self-learning	Discussing student reports
8	2 Theoretical	A: Define vegetative reproduction. B: Explain the methods of reproduction in detail. C: List the methods of asexual reproduction.	Asexual propagation of vegetable crops	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Midterm Exam 2, Final Exam
	3 Practical	Discussing student reports	Term 1 Test	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Midterm Exam 1, Final Exam, Report
9	2 Theoretical	C: Explain the flowering system in vegetable crops in detail B: Explain the types of pollination in vegetable crops in detail	Flowering and fruit setting in vegetable crops	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short exams, assignments, discussions
	3 Practical	A: State the conditions for establishing fruit orchards.	Fruits orchards	Interactive lecture, brainstorming, dialogue and	Short exams, assignments, discuss

				discussion, field training, practical exercises, self-learning	ions
10	2 Theoretical	B: Explain the principles of fruit tree classification B: Explain the importance of the nutritional value of fruit A: Discuss the status of fruit in Iraq B: Explain the impact of factors on the success of fruit cultivation A: Discuss the harmful and beneficial effects of low temperatures B: Explain the impact of atmospheric humidity and rainfall B: Explain the impact of wind on fruit trees B: Explain the impact of light on fruit trees Explain the impact of groundwater levels on fruit trees D: Explain the relationship between irrigation and fruit tree cultivation A: Explain the impact of irrigation water and its relationship to the success of fruit trees	Second: Fruit trees	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short exams, assignments, discussions
	3 Practical	A: Define crop rotation. A: Mention the characteristics of good rotation. A: Mention the steps in designing a rotation.	agricultural cycle	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short exams, assignments, discussions

11	2 Theoretical	A: Define sexual reproduction in fruit trees B: Explain the advantages and disadvantages of this method C: Classify seeds according to embryos A: Define vegetative propagation and explain its advantages A: List the methods of vegetative propagation in detail A: Define dormancy C: List the methods of breaking dormancy A: Define grafting A: Distinguish between a grafted and an ungrafted seedling B: Explain the conditions for successful grafting, then the most important post-grafting operations, then explain the rootstocks used to propagate some fruit trees D: Distinguish between grafting and grafting A: Define grafting B: Explain its types A: Define pruning B: Explain the benefits of pruning C: Divide pruning into several categories. Mention them.	Methods of propagation of fruit plants	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short exams, assignments, discussions
	3 Practical	A: Mention the conditions for selecting a nursery site.	Nurseries	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short exams, assignments, discussions

12	2 Theoretical	A: Define nurseries B: Identify specific conditions for successful nursery establishment in any region. A: Mention the necessary conditions for protecting and producing seedlings in nurseries. B: Identify the types of nurseries. B: Plan to establish a nursery.	The nursery	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short exams, assignments, discussions
	3 Practical	B: List the general characteristics that must be present in the culture medium. A: List the types of anvils used in propagation.	Anvils and vessels used in plant propagation and growth	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short exams, assignments, discussions
13	2 Theoretical	C: Divide ornamental plants and then list the methods of propagating ornamental plants.	Third: Ornamental Plants	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short exams, assignments, discussions
	3 Practical	Field work and planting some plant seeds	Second semester exam	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester 2 Exam
14	2 Theoretical	A: Understand what is meant by crop rotation, then explain its benefits. B: Highlight the important points that must be taken into consideration when designing a crop rotation. A: Understand what is	Agricultural cycle:	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester 2 Exam

		meant by intercropping, then explain its benefits and disadvantages.			
	3 Practical	A: Classify ornamental bulbs	Ornamental bulbs	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Short exams, assignments, discussions
15	2 Theoretical	PowerPoint presentation on plants and a scientific visit to the private horticulture station and nurseries	PowerPoint presentation on plants and a scientific visit to the private horticulture station and nurseries	Interactive lecture, brainstorming, dialogue and discussion, self-learning	A scientific visit to the private horticulture and nursery station
	3 Practical	Field visit to the Nineveh Horticulture Station and private nurseries	PowerPoint presentation on plants and a scientific visit to the private horticulture station and nurseries	Assignment and report	A scientific visit to the private horticulture and nursery station

11. Course Evaluation

seq	Evaluation methods	Evaluation date (week)	Grade	Relative weight %
1	Report 1	fourth week	2.5	2.5
2	Report 2	fifth week	2.5	2.5
3	Short test (1)	sixth week	2	2
4	Quiz Short test (2)	fourteenth week	2	2
5	Quiz Short test (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	third and fifth week	2	2
11	Short test (1)	first week	1	1
12	Quiz Short test (2)	fourth week	0.5	0.5
13	Quiz Short test (3)	fourteenth week	2.5	2.5
14	Writing a report	Fourteenth week	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, any)	Principles of Horticulture Book, Volumes 1 and 2
Main references (sources)	Scientific references specializing in fruit trees, vegetables, greenhouses, and books concerned with nurseries
Recommended books and references (scientific journals, reports…)	Principles of Horticulture, by Dr. Karim Saleh Abdul and Dr. Saad Zaghloul. Principles of Horticulture, by Dr. Faisal Rashid Nasser.
Electronic References, Websites	https://exa.unne.edu.ar/ Principles of Horticultural Science

Theoretical subject teacher
Lecturer
Dr. Safwan Mohammed Hajem

Practical subject teacher
Assistant teacher
Zhour Fouad Abd-Aljabar

Head of Department
Professor
Dr. Omer Dheyaa Almallah

Chairman of scientific committee
Professor
Dr. Muthana Ahmed
Mohammed Tayeb

Course Description Form

1. Course Name:
Mechanization of animal production
2. Course Code:
FOEQ485
3. Semester / Year:
Spring / 2024-2025
4. Description Preparation Date:
2024/9/1
5. Available Attendance Forms:
Attendance +electronic
6. Number of Credit Hours (Total) / Number of Units (Total)
75 hours (2 hours theorotucal +2 hours Practical) / 2.5 units
7. Course administrator's name (mention all, if more than one name)
Name: Khalid E. Ahmed Mahmmod H. Rafiq
8. Course Objectives
1- Enabling the student to understand and comprehend what is related to the mechanization of animal production And it 's impact on increasing animal production 2- Enabling the student to know the types of this equipment and their uses in order to provide an optimum animal breeding environment
9. Teaching and Learning Strategies

Strategy	Theoretical: - Interactive lecture / brainstorming / dialogue and discussion / assignment of tasks and reports / presentation of explanatory videos about the equipment operation, its components and uses Practical:- Assigning reports and seminars

week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2theorotic	A knows the importance of green fodder and harvesting methods	Forage prepare and harvesting equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
	3practic	B calibrate	Forage	Interactive lecture,	Daily quiz

	al	,repair and maintained	prepare and harvesting equipment	brainstorming, dialogue and discussion, field training, and practical exercises	and final examine
2	2theorotic	A choosing suitable type of mower	Forage harvesting equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
	3practical	B calibrate ,repair and maintained	Forage prepare and harvesting equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
3	2theorotic	A enumerates the mechanisms used in drying and turning green fodder	Forage prepare and harvesting equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
	3practical	B calibrate ,repair and maintained	Forage prepare and harvesting equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
4	2theorotic	C can distinguishes between types of baler	Baler making and handling equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
	3practical	B calibrate ,repair and maintained the equipment	Baler making and handling equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
5	2theorotic	A the student learns about the mechanisms of	Baler making and handling equipment	Interactive lecture, brainstorming, dialogue and	Daily quiz and final examine

		transporting and handling bales		discussion, field training, and practical exercises	
	3practical	B calibrate ,repair and maintained the equipment	Baler making and handling equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
6	2theorotic	A the student understands the work of the sillage harvester	Silage making and handling equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
	3practical	C calibrate ,repair and maintained the equipment	Silage making and handling equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
7	2theorotic	B,A the student understands the working mechanism of silage handling equipment (fixed type)	Silage making and handling equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
	3practical	C calibrate ,repair and maintained the equipment	Silage making and handling equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
8	2theorotic	B,C the student enumerates the types of balers for making fodder	Baler making and handling equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
	3practical	C calibrate ,repair and maintained the equipment	Baler making and handling equipment	Interactive lecture, brainstorming, dialogue and discussion, field	Daily quiz and final examine

				training, and practical exercises	
9	2theorotic	C the student learns about dray feed and the mechanism of operation of all types of grander	Dray forage making equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
	3practical	C calibrate ,repair and maintained the equipment	Dray forage making equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
10	2theorotic	C the student learns about feed mixer and compressed feed and equipment	Dray forage making equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
	3practical	C calibrate ,repair and maintained the equipment	Dray forage making equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
11	2theorotic	B the student enumerates the methods of handling feed inside cow barns	Dray forage making equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
	3practical	C calibrate ,repair and maintained the equipment	Dray forage making equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
12	2theorotic	B the student enumerates the methods of handling feed inside poultry barn	Dray forage making equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine

	3practical	C calibrate ,repair and maintained the equipment	Dray forage making equipment	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Daily quiz and final examine
13	2theorotic	B field visiting and preparing report on feed machines making	A field visit	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Report prepare
	3practical	C the student can see working this machines	A field visit	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Report prepare
14	2theorotic	B student report seminar	A field visit	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Report prepare
	3practical	C student report seminar	A field visit	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Report prepare
15	2theorotic	B student report seminar	A field visit	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Report prepare
	3practical	C student report seminar	A field visit	Interactive lecture, brainstorming, dialogue and discussion, field training, and practical exercises	Report prepare

10. Course Evaluation

No.	Test type	date	grade	Rate
1	Theoretical + practical report	Week 13,14,15	6 theoretical +6 practical	12%
2	Quize	Week 1-12	5 theoretical +3 practical	8%
3	Midterm Exam (Theoretical+Practical)	Week 8	13 theoretical +7 practical	20%
4	Final Theoretical Examination	Final term examination	40	40%
5	Final Practical Examination	Final term examination	20	20%
6	Summation		100	100%

11. Learning and Teaching Resources

Required textbooks (curricular books, if any)	علي،لطفي حسين محمد وتوفيق فهمي دميان (1988) معدات مكننة الانتاج الحيواني،وزراة التعليم العالي والبحث العلمي ،جامعة بغداد،العراق.
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

مدرس المادة

م. محمود حسن رفيق

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

مدرس المادة

م. خالد عصام احمد

رئيس اللجنة العلمية

ا. د. مثنى احمد محمد

رئيس قسم الانتاج الحيواني

أ.د. عمر ضياء محمد

Course Description

1. Course Name:
Computer applications2
2. Course Code:
COMA203
3. Semester / Year:
Second semester(spring) / 2024-2025
4. Description Preparation Date:
2025/2/1
5. Available Attendance Forms:
Presence + 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	• **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	A: The student learns about 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 the function of the launch bar, learning how to create a new document bar and adding text inside it, how to store and retrieve information, and learning how to form letters in the language. Arabic, select text or text. Identify the new and deleted version, and know other features such as the font type and how to change its appearance Attractive.	What is WORD program? The basic elements that make up the rose window	Interactive lecture, brainstorming, dialogue and discussion, assigning tasks and reporting	Evaluation of dialogue and discussion, quick questions, assignment of a report, semester exam 1, and final exam
2	3 practical	A: Uses numbering, bullets, multi-level lists, indentation, paragraph and line spacing, search and replace methods, and steps for inserting a cover page and a blank page.	Explanation of the command bar for menus	Present interactive, brainstorming, dialogue and discussion	Quiz, written test, assignment of semester exam 1, final exam
3	3 practical	B: Applies to inserting a table into the document and converting the text into a table.	Tables and shortcuts in Word	Interactive lecture, brainstorming, dialogue and discussion, assigning tasks and reporting	Evaluation of dialogue and discussion, quick questions, practical application,

					semester exam 1, and final exam
4	3 practical	C: Tests inserting charts to display results and hyperlinks, inserting technical text, and making signatures in the document.	Charts, links and technical texts	Interactive lecture, brainstorming, dialogue and discussion	Dialogue and discussion evaluation, short test, Quiz, assignment of semester exam assignment 1, and final exam
5	3 practical	D: implements the insertion of caps, the date, how to set up the index, and printing with file types.	Insert, date and print operations	Interactive lecture, brainstorming, dialogue and discussion + scientific visit	Dialogue and discussion evaluation, quick questions, Semester exam 1, final exam
6	3 practical	D: Try inserting an image from the Internet and identifying its patterns.	Processes of inserting an image from the Internet and its patterns	Interactive lecture, brainstorming, dialogue and discussion, assigning tasks and reporting	Dialogue and discussion evaluation, short test, Quiz, assignment of semester exam assignment 1, and final exam
7	3 practical	B: Uses structural diagrams, artistic stills, and videos.	Insert diagrams, snapshots and movies	Interactive lecture, brainstorming, dialogue and discussion	Evaluation of dialogue and discussion, quick questions, practical application, semester exam 2, and final exam
8	3 practical	B: It is used to insert an equation with examples as well as symbols, convert text into columns, and page margins, settings, and attributes.	Header, footer, margins and page settings	Interactive lecture, brainstorming, dialogue and discussion	Short test, final exam, second semester exam assignment, final exam
9	3 practical	A: identifies the basic elements that make up the Excel window and what the cell is And selection and navigation shortcuts, how to edit rows and columns, and the benefit of the auto-fill box.	An introductory introduction to Excel	Interactive lecture, brainstorming, dialogue and discussion, assigning tasks and reporting	Evaluation of dialogue and discussion, quick questions, practical application, semester exam 2, and final exam
10	3 practical	B: Experiments with basic mathematical equations and how to include basic functions.	Mathematical equations and basic states	Interactive lecture, brainstorming, dialogue and discussion + scientific visit	Evaluation of dialogue and discussion, assignment of semester exam assignment 2, and final exam
11	3 practical	C: tests the use of	Types of basic functions	Interactive lecture,	Evaluation of

		functions in Excel.		brainstorming, dialogue and discussion	dialogue and discussion, quick questions, practical application, semester exam 2, and final exam
12	3 practical	D: controls the use of Excel's conditional counting function.	Conditional counting function	Interactive lecture, brainstorming, dialogue and discussion	Short test, final exam, second semester exam assignment, final exam
13	3 practical	B: Finds or replaces specific data and methods for dealing with worksheets in Excel.	Search, replace and manage worksheets	Interactive lecture, brainstorming, dialogue and discussion, assigning tasks and reporting	Dialogue and discussion evaluation, quick questions, assignment of a 2nd semester exam report, and a final exam
14	3 practical	B: Benefits from finding quick and reliable ways to deal with a set of data by learning methods of sorting and filtering in Excel.	Sorting and filtering data	Interactive lecture, brainstorming, dialogue and discussion	Evaluation of dialogue and discussion, short test (Quiz), assignment of semester exam assignment 2, and final exam
15	3 practical	B: Employs inserting a chart, how to print, and page layout in Excel.	Chart and printing	Interactive lecture, brainstorming, dialogue and discussion	Evaluation of dialogue and discussion, quick questions, semester exam 2, and final exam

11. Course Evaluation

t	Evaluation methods	Evaluation date (one week)	Grade	Relative weight %
1	Report 1	The first week	1	1
2	Report 2	The thirteenth week	1	1
3	Short test Quiz1	second week	2	2
4	Short test Quiz2	fourth week	2	2
5	Short test Quiz3	the sixth week	2	2
6	Short test Quiz4	The eighth week	2	2
7	Short test Quiz5	The twelfth week	2	2
8	Short test Quiz6	The fourteenth week	2	2
9	Practical application1	the third week	1.5	1.5
10	Practical application2	Seventh week	1.5	1.5
11	Practical application3	Week nine	1.5	1.5
12	Practical application4	Week eleven	1.5	1.5

13	Semester test1	The fifth week	10	10
14	Semester test2	The tenth week	10	10
15	Final practical test	Final semester exams	60	60
	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:

Prof Dr. Khalid Hasani Sultan

Head of the Department:

Dr. Omar Disa Mohammed

Course Description Form

1. Course Name:

Principles of dairy

2. Course Code:

PRPD227

3. Semester / Year:

Second semester/second stage/2024-2025

4. Description Preparation Date:

2025\2\1

5. Available Attendance Forms:

Presence + Electronic

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:	**practical:**
- 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	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.

10. Course Structure

Week	Hours	Required Learning Outcomes	Name of Unit or subject	Learning method	Evaluation method
First	2Theoretical 3Practical	B : Shows the definitions of milk and the factors affecting it Milk composition B: Examines different samples 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 / Explains the physical proper of milk B/ List the types of preservative	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/ Familiar with the composition of fat and essential fatty acids B: 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/ Milk Protein Judges / The importance of proteins in the body B/ : Shows the factors that are rela 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/ Enumerate the enzymes found in milk B: Applies the method for estimat the percentage of fat in milk	Enzymes - mineral salts – vitamins 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

Sixth	2Theoretical 3Practical	A / Identify the most important microorganisms common in... Milk, which causes spoilage of milk and beneficial bacteria Used as starter B/ 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	A: Identify microbiological characteristics For milk products B: Prove the method of adulterati 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	C/Explains the importance of knowing the Pearson square method B/ 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/Familiar with routine qualitative examinations C/ examines the bacteriological tests of the milk	Various milk tests Bacteriological examinations 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/ Learn about the importance of the milking process / the mechanics of milking / cleaning and disinfecting the milking machine C/ The student organizes each examination individually	Preparing milk on the farm and receiving the milk Bacteriological examinations 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/ Learn about the sorting method, the types of cream, and the purposes for which the cream is used C/ Measures the amount of chemi needed to measure the acidity of r	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	E/ It judges the thermal treatments milk, including pasteurization, sterilization, and boiling, and their effect on the milk D/ Shows the types of acidity of milk	Thermal parameters of milk 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

Thirteenth	2Theoretical 3Practical	E/ Explains the method of making fermented milk D/ 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: Determine a method for mak cheese D: Enumerates the types of tests	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: Communicates with one of the dairy producing factories D: Checks the stability of the 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 theoritical part
dr. Azhar Ibrahim shukr

Lecturer of practical part
M.M. Waed allah hashim

Chair of scientific committee
Prf. Dr. Khaled Hassani Sultan

Head of the Animal Production Department
Prf. Dr. Omar Diaa Muhammad

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course Description of Fish Breeding and Production

1. Course Name
Fish Breeding and Production
2. Course Code
FIBP226
3. Term /Year
Second semester 2024-2025
4. Description Preparation Date:
1-2-2025
5. A. Available Attendance Forms
In-Person + Electronic
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 . haniap@uomosul.edu.iq
8. Course Objectives

theoretical	**practical**
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.	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	**practical**
1- Interactive lecture. 2-Explanation and clarification. 3. Brainstorm: Brainstorming Debating and discussing	1- Practical applications in poultry fields. 2- Scientific visits to feed factories. 3-Explanation and clarification. Brainstorming Debating and discussing Reporting.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject Name	Learning method	Evaluation Method
First	2 Theoretical 3Practical	**theoretical** a1: The student learns about an introduction to fish farming and production - a historical overview of fish farming - the importance and advantages of fish - the food crisis and global production **Practical:**	**theoretical** introduction to fish farming and production - a historical overview of fish farming - the importance and advantages of fish - the food crisis and global production	**Theoretical:** Visual and auditory methods Explanation and dialogue style **Practical:** Assignment and report	- Tests. Assignment Discussions

		b6**:** The student is familiar with fish farming	**Practical:** fish farming		
Second	2 Theoretical 3Practical	**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 3Practical	**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 3Practical	**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 3Practical	**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 3Practical	**Theoretical:** a5**:** The student understands the design of parallel and consecutive ponds - construction of seals for earthen ponds - bottom of the pond - water drainage lines -	**Theoretical:** the design of parallel and consecutive ponds - construction of seals for earthen ponds - bottom of the pond -	**Theoretical:** Visual and auditory methods Explanation and dialogue style	- Tests. Assignment Discussions

		water processing lines **Practical:** b11: The student shows the productivity of fish and the density of culture	water drainage lines - water processing lines **Practical:** productivity of fish and the density of culture	**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 - Scientific visit **Practical:** b12: The student is familiar with the steps for setting up and preparing a fish farming tank - Scientific visit	**Theoretical:** water sources - the quality of surface water and ground water and the physical characteristics of pond water Scientific visit **Practical:** steps for setting up and preparing a fish farming tank - Scientific visit	**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 **Practical:** c3: Explains fish diseases to students	**Theoretical:** fertilizing ponds - types of fertilizers - inorganic fertilizers - organic fertilizers - the decision to fertilize ponds or not **Practical:** fish diseases	**Theoretical:** Visual and auditory methods Explanation and dialogue style **Practical:** Assignment and report	- Tests. Assignment Discussions
Eleventh	2 Theoretical	**Theoretical:** a7: The student remembers the feed and nutrition of fish -	**Theoretical:** feed and nutrition of fish - natural feed -	**Theoretical:** Visual and auditory	- Tests. Assignment Discussions

	3Practical	natural feed - phytoplankton, zooplankton and benthic organisms - additional feeds - chemical composition of feed materials. **Practical:** c4: The student distinguishes the transport of live fish	phytoplankton, zooplankton and benthic organisms - additional feeds - chemical composition of feed materials. **Practical:** transport of live fish	methods Explanation and dialogue style **Practical:** Assignment and report	
Twelfth	2 Theoretical 3Practical	**Theoretical:** b5: The student explores the distribution of additional foods during the growing season - feeding methods - prepared foods and their types - Scientific visit **Practical:** b13: The student is familiar with administrative work in fish farms - Scientific visit	**Theoretical:** distribution of additional foods during the growing season - feeding methods - prepared foods and their types - Scientific visit **Practical:** administrative work in fish farms - Scientific visit	**Theoretical:** Visual and auditory methods Explanation and dialogue style **Practical:** Assignment and report	- Tests. Assignment Discussions
Thirteen	2 Theoretical 3Practical	**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 3Practical	**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 3Practical	**Theoretical:** a10: The student learns about health care - the most important diseases that affect fish **Practical:** b16: The student is familiar with fish farming in rice fields	**Theoretical:** health care - the most important diseases that affect fish **Practical:** fish farming in rice fields	**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 on the basics of fish breeding and production
Key References (Sources)	
Recommended supporting books and references (scientific journals, reports...)	
E-References , Websites	

Dr. Khalid Hadi Mustafa

Instructor of theoretical subject

Hani Hashem Muhammad

Instructor of practical subject

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Professor Dr. Omar Diaa Muhammad

Head of Department

Professor Dr. Khalid Hassani Sultan

Chairman of the Scientifie Committee

Course Description Form

1. Course Name:
English Language 2
2. Course Code:
ENGL 201
3. Semester / Year:
2024/2025
4. Description Preparation Date:
01/02/2025
5. Available Attendance Forms:
Presence + Electronic
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: A.L. Sarmed Hashim Taha sarmed.almaula@uomosul.edu.iq
8. Course Objectives

Course Objectives	• **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 the 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	(A)The student should be able to know the basics of the English language	Introduction to Learning English with the new Oxford headway for Pre-Intermediate students+ point of view and mapping the way	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
2	2hours Presence	(A)The student should be able to know the tenses of the English language	Practicing English with “The Great Communicators” + Reading out clearly and learning pronunciation + Vocabulary	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
3	2hours Presence	(A)The student should be able to	Spoken English informal Language	Electronic lectures, videos, posters and	Exams Reports

		know the rules of the English language	+ conversation with students	other methods related to learning	Discussions quiz
4	2hours Presence	(A)The student should be able to know the basics of the English language	Practicing English with “A Walk with Death” + Reading out clearly and learning pronunciation + Vocabulary	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
5	2hours Presence	(A)The student should be able to know the basics of the English language	Practicing English with “Flying for a living” + Reading out clearly and learning pronunciation + Vocabulary	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
6	2hours Presence	(A)The student should be able to know the basics of the English language	Dealing with English in Agriculture within different specialties (reading and pronunciation) Language Focus Part 1 (The Parts of a Plant and their Functions)	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
7	2hours Presence	(A)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	(A)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	(A) 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	(A) 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	(A) 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	(A)The student should be able to know the basics of	Definition of the Best ways to study English.	Electronic lectures, videos, posters and other methods	Exams Reports Discussions

		the English language	Scientific Tour	related to learning	quiz
13	2hours Presence	(A)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	(A)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	(B)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

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 agriculture1985 oxford bookworms
Electronic References, Websites	https://translate.yandex.com/ https://ar.youglish.com/ https://readlang.com/ www.reverso.net https://elevenlabs.io/app/home /The Library Genesis junkybooks / cole13 / pdfdrive

A.L. Sarmed Hashim Taha

Head Of Department

Dr. Omar D. Mohammed

Chairperson of the Scientific Committee

Dr. Khalid Hassan Sultan

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course Description Principles of Agricultural Economics

1. Course name:
Principles of Agricultural Economics
2. Course code:
PAEC115
3. Semester/Year: Annual
3. second semester /2025-2024
4. Date this description was prepared
2025\2\1
5. Available attendance forms:
presence
6. Number of study hours (total) / Number of units (total):
2 hours theoretical
7.
Amina abdul ilah hamdoon amina80@uomosul.edu.iq
8. Course objectives

- The learner should be able to define the concept of general economics and agricultural economics
- Enabling the student to understand and comprehend what is related to the principles of agricultural economics and its relationship to the general economy
- Enabling the student to know the importance of the principles of agricultural economics
- Enabling the student to be familiar with the economic problem and the characteristics of agricultural products
- Enabling the student to identify the branches of agricultural economics and its standards, including the economics of agricultural production and prices, agricultural marketing
- and agricultural financing and lending
- A comprehensive study of the various types of branches of agricultural economics

9. Teaching and learning strategies

- Interactive lecture
- Brainstorming
- Dialogue and discussion
- Field training
- Practical exercises
- Field project
- Self-learning

10. Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	**hours**	**week**

Term 1, Final Test	Interactive lecture, brainstorming, dialogue and discussion, self-learning	The concept of agricultural economics	A: Understand the concept of agricultural economics and its relationship with the general economy, the importance of agricultural economics and the agricultural economic problem.	2theoretical	1
Practical Short Test 1	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Bases of applying economic theory in the agricultural sector	A: Explains the relationship between production and natural resources, the balance between population and natural resources.	3Practical	
Term 1, Final Test	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Economics of agricultural production	B: Explain agricultural production and factors of production in the agricultural sector, and explain the law of diminishing returns. C1: How to draw the stages of production	2theoretical	2
Direct Drawing	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Stages of agricultural production	C: Drawing production stages and production functions	3Practical	
Term 1, Final Test	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Agricultural prices	B: Explains the concept of agricultural prices, functions of agricultural prices	2theoretical	3
Field Evaluation	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Agricultural prices	B: Explain the cases of seasonal fluctuations in agricultural commodity prices C3 and draw price level curves.	3Practical	
Term 1, Final Test, Report	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Demand for agricultural products, supply of agricultural products	B: Shows the main features of the demand for agricultural products, B3 Shows the main features of the supply of agricultural products	2theoretical	4
Practical Short Test 2, Direct Drawing	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-	Law of demand and demand function	C: Measure and derive the demand function C: Draw the demand curve	3Practical	

	learning				
Term 1, Final Test, Report	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Demand for agricultural goods	B: Explain the concept of demand, types of demand, and factors affecting demand. C6: Draw the demand curve.	2theoretical	5
Field Evaluation	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Derivation of elasticities of demand for agricultural goods	C: Draw demand elasticity curves and measure demand elasticity	3Practical	
Term 1, Final Test, Report	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Supply of agricultural goods	B: Explains the concept of supply, supply-response relationship B: Explains the factors affecting the supply of agricultural commodities	2theoretical	6
Direct drawing and homework	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Agricultural Products Display Function	C: Draw the supply curve of agricultural goods C: Measure the elasticities of supply of agricultural goods and draw supply elasticity curves	3Practical	
Semester 2, Final exam	Interactive lecture, brainstorming, dialogue and discussion, self-learning	The interaction of supply and demand forces in determining prices	B: Shows the fluctuations in agricultural crop prices in Price analysis using standard prices	2theoretical	7
Field project	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Fluctuations in agricultural crop prices	B: Explain the role of time in determining prices B: Explain the role of government in regulating prices	3Practical	
Semester 2, Final exam	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Production costs	A: Uses the importance of costs in completing more than one production process. B: Explains the types of costs (fixed, variable, total) and their derivatives.	2theoretical	8
Direct drawing and homework	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-	Practical steps for deriving the cost function	C: Draw cost curves B: Apply derivatives of cost functions in the form of cost curves	3Practical	

	learning				
Semester 2, Final exam	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Production costs in the short run and in the long run	C: Uses methods to reduce production costs in the short and long term, types of economic derivatives of cost functions	2theoretical	9
Direct drawing and homework	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Scientific steps to measure and derive cost functions	C: Draw short-run and long-run production costs, and draw derivative curves of cost functions.	3Practical	
Semester 2	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Problems of the Iraqi agricultural sector	B shows the problems of the Iraqi agricultural sector. C: Draws unemployment curves in the job search theory.	2theoretical	10
Direct drawing and homework	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Relative importance of agricultural production	B: Explains the importance of capital in the agricultural sector C: Tables the decline in farm capacity	3Practical	
Final exam	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Economics of land resources	B Explain the characteristics of land resources and rent, supply and demand and land prices.	2theoretical	11
Direct drawing and homework	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning		B: Explains the concept of rent and its types, land evaluation criteria.	3Practical	
Final Test	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Work and Labor Productivity	Final Test	2theoretical	12
Drawing and Homework	Interactive lecture, brainstorming, dialogue and discussion, field	Measuring Labor Productivity	Drawing and Homework	3Practical	

	training, practical exercises, self-learning				
Final Test	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Agricultural Policy	Final Test	2theoretical	13
Drawing and Homework	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Agricultural Policy Evaluation	Drawing and Homework	3Practical	
Quiz, Final Test	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Agricultural Marketing	Quiz, Final Test	1theoretical	14
Quiz Practical 3	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Agricultural Marketing Standards	Quiz Practical3	3Practical	
short test, final test	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Agricultural Finance	B: Explains the concept of financing, sources of financing, sources of agricultural loans.	2theoretical	15
Field project	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, field project, self-learning	Agricultural Financing Standards	C: Lists agricultural marketing criteria.	3Practical	

11. Course Evaluation

Relative weight %	Grade	Evaluation date (week)	Evaluation methods	No.
52.	52.	Week 3	Short Quiz (1 Quiz)	1
20	20	Week 6	Semester Theoretical Quiz	2
2.5	2.5	Week 9	Short Quiz (Quiz2))	6
40	40	Final Semester Exam	Final Theoretical Quiz	7
2.5	2.5	Week 1	Short Practical Quiz (1)	11

			Quiz	
5.2	2.5	Week 4	Short Practical Quiz (2) Quiz	12
10	10	Week 6	Semester Practical Quiz	14
20	20	Final Semester Exams	Final Practical Quiz	15
%100	%100		Total	

12. Learning and teaching resources

Book (Agricultural Economics) Dr. Abdul WahabMatar Dahri 1980 University of Baghdad Iraq	Required textbooks (methodology any)
Introduction to Agricultural Economics Book) Dr. Abdul Razzaq Abdul Hamid Sharif 1992 University of Mosul Iraq, Ibn Al-Atheer Printing House	Main References (Sources)
Book (Agricultural Economics) Dr. Salem Tawfiq Al-Najfi, Salem ObaidHammadi 19900 University of Mosul Iraq, Ibn Atheer Printing House	Recommended supporting books and references (scientific journals, reports...)
None	Electronic references, Internet sites

Theoretical Subject Teacher
Amina abdullah hamdoon

Chairman of the Scientific Committee
Professor Dr. KHALID HASSANI SULTAN

Head of Department
Assistant Professor Dr. Omar Diaa Muhammad

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Course Description Form

1.	Course Name:
Forage Crops	
2	Course Code:
FOCP225	
3.	Semester / Year:
The second course 2024-2025	
4	Description Preparation Date:
2025/ 2/1	
5	Available Attendance Forms:
Presence+ Electronic	
6	Number of Credit Hours (Total) / Number of Units (Total)
Two hours my theory , Two hours of work	
7	Course administrator's name (mention all, if more than one name)
salim Abdulla salimalghazal@uomosul.edu.iq Saddam Ibrahim alobaidi saddam.alobaidi@uomosul.edu.iq	
8	Course Objectives
practical: Enabling the student to identify the most important pastoral plants The types of natural pastures and methods of protecti and appreciating them Its payload and exploitation	Theoretical Enable understanding and assimilation of pasture management material Enabling the student to know the most important wa to protect natural pastures Enabling the student to become familiar with the mo 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
9.	Teaching and Learning Strategies
Practical: Assigning group work to reveal leadership skills Assigning tasks and a report for each field visi	-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 mo important types of natural pastures Enabling the student to detect and know the palatabi of pasture plants The student can judge the quality of pasture plants
10.	Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 heoretica	A Determines the positive and negative relationship of leguminous fodder crops	Theoretical: The importance of fodder crops And its	Auditory methods Writing style On the board Dialogue style	Short exams, assignments, discussions

	3 ractical	and soils Compares samples of feed	importance Practical: dividing fodder crops/Naceae family	Direct practical: Assigning tasks And report	
2	2 heoretical 3 practical	A	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 heoretica 3 practical	A they remember their feed sources checks the types of toxins and their quantities in the feed	theoretical: The yield of ics (Bu clover is about practical: ics (Bur clover Botanical descriptic 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 heoretical 3 practical	A it explains the most importar factors affecting the product of fodder crops and compare different types of fodder cro compares samples of feed contaminated with toxins	theoretical: Egyptian clover crop Practical: botanical description For the Egyptian clover crop	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasks And report	Short exams, assignments, discussions
5	2 heoretical 3 practical	A theoretical vetch crop practical: botanical description of the vetchcrop	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 heoretical 3 practical	B applies the ideas for cultivati traditional fodder crops, whether leguminous or leguminous	theoretical clover crop sweet Practical:	Auditory methods Writing style On the board Dialogue style Direct	Short exams, assignments, discussions

		finds which feed samples are the most poisonous	botanical description of sweet clover crop	practical: Assigning tasks And report	
7	2 heoretical 3 practical	C B t encourages the cultivation of the most important fodder crops from other families distinguishes between types toxins and their quantities found in feed	Theore tical: 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 heoretical 3 practical	D B determines the most important streptococcal bacteria and their relationship to fodder crops and soil it carries out the cultivation of fodder crops	Heoretical : sorghum practical: botanical description	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasks And report	Short exams, assignments, discussions
9	2 heoretical 3 practical	C B 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	D B 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	D C explains the most important pros and cons of fodder crop distinguish between differen	theoretical: forage mixtures practical: methods growing foerage	Auditory methods Writing style On the board Dialogue style Direct	Short exams, assignments, discussions

		types of toxic substances in feed	mixtures	practical: Assigning tasks And report	
12	2 heoretical 3 practical	D C 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 And report	Short exams, assignments, discussions
13	2 heoretical 3 practical	D C it shows the importance of fodder crops and their relationship to soil fertility suggests othe methods for examining feed	Theoretical: silage Practical: How to 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	E it analyzes the toxins found i some fodder crops and their impact on animal health selects the best fodder crops 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	E identify a suitable method of how fodder crops resist drou and can be applied in farmers ' fields experimenting with different types of salt-tolerar crops	Theoretical field visit For one of the feed factories And report on the uality Feed practical: Solve the problem	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasks And report	Short exams, assignments, discussions

11.	Course Evaluation			
Relative weight	degree	Calendar appointment is one week	Calendar methods	Sequence
%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		

12.	Learning and Teaching Resources	
	Required textbooks (curricular books, if a	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. Salem Abdullah Younis

Practical subjet

Saddam Ibrahim alobaidi

Head of the Animal Production

Dr. Omar Diaa Ali

Chairman of the Scientific Committee:

Dr. Muthanna Ahmed Muhammad Tayyib

Course Description Form

1. Course Name:
Genetics
2. Course Code:
GENT212
3. Semester / Year:
Second Semester – spring 2024-2025
4. Description Preparation Date:
1/2/2025
5. Available Attendance Forms:
Presence+electronic
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 Mustafa Abdel Baset Abdel Rahman Email: muthanna.f.a@uomosul.edu.iq mostafa.altaae@uomosul.edu.iq
8. Course Objectives

Course Objectives theoretical: - 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.	practical: -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

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theoretical 3practical	theoretical: A: The student learns about the development of genetics, its theories, and its scientific and practical importance. practical: A: 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: A: The student knows Mendel's laws and their applications in genetics. practical:	theoretical: Mendel's laws and their modifications: Mendel's experiments - the first law of isolation - phenotypic type	theoretical: Audio methods, writing style on the blackboard, direct dialogue method.	Short exams, assignments, discussions

		A: The student learns about chromosomes and genes	and genotype - 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: C: The student explains the purpose of test and cross pollination and the types of dominance. practical: A: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: A: The student explains the effect of lethal factors on different types of organisms. practical:	theoretical: Lethal factors: color trait in mice - crawling trait in chickens - similar genetic structure in humans and dominant	theoretical: Audio methods, writing style on the blackboard, direct dialogue method.	Short exams, assignments, discussions

		A: The student lists Mendel's laws	lethal genetic factors. practical: Mendel's laws and examples, and back and test pollination	practical: Assigning tasks and reporting	
5	2 Theoretical 3practical	theoretical: A: The student understands the law of free distribution and some important terms in genetics. practical: A: 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 3practical	theoretical: A: The student finds the ratios of genotypic and phenotypic structures resulting from cross-matching of traits. practical: A: The student applies exercises on the inheritance of two pairs of genes field work	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 - Visit animal fields	theoretical: Audio methods, writing style on the blackboard, direct dialogue method. practical: Assigning tasks and reporting	Short exams, assignments, discussions

7	2 Theoretical 3practical	theoretical: C: The student explains the type of superiority and its effect on the appearance of the resulting traits, the traits resulting from multiplication. practical: A: The student learns about the Mendelian ratio modifications of a pair of genes	theoretical: 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	theoretical: Audio methods, writing style on the blackboard, direct dialogue method. practical: Assigning tasks and reporting	Short exams, assignments, discussions
8	2 Theoretical 3practical	theoretical: C: The student explains the effect of multiple alleles and the genetic and phenotypic ratios resulting from crossbreeding between different alleles. practical: A: 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: A: The student understands the nature of inheritance of	theoretical: Blood groups in humans and animals - ABO group - H	theoretical: Audio methods, writing style on the	Short exams, assignments, discussions

		blood groups in humans and animals as one of several alleles. practical: A: The student understands sex-linked genetics	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	blackboard, direct dialogue method. practical: Assigning tasks and reporting	
10	2 Theoretical 3practical	theoretical: A: The student explains the sex systems in different organisms and the stages of sexual differentiation. practice: A: The student understands sex-linked and sex-influenced genetics -field work	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 -A visit to laboratories to learn about modern genetics techniques	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: A: The student explains the phenomenon of genetic linkage and crossing over and some aspects of chaisma. practical: A: The student understands	theoretical: Linkage and crossing over - linked genes - complete linkage - incomplete linkage - crossing over and chiasma formation - linkage groups. practical:	theoretical: Audio methods, writing style on the blackboard, direct dialogue method. practical: Assigning	Short exams, assignments, discussions

		sex-linked and sex-specific inheritance	Determining sex, the genetics associated with it, and lethal sex-linked genes	tasks and reporting	
12	2 Theoretical 3practical	theoretical: C: The student uses genetic maps to determine the locations of genes. practical: A: 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 3practical	theoretical: A: The student learns about the nature and structure of genetic material. practical: A: The student learns about chromosomal abnormalities, some syndromes, and their symptoms	theoretical: The chemical and engineering basis of inheritance: genetic material - composition of genetic material - sources of change Cytoplasmic genetics. practical: Chromosomal abnormalities	theoretical: Audio methods, writing style on the blackboard, direct dialogue method. practical: Assigning tasks and reporting	Short exams, assignments, discussions

			Duane's malformation and Patau's syndrome		
14	2 Theoretical 3practical	theoretical: C: The student enumerates the shapes of the chromosome and its parts. practical: C: 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 3practical	theoretical: C: The student connects modern technologies with genetic engineering. practical: C: The student remembers cytoplasmic genetics	theoretical: Genetic material and genetic engineering practical: Cytoplasmic inheritance and its comparison with nuclear inheritance, maternal influence	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)	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: A.L. Mustafa Abdel Baset Abdel Rahman

Chairman of the Scientific Committee: A. Dr. Khalid Hassani Sultan

Head of Department: A. Dr. Omar Dhiaa Muhammad

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course description form

1. : Course Name
Economics of Animal Production
2. :Course Code code
ECAP326
3. : Semester/Year
Autumn Semester 2024
4. : Date this description was prepared
1/9/2024
5. :Available forms of attendance
My presence + Online
6. Number of study hours(total) /number of units (total):
Theoretical hours 45 / hours 2 units
7. Name of the course administrator(if more than one name is mentioned)
Name :Prof. Imad Abdulaziz Ahmed Email: imadabdulaziz79@uomosul.edu.iq
8. objectives Course

theoretical:

- Enable the student to understand and comprehend concepts related to the economics of animal production.
- Enable the student to understand natural and economic resources and the factors of production.
- Enable the student to understand the production function, its forms, the nature and conditions of the production function, the economic derivatives of the production function, and to solve related exercises.
- Enable the student to understand the types of costs, their characteristics, cost averages, and to solve related exercises.
- Enable the student to understand the properties and characteristics of isoquant curves.
- Enable the student to learn methods for determining the optimal production size.
- Enable the student to understand the importance of substitution and expansion in the use of economic resources.
- Enable the student to identify the criteria for evaluating animal production projects.

9. Teaching and learning strategies	
The strategy	• Interactive lecture, brainstorming, factors influencing the production process. • Interactive lecture, brainstorming, necessary and sufficient condition for achieving the maximum value. • Interactive lecture, brainstorming, presentations of models on the nature and types of production functions. • Interactive lecture, brainstorming, exercises on the economic derivatives of production. • Interactive lecture, brainstorming, exercises on cost averages. • Interactive lecture, brainstorming, dialogue and discussion. • Interactive lecture, brainstorming, dialogue and discussion, assignment and report. • Interactive lecture, brainstorming, dialogue and discussion, assignment and report. • Interactive lecture, brainstorming, dialogue and discussion, assignment and report. • Interactive lecture, brainstorming, dialogue and discussion. → The student is assigned a task to solve an exercise related to resource substitution, followed by a discussion with peers. • Interactive lecture, brainstorming, dialogue and discussion, assignment and report. • Interactive lecture, brainstorming, dialogue and discussion. → The student is assigned to prepare a report on the scientific field visit, to be presented and discussed with the class. • The student is assigned a task to solve an exercise based on evaluation criteria, to be prepared and discussed with the class.

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	Auditory methods Style of writing on the blackboard Direct dialogue style Assigning tasks and reporting	Basic Principles of Animal Production Economics	A: The student becomes familiar with the economics of production and the nature of resources and factors involved in the production process."	3 Theoretical	The first week
Short exams Assignment of duty discussions	Auditory methods Style of writing on the blackboard Direct dialogue style Assigning tasks and reporting	Higher-order derivatives	B: The student becomes familiar with higher-order derivatives and maximum and minimum limits as an introduction to production and costs."	3 Theoretical	second week
Short exams Assignment of duty discussions	Auditory methods Style of writing on the blackboard Direct dialogue style Assigning tasks and reporting	Production function and basic principles of selection.	**B**: Explains to the student the concept of the production function, its assumptions, and the nature of the different cases of the production function.	3 Theoretical	the third week
Short exams Assignment of duty discussions	Auditory methods Style of writing on the blackboard Direct dialogue style Assigning tasks and reporting	Economic derivatives of the production function.	**BC**: Clarifies for the student the three stages of production, along with exercises on the application of the economic derivatives of the production function.	3 Theoretical	fourth week
Short exams Assignment of duty discussions	Auditory methods Style of writing on the blackboard Direct dialogue style Assigning tasks and reporting	The economic concept of production costs.	**BC**: Explains to the student the concept of costs, their types, and provides exercises on the application of economic derivatives for costs.	3 Theoretical	The fifth week

Short exams Assignment of duty discussions	Auditory methods Style of writing on the blackboard Direct dialogue style Assigning tasks	Economies of scale.	**B**: Explains to the student the cost curves in the short and long run, and the relationship between them through graphical representations.	3 Theoretical	the sixth week
Short exams Assignment of duty discussions	Auditory methods Style of writing on the blackboard Direct dialogue style Assigning tasks and reporting	Iso-cost lines.	**B**: Clarifies to the student the tabular, geometric, and algebraic methods for determining the least-cost combination.	3 Theoretical	Seventh week
Short exams Assignment of duty discussions	Auditory methods Style of writing on the blackboard Direct dialogue style Assigning tasks and reporting	Production function with two inputs: Determining the optimal size of production for a single variable input.	**A**: Introduces students to isoquant curves, their characteristics, and shapes.	3 Theoretical	The eighth week
Short exams Assignment of duty discussions	Auditory methods Style of writing on the blackboard Direct dialogue style Assigning tasks and reporting	Distribution of productive resources and selection between products.	**B**: Explains to students how to maximize profits while determining the optimal size of resources and optimal production size.	3 Theoretical	Week nine
Short exams Assignment of duty discussions	Auditory methods Style of writing on the blackboard Direct dialogue style Assigning tasks	Substitution relationships between resources.	**A**: Explains to students the production possibility curve, the types of relationships between competitive, complementary, independent, and related goods.	3 Theoretical	The tenth week
Short exams Assignment of duty discussions	Auditory methods Style of writing on the blackboard Direct dialogue style	Evaluation of animal production projects.	**C**: Explains to students how to substitute between resources to achieve a certain level of production.	3 Theoretical	Week eleven

	Assigning tasks and reporting				
Short exams Assignment of duty discussions	Auditory methods Style of writing on the blackboard Direct dialogue style Assigning tasks and reporting	Price relationships and selection indicators.	**A**: Introduces students to the stages of evaluation and how certain projects may be exposed to errors.	3 Theoretical	The twelfth week
Short exams Assignment of duty discussions	Auditory methods Style of writing on the blackboard Direct dialogue style Assigning tasks and reporting	Scientific field visit.	**C**: Explains to students the obstacles to achieving maximum revenue and the relationship between productivity and maximum revenue.	3 Theoretical	The thirteenth week
Short exams Assignment of duty discussions	Auditory methods Style of writing on the blackboard Direct dialogue style Assigning tasks and reporting	Indicators and criteria for evaluating animal production projects.	**E**: Assesses the student's ability through a field visit to calf and lamb fattening farms in Nineveh Governorate.	3 Theoretical	The fourteenth week
Short exams Assignment of duty discussions	Auditory methods Writing style on the blackboard Direct dialogue style Assigning tasks and reporting	Production function and basic principles of selection.	**C**: Explains the values of indicators such as net present value, cost-benefit ratio, and return on costs to understand the economic feasibility of establishing a project.	3 Theoretical	The fifteenth week

11 Course evaluation -				
Relative weight %	Class	Calendar appointment - a week	Calendar methods	T
5	5	My theory week 1-15	Final theoretical + report	1
10	5 5	Week 3	Short test 1Quiz	2
15	10 5	Week 9	Midterm test Theoretical and practical	3
10	5 5	Week 12	Short test 2Quiz	4
20	20	Practical exam week	Final practical test	5
40	40	A week of theoretical exam	Final theoretical test	
100	100		the total	

12- Learning and teaching resources

Economics of Animal Production: Dr. Salem Tawfiq Al-Najafi

Economics of Agricultural Production: King Saud University – College of Food and Agriculture Sciences

Theoretical subject teacher: Assistant Prof. Dr .Imad Abdulaziz Ahmed

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

Head of the Agricultural EconomicsDepartment Assistant Prof. Dr .Omar Diaa Mohamed

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Course Description

1. Course Name:
English Language3
2. Course Code:
ENGL300
3. Semester / Year:
2024/2025
4. Description Preparation Date:
01/09/2024
5. Available Attendance Forms:
Presence, online
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: Mohammed Riyadh Mohammed Email: mohammed.alhmdany@uomosul.edu.iq
8. Course Objectives

Course Objectives	• **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 Presence	(A) The student should be able to know the basics of the English language	Kinds of sentences.	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
2	2hours Presence	(A) The student should be able to know the tenses of the English language	English tenses/ introduction.	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
3	2hours	(A) The student should	Simple	Electronic lectures,	Exams

	Presence	be able to know the rules of the English language	tense/ with diagrams.	videos, posters and other methods related to learning	Reports Discussions quiz
4	2hours online	(A)The student should be able to know the basics of the English language	Progressive tense/with diagrams.	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
5	2hours Presence	(A)The student should be able to know the basics of the English language	Perfect tense./ with diagrams.	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
6	2hours Presence	(A)The student should be able to know the basics of the English language	Perfect progressive tense/with diagrams.	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
7	2hours online	(A) The student should be able to know the basics of the English language	verb to be	Electronic lectures, videos, posters and other methods related to learning	Exams – Reports Discussions quiz
8	2hours Presence	(A) The student should be able to know the basics of the English language	Parts of English nouns.	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
9	2hours Presence	(A)The student should be able to know the basics of the English language	Active and passive voice in English.	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
10	2hours Presence	(A)The student should be able to know the basics of the English language	The scientific subject (preparatory reading).	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
11	2hours Presence	(A)The student should be able to know the basics of the English language	Re-reading for more comprehensi	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
12	2hours Presence	(A)The student should be able to know the basics of the English language	Studying the scientific terms.	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
13	2hours Presence	(A)The student should be able to know the basics of the English language	Studying The scientific terms.	Electronic lectures, videos, posters and other methods related to learning	Exams Reports Discussions quiz
14	2hours	(A)The student should	Studying	Electronic lectures,	Exams

	online	be able to know the basics of the English language	the scientific terms.	videos, posters and other methods related to learning	Reports Discussions quiz
15	2hours Presence	(B)The student should be able to know the basics of the English language	Translation into Arabic.	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)	Rapid Review of English Grammar 1957
Recommended books and references (scientific journals, reports…)	New Headway - English course English in agriculture1985 oxford bookworms
Electronic References, Websites	https://translate.yandex.com/ https://ar.youglish.com/ https://readlang.com/ www.reverso.net https://elevenlabs.io/app/home /The Library Genesis junkybooks / cole13 / pdfdrive

A.L. Mohammed Riyadh Mohammed

Head Of Department

أ.د. عمر رضا محمد

Chairperson of the Scientific Committee

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Course description form

1. :Course name					
Animal environment and behavior					
2. Course Code**:**					
ANEB327					
3. Semester/Year **:**					
First Semester 2024/2025					
4. Date this description was prepared **:**					
1/9/2024					
5. Available forms of attendance**:**					
Presence + electronic					
6. Number of study hours (total) / number of units (total) **:**					
hours * 15 weeks 2 **30**hours 2 units					
7. Name of the course administrator					
Nadia Muhammad Bashir . **nmb@uomosul.edu.iq**					
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					
the week	hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
First	Theoretical 2	**A** Definition of the environment and the	Introduction to ecology	Audio methods teaching)	Exams reports discussi

		living and non-living components of the biological field and ecosystems Interrelationships in Biosystem		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	on quizzes
Second	Theoretical 2	**A** Energy transfer in the ecosystem Energy transfer within the food chain and pyramid Recycling materials in nature	Environment and animal ecology	audio ,methods And visual Writing style Chalkboard style Direct dialogue	Short exams, assignments, discussions.
Third	Theoretical 2	**A** Environmental changes and their extent Endurance Biomes Wild	Environmental areas	Audio and visual methods Writing style	Short exams, assignments, discussions.

		Environmental systems Watercolor		Chalkboar style Direct dialogue	
Fourth	Theoretical 2	**C** Preserving the environment and biodiversity the role of biodiversity in Environmental stability Factors that threaten biodiversity, pollution and bioaccumulation of pollutants.	Preserving environmental diversity	Auditory methods And visua Writing sty on Chalkboar style Direct dialogue	Short exams, assignm ents, discussi ons.
Fifth	Theoretical 2	**A** The importance of knowing behavior Animal behavior patterns and instincts Sensory to the animal	Definition of animal behavior	Audio-visu methods Writing sty on Chalkboar style Direct dialogue	Short exams, assignm ents, discussi ons.
Sixth	Theoretical 2	**C** Stimuli and behavior Innate and acquired And their types	Basic behaviors	audio ,methods Writing sty on Chalkboar style Direct dialogue	Short exams, assignm ents, discussi ons.
Seventh	Theoretical 2	**A** Thermal regulation and balance, factors affecting energy production and loss, the process of regulating body temperature in hot and cold weather, adaptation measures.	Thermoregulation	audio ,methods Writing sty on Chalkboar style Direct dialogue	Short exams, assignm ents, discussi ons.
Eighth	Theoretical 2	**C** Characteristics of most animals Adaptation to desert climate	Animal adaptation to environmental conditions	Auditory methods And visua	Short exams, assignm ents,

		Adaptation of sheep and goats to ,seasonal changes comparing the extent to which different ruminants adapt to hot weather		Writing sty on Chalkboar style Direct dialogue	discussi ons.
Ninth	Theoretical 2	**A** Temperature, effect of nutrition, milk stage, molt and pregnancy stage, insemination period, period between births, animal age, animal size, dry period.	Environmental factors affecting animal production	audio ,methods Writing sty on Chalkboar style Direct dialogue	Short exams, assignm ents, discussi ons.
Tenth	Theoretical 2	**A** A preliminary idea about camels, the external appearance ,of camels Physiological characteristics of ,camels	Camels and their adaptation to the desert environment	Auditory methods And visua Writing sty on Chalkboar style Direct dialogue	Short exams, assignm ents, discussi ons.
Eleventh	Theoretical 2	**C** The impact of climate on animals and ways of prevention, climate 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	the climate	audio ,methods Writing sty on Chalkboar style Direct dialogue	Short exams, assignm ents, discussi ons.
Twelfth	Theoretical 2	**A** Atmospheric ,pressure, wind water vapor	Weather conditions	audio ,methods	Short exams, assignm

		condensation, forms of precipitation		Writing sty on Chalkboar style Direct dialogue	ents, discussi ons.
Thirteenth	Theoretical 2	**A** ,Light, sunstroke ,heat cramp, fever the effect of heat on chemical **F**or composition blood characteristics	Light and heat	audio ,methods Writing sty on Chalkboar style Direct dialogue	Discussi ons and dialogu e
Fourteenth	Theoretical 2	**A** Components of the air in animal ,pens, ammonia gas oxygen, carbon ,dioxide, sewage gas ,and ozone components of the air in the poultry .hall	pollution		
Fifteenth		**C** Scientific trip			He writes a report about what he saw on the trip

Course evaluation .11

Relative % weight	Class	Calendar date (week)	Calendar methods	T
%13	7 theoreti + cal 6 practica l	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 Theoret + ical 2Practi cal	week (3)	Quiz Short test (1)	2

	%15	10 theoreti +cal 5 practica l	week (9)	Midterm test (theoretical and (practical	3
	%6	4Theor + etical 2Practi cal	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

Prof .Dr. Muthanna Ahmed Muhmmad Tayyeb

Head of Scientific Committee :

Nadia Muhammad Bashir .

theoretical Lecturer

Prof. Dr. Omar Diaa Al-Mallah

head of department

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6

Course Description Form

1. Course Name:
Design and analysis of agricultural experiments
2. Course Code:
DAAE302
3. Semester / Year:
First semester – Autumn /2024-2025
4. Description Preparation Date:
1/9/2024
5. Available Attendance Forms:
Presence+ electronic
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

Course Objectives theoretical: - 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.	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.

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

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theoretical 3practical	theoretical: A:Remembers measures of centering, mediation, and components of an analysis of variance table practical: A: 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: A: 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: A: 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: A:It mentions the definition, advantages and disadvantages of the design, and an analysis of variance table for a completely randomized design practical: A: 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: A: Knows how to use appropriate testing to compare averages practical: A: 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	theoretical:	theoretical:	theoretical:	Short exams,

	3practical	A: Duncan's test is used to compare means of coefficients practical: A:The student learns how to solve questions in the Duncan test for comparison of means	Comparing averages examples and homework practical: Duncan test	Audio methods, writing style on the blackboard , direct dialogue method practical: Assigning tasks and reporting	assignments, discussions
6	2 Theoretical 3practical	theoretical: C: Explains how to find an analysis of variance table if the numbers of repetitions are not equal practical: A: 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 3practical	theoretical: A:It mentions the definition, advantages and disadvantages of the design, and an analysis of variance table for the completely randomized block design practical: A:The student understands how to solve straightforward exercises in a randomized complete block	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

		design			
8	2 Theoretical 3practical	theoretical: A:State the law of relative efficiency of a completely randomized block design compared to a completely randomized design practical: A: 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 3practical	theoretical: A:It mentions the definition, advantages and disadvantages of the design, and a variance analysis table for the Latin square design practical: A: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 3practical	theoretical: A:The law of relative efficiency of the Latin square design compared to	theoretical: Latin square design (relative efficiency) Examples and homework	theoretical: Audio methods, writing style on the blackboard , direct	Short exams, assignments, discussions

		the completely randomized design and the completely randomized block design is stated in practice: A: The student learns about the design of the Latin square and how to solve direct questions	practical: Direct questions in Latin square design	dialogue method practical: Assigning tasks and reporting	
11	2 Theoretical 3practical	theoretical: C:The rule for estimating the missing views in the Latin square design shows practical: A: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: A:It mentions the definition, advantages and disadvantages of factorial experiments, and a table of analysis of variance for factorial experiments practical: A:The student compares a completely randomized block design with a Latin	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

		square design using the law of relative efficiency			
13	2 Theoretical 3practical	theoretical: C:Shows how to find an analysis of variance table and an intercept curve for a factorial experiment using a completely randomized design practical: A: 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 3practical	theoretical: C: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: A:The student learns about factorial experiments in a completely randomized design and how to solve exercises for a two-factor experiment	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

15	2 Theoretical 3practical	theoretical: C:Shows how to find an analysis of variance table and an intercept curve for a factorial experiment using a completely randomized block design practical: A: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 Ahmed Muhammad Tayyib

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

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course Description Form

1. Course Name:
Hatching and hatchery management
2. Course Code:
HAHM324
3. Semester / Year:
First Semester 2024/2025
4. Description Preparation Date:
1/9/2024
5. Available Attendance Forms:
My presence +electronic
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 Salih Email: dr_faiyz@uomosul.edu.iq yaserkesab75@uomosul.edu.iq

8. Course Objectives

Course Objectives	• **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 a on the Class Room platform, and the practical part of the subject is given in person.**

10. Course Structure

Week	Hours	Required	Unit or subject	Learning method	Evaluati

		Learning Outcomes	name		on method
first week	2 Theoretic 3 practical	**Theoretical**: A. Mention the factors that affect the quality of hatching eggs before and after they are laid by the hen. **Practical**: A. The student knows what natural hatching is and what artificial incubation is.	- The female reproductive system - Egg formation and the hormones that control it Genetics and its branches Introduction to animal cell structure - Comparison between primitive and advanced cells Natural and artificial hatching Guide the student to prepare a report on a topic related to the subject.	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 Theoretic 3practical	**Theoretical**: A The student understands the physiology of the male reproductive system and identifies the factors that affect fertility. **Practical**: A The student identifies the conditions required for hatchery specifications and locations.	- The male reproductive system. Factors affecting fertility. Requirements for hatchery specifications and location.	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 subject is given in	Exams, reports, discussions quizzes

				person	
third week	2 Theoretic 3practical	**Theoretical**: A. Mention the factors that affect the quality of hatching eggs before and after they are laid by the hen. **Practical**: A. The student identifies the conditions that must be met by fertilized eggs arriving at the hatchery.	Hatching Eggs -Factors affecting the quality of hatching eggs before they are laid by the hen. Requirements for fertilized eggs arriving at the hatchery. Scientific Visit	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 Theoretic 3practical	**Theoretical**: A. The student will learn about pre-hatching egg handling (collection, transport, selection). **Practical**: B. The student will demonstrate how to perform vital care during the hatching process.	Egg handling before hatching (collection, transportation, selection). Vital care during the hatching process.	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 b2participation 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 week	2 Theoretic 3practical	**Theoretical**: A. Knows the	Conditions required for	A5:Audio and visual methods (teaching	Exams, reports,

		conditions required for hatching eggs and the physicochemical characteristics of a complete egg and its components. **Practical**: A. Identify the factors that affect the percentage of fertility and hatchability.	hatching eggs - Physicochemical characteristics of the whole egg and its components. Factors affecting the percentage of fertility and hatchability.	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	discussions quizzes
sixth week wee	2 Theoretic 3practical	**Theoretical:** A explains hatching egg storage and the factors affecting it, including hatchery types and hatchery design, hatchery management, and hatchery management. **Practical**: A explains the most important points to follow when selecting hatching eggs.	Hatching egg storage and factors affecting it. - Types of hatcheries and incubators. - Building design and hatchery management. Selection of hatching eggs. Assign the student to solve a question and discuss it orally with the rest of the class.	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 Theoretic 3practical	**Theoretical**: A lists the elements of hatching: ventilation, temperature,	Hatching requirements. Internal inspection of hatching eggs before they are	a7:Audio and visual methods (teaching explanation of the topic) Style of writing on the blackboard	Exams, reports, discussions quizzes, Conducting scientific v

		humidity, and turning. **Practical**: A explains how to perform internal inspections of hatching eggs before placing them in the incubator.	introduced into the hatchery.	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	for student
eighth week	2 Theoretic 3practical	**Theoretical**: A. Understand the internal inspection of hatching eggs before they are introduced into the hatchery. **Practical**: C. Demonstrate mathematicall y how to measure the Hue unit.	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 Theoretic 3practical	**Theoretical**: A. Understand the number of hatching eggs, the stages of embryonic development, critical periods in embryonic life, hatching	Egg preparation for hatching and embryonic stages B. Required periods in embryonic life. C. Super-mechanics and	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	Exams, reports, discussions quizzes

		mechanisms, and abnormal embryonic positions. **Practical**: A. Explain how to measure the height of the air gap to determine the hatchability of eggs.	abnormal embryonic conditions. Hu unit of measurement for non-microbes and egg hatchability	A19:participation In addition to blended learning, the theoretical part of the subject is give electronically and on the Class Room platform The practical part of the subject is given in person	
tenth week	2 Theoretic 3practical	**Theoretical**: A. Lists the sources of hatching eggs and the care of parent flocks. **Practical**: B. The student documents how to prepare hatching machines and clean and sterilize hatcheries.	Sources of hatching eggs and care of parent flocks. Preparing hatchery machines and cleaning and sterilizing hatcheries.	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 Theoretic 3practical	**Theoretical**: A. Identify and evaluate the quality of hatched chicks. **Practical**: B. The student documents how to steam and store hatching eggs.	Determine hatching chick contracts. Fumigation and storage of hatching eggs.	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	Exams, reports, discussions quizzes

				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	
twelfth week	2 Theoretic 3practical	**Theoretical**: B Understands the hatching plan. **Practical**: B The student describes how to prepare eggs for hatching and examine them during incubation.	Hatching Plan. Cosme 10 Exam Prepare the eggs for hatching and examine them during incubation.	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 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
thirteenth week	2 Theoretic 3practical	**Theoretical**: A explains the health care of hatcheries. **Practical**: A presents a text about embryonic mortality during the hatching period.	Hatchery Health Care Cost of Chick Production and Factors Affecting Profits Embryonic Mortality During the Hatching Period.	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	Exams, reports, discussions quizzes

				the Class Room platform The practical part of the subject is given in person	
fourteent week	2 Theoretic 3practical	**Theoretical**: C. Calculates the cost of producing chicks and the factors affecting profits. **Practical**: A. The student lists points on how to treat hatched chicks.	Detecting hatching problems (causes and treatment). Excluding hatched chicks and calculating results except at the end of the hatching period.	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 give electronically and on the Class Room platform The practical part of the subject is given in perso	Exams, reports, discussions quizzes
fifteenth week	2 Theoretic 3practical	**Theoretical**: C identifies hatching problems (causes and treatment) **Practical**: C identifies the student's mathematical calculations for the quantitative results at the end of the hatching period..	The quest exam	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	degree	Relative weight	

		appointment (week)		%
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 Saadudeen

Practical subject teachar: Yaser Ghanim Ksab

Head of Scientific Committee : Prof Dr. Muthanna Ahmed Muhammad

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

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course Description Form

1. Course Name
Medical and veterinary insects
2. Course Code
MEVI221
3. Semester / Year
2end 2024-2025
4. Description Preparation Date
quarterly 1/9/2024
5. Available Attendance Forms
Presence + Electronic
6. Number of Credit Hours (Total) / Number of Units (Total)
75H. 3,5 Units
7. Course administrator's name (mention all, if more than one name)
Name:dr.Renna Riadh faleh Email: renna.reyadh@uomosul.edu.iq Name: Ekhlas Zydid Mohammd Email: ekhlas.1977@uomosul.edu.iq
8. Course Objectives

Theoretical: - Enabling students to understand and assimilate insects Medical and its relationship to the transmission of diseases to human beings and their poultry animals - 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 Medical - Enabling students to discern and detect the whereabouts of medical insects - The student can judge the types of medical insects They are transmitted to the most important endemic diseases.	Practical: - Enabling students to identify the most important laboratory methods in identifying Distinguishing between the most important medical insects and practical experiences of diagnosis Presence of various medical insects
9. Teaching and Learning Strategies	
Theoretical: - Interactive lecture	Practical:

- 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	- Commissioning teamwork to uncover leadership skills - Assignment of tasks and report for each experience

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theoretical 3 Practical	Theoretical a1: The concept of medical entomology and the medical significance of these insects Practical b1: xamines 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 are transported Practical c2: 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 Sty On the board direct dialogue style Practical: Assignmen 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 them in detail	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 Practical: Wings liquidation rank/bed bugs, sucking lice rank/body lice - pubic lice -	Theoretical: Audio Methods Writing Sty On the board direct dialogue style Practical: Assignmen and reporting	Short Tests, Duty Assignment, Discussions

			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 o parasitic worms, mammals a pathogen-carrying stores Practical: Rodent lice, two wing rank/sand fly - Hamush	Theoretical: Audio Methods Writing Sty On the board direct dialogue style Practical: Assignmen 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 c3: Examines insects	Theoretical: classification of the division of arthropods, division of arthropods into their groups of medical and veterinary significanceCockroach and its types Practical: Cockroach of its kinds and life cycles	Theoretical: Audio Methods Writing Sty On the board direct dialogue style Practical: Assignmen and reporting	Short Tests, Duty Assignment, Discussions
6	2 Theoretical 3 Practical	Theoretical b3: 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 Sty On the board direct dialogue style Practical: Assignmen 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 Sty On the board direct dialogue style Practical: Assignmen 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: Assessment of the medical importance of	Theoretical: Mouth Parts Bed Bugs Medical Importance Practical: Medical Importance of Bed Bugs and Life Cycle	Theoretical: Audio Methods Writing Sty On the board direct dialogue style Practical: Assignmen and reporting	Short Tests, Duty Assignment, Discussions

		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 Sty On the board direct dialogue style Practical: Assignmen 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 Sty On the board direct dialogue style Practical: Assignmen 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 of its kinds - prevention of it - treatment - control of diseases and damage caused by it Practical: sucking lice - rodent lice - human lice of its kind - feather axis lice - poultry body lice - romaine chicken lice - duck lice - cow lice - horse lice - goat lice	Theoretical: Audio Methods Writing Sty On the board direct dialogue style Practical: Assignmen 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	Theoretical d2: Conducts panel	Theoretical: The medical significance of	Theoretical: Audio Methods Writing	Short Tests, Duty

	3 Practical	discussions on the medical importance of a dream or any other selected insect Practical d2: Examines model	a dream/a mite try man - prevention and treatment - a mite 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	Style On the board direct dialogue style Practical: Assignment and reporting	Assignment, Discussions
14	2 Theoretical 3 Practical	Theoretical b2: Identifying health risks and their impact on human health and the effect of neglect on public health Practical d2: Examines models	Theoretical: Medical significance mite 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: Assignmen 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 e1: 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

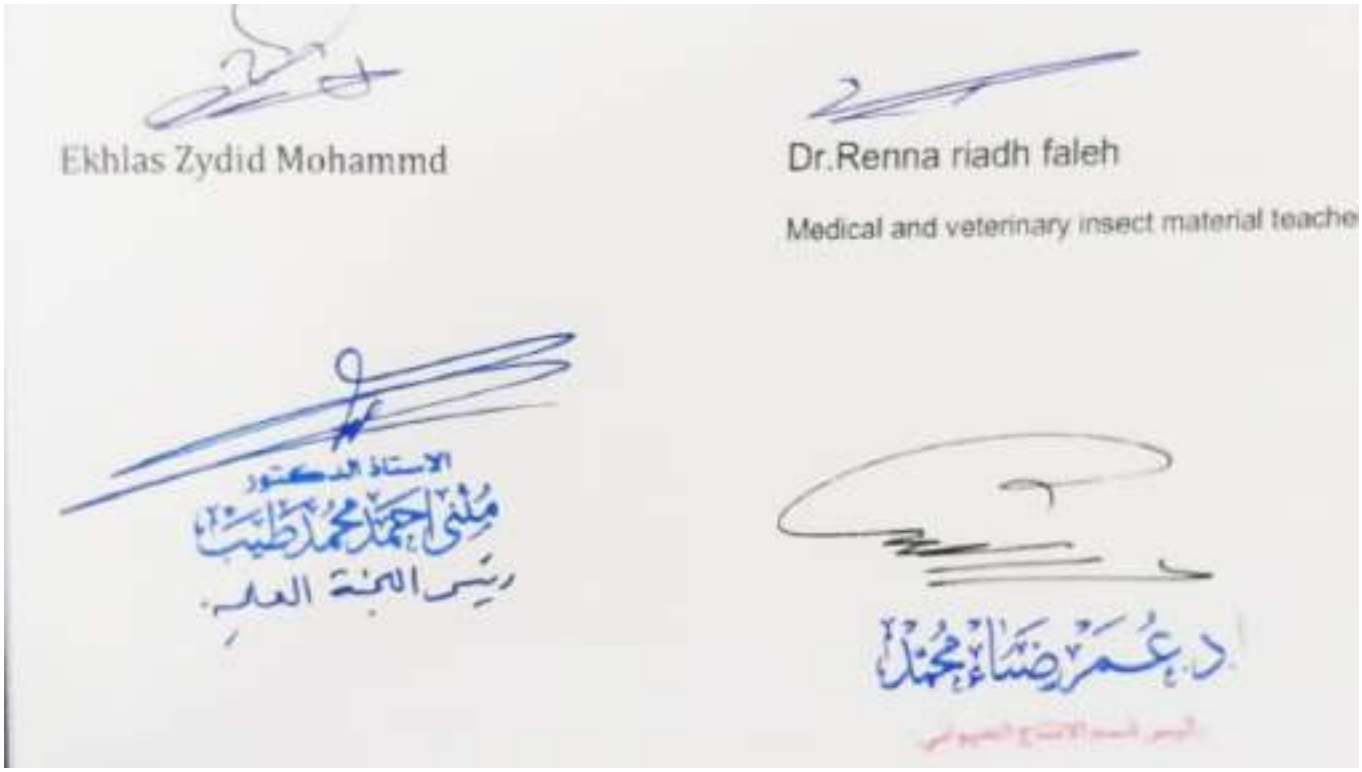
11. Course Evaluation

	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



Course Description Form

1. Course Name:
Animal physiology
2. Course Code:
AGAP24_F3011
3. Semester / Year:
Autumn / 2024- 2025
4. Description Preparation Date
1/9/2024
5. Available Attendance Forms:
Presence and electronic
6. Number of Credit Hours
(75) / Number of Units (5)
7. Course administrator's name (mention all, if more than one name)
Name: Assist prof . **Abdulnaser Thanoon Mahmood Alkhashab** (Theoretical lecturer) Email: **dr.abdulnassir@uomosul.edu.iq** Name: Mohammed Salem Ibrahim Almeteoty (Practical lecturer) Email: **mohammadalmoteoty@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**	**Theoretical: A** **: The student learns about the cell, the structure of the cell, its components, and the function of each** **Practical:** **Explains the laboratory equipment used in laboratories**	**Theoretical:** **Study of the cell and its structure** **Practical:** **Laboratory equipment used in laboratories**	**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: A** **A: The student learns about cellular tissues and knows the types of cellular tissues and their locations in the animal's body** **practical :** **Learn about drawing blood**	**Theoretical:** **Cellular tissues and their types** **Practical:** **Draw blood**	**Methods audio** **Writing style** **On the board** **Dialogue style** **Direct practical:** **Assigning tasks** **And report**	**short exam** **Assignment of duty** **discussion**
3	**Theoretical 2** **Practical 3**	**Theoretical: B** **B: The student remembers the mechanisms and methods of transporting substances and mechanizing their transport across the cell membrane** **Practical :** **Mentions on blood functions**	**Theoretical:** **Mechanism and mechanization of transport across the cell membrane** **Practical** **Blood functions**	**Methods audio** **Writing style** **On the board** **Dialogue style** **Direct practical:** **Assigning tasks** **And report**	**short exam** **Assignment of duty** **discussion**
4	**Theoretical 2** **Practical 3**	**Theoretical: A** **A: The student understands the digestive system, the differences in the digestive system between animals, and the function of each part** **Practical:** **Shows how to make a**	**Theoretical** **The digestive system, its components and functions** **Practical**	**Methods audio** **Writing style** **On the board** **Dialogue style** **Direct practical:** **Assigning tasks** **And report**	**short exam** **Assignment of duty** **discussions**

		blood slide	**Make a blood slide**		
5	**Theoretical 2** **Practical 3**	**Theoretical: C** **Using PowerPoint, the student learns about the hormones and enzymes of the digestive system and their functions in the body of living organisms** **Practical:** **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**	**short exam** **Assignment of duty** **discussion**
6	**Theoretical 2** **Practical 3**	**Theoretical: B** **The student learns about the types of small and large intestine movements in animals, the mechanism of each type, and its benefits** **Practical:** **Shows how to estimate the volume of stacked cells**	**Theoretical** **Small and large 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**	**short exam** **Assignment of duty** **discussions** **A field visit to living and educational centers inside or outside the universit**
7	**Theoretical 2** **Practical 3**	**Theoretical: B** **The student knows about the circulatory system, its parts and functions in animals** **Practical:** **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**	**short exam** **Assignment of duty** **discussion**
8	**Theoretical 2** **Practical 3**	**Theoretical : C** **The student learns about the composition and components of blood** **Practical:**	**Theoretical** **Blood composition and its components**	**Methods audio** **Writing style** **On the board** **Dialogue style** **Direct practical:** **Assigning tasks**	**short exam** **Assignment of duty** **discussion**

		Performs estimation of white blood cells	**Practical White blood cells**	**And report**	
9		**Scientific visit**	**Scientific visit to of students to the faculty of nursing – Mosul University**	**Students visit faculty libraries**	
10	**Theoretical 2 Practical 3**	**theoretical : A The student learns about the lymphatic system and the structure and parts of the device Practical: 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**	**short exam Assignment of duty discussions**
11	**Theoretical 2 Practical 3**	**Theoretical: B Introducing the student to the nervous system and its parts and studying the structure of the nerve cell Practical: Explains blood groups**	**Theoretical The nervous system and nerve cell structure Practical Blood groups**	**Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report**	**short exam Assignment of duty discussions**
12	**Theoretical 2 Practical 3**	**Theoretical: A Introducing the student to the central nervous system and its functions in animals practical : Identify the Rh factor**	**Theoretical The central nervous system and its parts Practical Rhesus factor**	**Methods audio Writing style On the board Dialogue style Direct practical: Assigning tasks And report**	**short exam Assignment of duty discussion**
13	**Theoretical 2 Practical 3**	**theoretical : A Introducing the student to the peripheral nervous system and its functions in animals**	**Theoretical peripheral nervous system**	**Methods audio Writing style On the board Dialogue style Direct**	**short exam Assignment of duty discussion**

		Practical: **Mentioned on the urinary system**	**Practical** **Urinary tract**	**practical:** **Assigning tasks** **And report**	**s**
14	**Theoretical 2** **Practical 3**	**theoretical : A** **Introducing the student to the respiratory system and its functions in animals** **Practical:** **Familiar with the components of blood serum and plasma**	**Theoretical** **The respiratory system and its parts** **Practical** **Serum and blood plasma**	**Methods audio** **Writing style** **On the board** **Dialogue style** **Direct** **practical:** **Assigning tasks** **And report**	**short exam** **Assignment of duty** **discussions**
15	**Theoretical 2** **Practical 3**	**Theoretical: B** **Definition of the urinary system and its functions in animals** **practical :** **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**	**short exam** **Assignment of duty** **discussions**

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 animal philosophy (1990)** **Written by: Dr. Zia Hassan El Hassani,** **Sadiq Muhammad Amin al-Hiti.**
Main references (sources)	
Recommended books and references (scientific journals, reports...)	**Anatomy and physiology of agricultural animals (1981)** **Dr. Ismail Ajam**
Electronic References, Websites	

11- Course evaluation

Calendar methods	**Calendar appointment**	**Class**	**Relative weight%**
Theoretical final report +	**My theory is week 15**	**7 theoretical + 6 practical**	**13%**

practical			
Short test	**My work week 1 - 15**	**4 theoretical + 2 practical**	**6%**
A theoretical and practical midterm test	**week (3)**	**10 theoretical + 5 practical**	**15%**
Short test	**week (9)**	**4 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. Abdulnassir Thanoon Alkhashab
Theoretical lecturer

L. Mohamad Salem Ibrahem
Practical lecturer

Muthanna Ahmed Muhammad
Chairman of the Scientific Committee

Omar Dhiyaa Muhammad
Head of the Animal Production Department

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course Description Form

1. Course Name:
Animal Nutrition
2. Course Code:
ANUT325
3. Semester / Year:
2024−2025
4. Description Preparation Date:
1/9/2024
5. Available Attendance Forms:
Presence + Electronic
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: Muthanna Ahmed Mohammed Tayeb -Email: muthanna_tayeb@uomosul.edu.iq Name: sarmad hashim taha -Email:sarmed.almaula@uomosul.edu.iq

8. Course Objectives

Theoretical	Practical
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 productive 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	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	

	- 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	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** **3 hr. practical**	**:Theoretical** A The student remembers the forms of energy and understands the cycle of energy	**Theoretical** : Energy, its transformations and enzymes Practical	**:Theoretical** Methods audio style Writing on Blackboard H	short exam- Assignment of -duty discussions

		production in the body **Practical** B The student implements, according to the correct scientific method, the method of taking feed samples for analysis	take samples	style Dialogue Direct **:practical** Assigning tasks And report	
4	2 hr. **theoretical** **3 hr.** **practical**	**Theoretical** A The student understands the differences in the digestive system between animals and the effect of nutritional level on digestion **Practical** C 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 report	short exam- Assignment of - duty discussions
5	2 hr. **theoretical** **3 hr.** **practical**	**Theoretical** A The student lists the types of sugars found in the composition of carbohydrates **Practical** B The student practically carries out the estimation of moisture in feed	Theoretical Carbohydrates Practical Methods for measuringmoisture in different feed, calculatin 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** **3 hr.** **practical**	**Theoretical** A The student identifies the most important products of carbohydrate fermentation in agricultural animals and explains the reason for the difference	Theoretical Carbohydrate metabolism Practical Steps to measure ash and detect adulteration in feed	**:Theoretical** Methods audio style Writing on Blackboard H style Dialogue Direct **:practical**	short exam- Assignment of - duty discussions

		between them **Practical** B The student applies the correct steps to find the ash content of feed		Assigning tasks And report	
7	2 hr. **theoretical** **3 hr.** **practical**	**Theoretical** C The student links the types of fats in food and their relationship to fats deposited in the body **Practical** B The student applies the correct procedures find the feed content of .ether (fat) extract	Theoretical Fats Practical Steps to measure fat in feed	**:Theoretical** Methods audio style Writing on Blackboard H style Dialogue Direct **:practical** Assigning tasks And report	short exam- Assignment of -duty discussions
8	2 hr. **theoretical** **3 hr.** **practical**	**Theoretical** A The student understands the mechanism of difference between animals in digesting and absorbing fats and recognizes the resulting nutritional diseases associated with them **Practical** B The student applies the procedures To estimate nitrogen in feed	Theoretical Fat digestion and metabolism Practical Steps for determining nitrogen in feed	**:Theoretical** Methods audio style Writing on Blackboard H style Dialogue Direct **:practical** Assigning tasks And report	short exam- Assignment of -duty discussions
9	2 hr. **theoretical** **3 hr.** **practical**	**Theoretical** A The student learns about the types of proteins, their properties, and the forms of nitrogen excreted from the body **Practical** B The student implements the procedures and ste for fiber analysis	Theoretical Proteins Practical Types of fibers and methods of estimating them	**:Theoretical** Methods audio style Writing on Blackboard H style Dialogue Direct **:practical** Assigning tasks	short exam- Assignment of -duty discussions

				And report	
10	2 hr. **theoretical 3 hr. practical**	**Theoretical** C The student distinguishes between the products of digestion among animal species and links them to metabolic changes and production **Practical** B The studentcalculates, usingspecial equations, the energy values of feed	Theoretical Metabolism of proteins Practical Methods of measuring and calculating energy in feed	**:Theoretical** Methods audio style Writing on Blackboard H style Dialogue Direct **:practical** Assigning tasks And report	short exam- Assignment of - duty discussions
11	2 hr. **theoretical 3 hr. practical**	**Theoretical** C The student identifies the most important symptoms of deficiency and the effects of the major elements and their relationship to each other **Practical** A The ,student calculates using special equations, t values of the nitrogen-free extract	Theoretical Major inorganic elements Practical Methods for measuring nitrogen- and starch-free extract	**:Theoretical** Methods audio style Writing on Blackboard H style Dialogue Direct **:practical** Assigning tasks And report	short exam- Assignment of - duty discussions-
12	2 hr. **theoretical 3 hr. practical**	**Theoretical** C The student identifies the most important symptoms of deficiency and the effects of microelements **Practical** B 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**	**Theoretical** A The student	Theoretical	**:Theoretical** Methods	short exam- Assignment of -

	3 hr. practical	understands the relationship of inorganic elements and the acid-base balance of feeds and dealing with their negative effects **Practical** B The student proficient in producing good quality silage	The role of electrolytes in barrier balance Practical How to make silage and the quality of silage	audio style Writing on Blackboard H style Dialogue Direct **:practical** Assigning tasks And report	duty discussions
14	2 hr. **theoretical** **3 hr. practical**	**Theoretical** A The student remembers the most important functions and symptoms of deficiency of water-soluble vitamins **Practical** B The student creates mixtures reactions in the right proportions t 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** A The student learns about the role of antibiotics, how they work, growth regulators, and their use in animal production **Practical** C The student calculates the energy and protein content of the diet	Theoretical Antibiotics and hormones Practical Methods and how to calculate energy and protein from diets	**:Theoretical** Methods audio style Writing on Blackboard H style Dialogue Direct **:practical** Assigning tasks And report	short exam- Assignment of - duty discussions-

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 a references (scientific journa reports...)	NRC, 2001 and NRC 2007
Electronic References, Websites	Reports and articles

Theoretical subject teacher

Muthanna Ahmed Mohammed Tayeb

Practical subject teacher

Sarmad Hashim Taha

Chairman of the Scientific Committee

Muthanna Ahmed Mohammed Tayeb

Head of the Animal Production Department

Omar Dheyaa Mohammed

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course Description of the Animal diseases

1.Course Name
Animal diseases
2.Course Code
ANDI331
3.Term / Year
Spring Semester 2024−2025
4.Description Preparation Date:
1/2/2025
5.A. Available Attendance Forms
learning in presence and electronic
6.Number of Credit Hours (Total of Units)
75 hours/ 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- Interactive lecture. 2- Brain storming. 3-Dialogue and discussion. 4 - Practical exercises.
10.Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject Name	Learning method	Evaluation Method
1	2 Theoretical	A : The student understands what animal pathology is	Definition of animal pathology The relationship of animal diseases to livestock and national economic resources	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A : The student understands what causes diseases and how diseases are classified.	disease causes diseases classification	Short exams, assignments, discussions	Exams , assignment, discussions.

2	2 Theoretical	A : The student learns the definition of disease and the biological agents that cause it.	Definition of disease and classification of disease according to biological causes	Short exams, assignments, discussions	Exams , assignment, discussions.
	3 Practical	A : The student understands the diseases caused by bacteria, viruses, and worms.	Disease caused by bacteria, viruses, and worms	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
3	2 Theoretical	C : Explain to the student how to classify diseases according to contagion, spread, and duration of the disease	Classification of diseases according to infection, spread, and duration of the disease. Pathogens that contribute to the disease's occurrence. pathways of entry. Sources of infection.	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C : Explain to the student the environmental factors that cause the disease.	Environmental factors affecting animal health	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
4	2 Theoretical	C : Explains what veterinary quarantine is and what defensive measures are used to prevent the introduction of disease.	Resistance to infectious diseases Veterinary quarantine Defensive measures to prevent disease entry	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B : Shows the student the mechanism of disease occurrence.	The animal's body's response to disease or infection	Laboratory work.	Exams , assignment, discussions.

5	2 Theoretical	B : The student learns about the fate of germs that enter the blood vessels , types of immunity.	The fate of germs that enter the blood vessels , types of immunity , Tuberculosis	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C : Shows the student what measures are being taken to limit the spread of communicable diseases.	Procedures followed to limit the spread of communicable diseases	Laboratory work.	Exams , assignment, discussions.
6	2 Theoretical	A : The student understands what calf strangulation, anthrax, and mastitis are.	Calf strangulation, anthrax, mastitis	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A : Explain to the student what immunity is, inherited immunity, and acquired immunity.	Immunity, inherited immunity and acquired immunity Scientific visit	The student writes a report about what he saw In the scientific trip	Exams , assignment, discussions.
7	2 Theoretical	B : Shows the student: Continuous abortion, foot rot, rabies, rinderpest	Infectious abortion, foot rot, rabies, rinderpest	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B : The student learns how to prevent infectious diseases, bacterial and viral vaccines.	How to prevent infectious diseases, bacterial and viral vaccines	Laboratory work.	Exams , assignment, discussions
8	2 Theoretical	B : Shows the student what foot-and-mouth disease, sheep pox, the most important external parasitic diseases (lice and ticks), protozoan diseases, red fever (Texas fever or tick fever)	Foot-and-mouth disease, sheep pox, the most important external parasitic diseases (lice and ticks), protozoan diseases, red fever (Texas fever or tick fever)	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

	3 Practical	B : The student learns about the different methods of administering antibiotics and their classification.	Different ways to administer medications Antibiotics, their classification	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
9	2 Theoretical	B : Explain to the student what yellow fever (theileria), trypanosoma (durus), and lung worms are.	Yellow fever (theileria), trypanosoma (durus), lung worms	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A : The student understands what veterinary medicines are, their sources, and their forms.	Veterinary medicines, their sources and forms	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
10	2 Theoretical	C : Explain to the student the types of nutritional diseases in ruminants.	Nutritional diseases in ruminants Types of nutritional diseases in ruminants	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B : Explain to the student the types of vaccines given to cows, sheep, and horses.	Types of vaccines given to cows, sheep, and horses	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
11	2 Theoretical	C : The student is familiar with the most important diseases that cause abortion in ruminants.	Diseases that cause abortion in ruminants	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A : The student learns about mastitis	Mastitis Scientific visit	Auditory styles, writing style on the board, direct dialogue style	Exams , assignment, discussions.

12	2 Theoretical	B : It explains to the student the symptoms and effects of the disease: inflammation of the mouth and pharynx, diarrhea, constipation, colic, bloating, indigestion, and overeating in cows and buffalo.	Digestive system diseases in cows and buffaloes such as stomatitis, diarrhea, constipation, colic, bloating, indigestion, and indigestion.	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A : The student learns about hoove injuries in cows.	Hoof injuries in cows	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
13	2 Theoretical	B : It explains to the student diseases of sheep and goats, such as pasteurellosis, toxoplasmosis, black disease (infectious liver necrosis), and infectious diarrhea in sheep (lamb dysentery).	Diseases of sheep and goats, such as pasteurellosis, toxoplasmosis, black disease (infectious liver necrosis), and infectious diarrhea in sheep (lamb dysentery).	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C : Explain to the student what are the most important bacterial and viral field diseases.	The most important bacterial and viral field diseases	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
14	2 Theoretical	A : The student learns about the disease ofstomatitis (swelling of the jaw) in sheep, sheep pox, and equine diseases such as African horse plague (star disease) and dorin disease.	Actinomycosis (swelling of the jaw) in sheep and sheep pox. Equine diseases such as African horse plague (star disease) and durin's disease.	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

	3 Practical	C : Shows the student what are the most important external and internal parasitic diseases.	The most important external and internal parasitic diseases	Auditory styles, writing style on the board, direct dialogue style	Exams , assignment, discussions.
15	2 Theoretical	B : Explains to the student the clinical symptoms of equine encephalomyelitis, infectious equine anemia, equine influenza, and glanders.	Equine encephalomyelitis Equine infectious anemia, equine influenza, glanders	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C : What are the defensive mechanisms that resist diseases in the animal body	Defensive mechanisms that resist diseases in the animal body	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
Instructor of practical subject

Dr. Hanan waleed kasim
Instructor of theoretical subject

Dr. Khalid Hassani Sultan
Chairman of the Scientific Committee

Dr. Omar Diaa Muhammad
Head of Department

Course Description Form

1. Course Name:
Animals Breeding
2. Course Code:
ANB332
3. Semester / Year:
Spring 2025
4. Description Preparation Date:
1/2/2025
5. Available Attendance Forms:
Presence and online
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: Raghad Ismail Saeed Emailraghad.alnuaimy@uomosul.edu.iq

8. Course Objectives	
Course Objectives	• 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	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 student's evaluation in class participation

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First	2Theoretical 3 My work	A: heoretical: The student is introduced to statistical processes and knowledge of the general principles of animal husbandr and improvement Practical: A: The sTtudent applies all statistical operatio	Theoretical: Principles of statistics needed in Animal breeding and improvement Practical: Measures of concentration measures of dispersion	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
Second	2Theoretical 3 My work	Theoretical B: Among the most important expressions of the gene (combination effect, dominance, superiority) Practical A: Defines the regression coefficient and correlation coefficient and solves an example to extract the value of each coefficient	Theoretical: Some genetic principles in Animal breeding and improvement, gene expression patterns, Practical: Measures of association (coefficient Regression and correlation coefficient	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
Third	2Theoretical 3 My work	Theoretical: C: Explain the concept of the Hardy-Winnberg rule and calculate gene expression fo r a pair of genes. Practical: A: Identify gene frequency, quantile distribution, and zygotic distribution.	heoretical: Gene frequency, calculating gene frequency in the presence of a pair of genes with additive and dominant effects, random mating, Hardy-Wennberg rule Practical: Explaining the concept of gene frequency	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
Fourth	2Theoretical 3 My work	Theoretical A: Explain the importance of factors affecting gene replicat Calculate them (migration, mutation, chance, selection). Practical A: Understand the importance of factors affecting gene replication and identify mutation, its types, migration, and its effect on gene replication.	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 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
Fifth	2Theoretical 3 My work	Theoretical C Explain how to calculate variance, gene effect, and ger substitution, and what quantitative and descriptive t are. Practical A: Understand chance and selection and their effect on g	Theoretical Pheterotypic 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 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

		frequency.			
Sixth	2Theoretical 3 My work	Theoretical C: Explains the concept of kinship and how to calculate it. Practical A: It shows the importance of variance analysis in analyzing results and the extent to which different factors affect them. Finds a variance analysis 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 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
Seventh	2Theoretical 3 My work	Theoretical C: The kinship coefficient is calculated in the event that there is inbreeding and the inbredding is calculated Practical C: It shows and calculates the coefficient of kinship and the relationship between individuals	Theoretical Calculating the kinship coefficient Practical Kinship and relationship between individuals	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
Eighth	2Theoretical 3 My work	Theoretical B: Expresses breeding based c genetic similarity or lineage a phenotypic similarity. Practical C: Calculates the inbreeding coefficient and the kinship coefficient in the presence or absence of inbreeding.	Theoretical Types of inbreeding Scientific Visit to the University's Molecular Genetics Laboratories Practical inbreeding	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
Ninth	2Theoretical 3 My work	Theoretical A: Understands the most important types of breed mixing (external mixing, apical mixing, basal mixing, etc.) Practical C: Explains the concept of the Hardy-Weinberg rule	Theoretical Mixing breeds Practical Hardy-Weinberg rule	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
Tenth	2Theoretical 3 My work	Theoretical C: Explains the meaning of genetic equivalence and calculates its value through selection experiments, the parent-offspring relationship, its calculation using full and half-siblings. Practical C: Explains genetic equivalence in its two concepts and lists methods for estimating it.	Theoretical Some genetic parameters of the population (genetic equivalence) and methods for estimating it Practical Genetic parameters of the animal population (genetic equivalence)	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
Eleven	2Theoretical 3 My work	Theoretical C: He can calculate the	Theoretical Some genetic features of	Audio and visual methods (teaching explanation of the	Exams, reports, discussions,

		frequency coefficient in various practical C: ways The student calculates using special equations the frequency coefficient and what is its theoretical basis	the population (frequency coefficient) Practical Explaining the concept of the iterative coefficient, the purpose of its use, and characteristics for which it is theoretically,	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	Quizzes
Twelve	2Theoretical 3 My work	Theoretical C: Explains the meaning of gen correlation and calculates the value of the correlation. Practical A: Understands genetic correlation, the reasons for its emergence between two traits, its importance in animal breeding, and methods for estimating it.	Theoretical Some genetic parameters of the population (genetic correlation) Practical Calculating the genetic correlation between two Traits Various methods	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
Thirteer	2Theoretical 3 My work	Theoretical A: Identify the intensity of selection and its relationship the selection variance. Practical C: Calculate the frequency of a gene in a number of animal populations.	Theoretical Election Practical Exercises and problems about gene duplication	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
Fourteen	2Theoretical 3 My work	Theoretical B: Explains the concept of selection intensity and the relationship between selectio intensity and the selection differential. Practical A: Identify the regression coefficient and the correlatio coefficient and solve an exam to extract the value of each coefficient.	Theoretically Selection intensity and selection differential Practically Correlation measures (regression coefficient and correlation coefficient)	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
Fifteen	2Theoretical 3 My work	Theoretical B: Explain the importance of genetic engineering and identify modern methods of animal breeding and improvement. E: Identify the most appropriate breeding methods and breeds for animal husbandry and prepare a detailed report. Practical A: Use animal records to evaluate and compare them and prepare a detailed report.	Theoretical Genetic Engineering and Molecular Genetics in Animal Breeding and Improvement Scientific Visit to Animal Production Fields at Relevant Colleges Practical Animal Records Evaluation (Report and Discussion) Genetic foundations for animal improvement.	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

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.M. Raghad Ismail Saeed

Prof. Dr. Omar D. Muhammad

Head of the Animal Production Department

Prof. Dr. Khaled Hassani Sultan

Chairman of the Scientific Committee

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course Description Form

1. Course Name:
Technology of poultry products
2. Course Code:
PPTE329
3. Semester / Year:
Second Semester 2024/2025
4. Description Preparation Date:
1/2/2025
5. Available Attendance Forms:
My presence +electronic
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	• **Deliver an introduction on each topic a simple manner and from the reality public life.** • **Explanation at length of all aspects the subject, giving live examples explain its nature and benefit.** • **Presenting questions about the topic demonstrate students' understand through their answers.** • **Conducting surprise exams 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 gi electronically and on the Class Room platform, and the practical part the subject is given in person.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first week	2 Theoretical 3practical	**Theoretical**: A: The student understands the reality of poultry production in Iraq and the Arab world. **Practical**: A: The student mentions the measurement of shell thickness.	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	: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 The practical part of subject is given in person	Exams, reports, discussions, quizzes
second week	2 Theoretical 3practical	**Theoretical**: A. The student learns about the types of poultry projects. **Practical**: C. The student mathematicall y calculates the specific gravity of an egg.	Types of poultry projects. Measuring the specific weight of the egg Coz test 10 marks	: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	Exams, reports, discussions, quizzes

				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	
third week	2 Theoretical 3practical	**Theoretical**: B Understand the nutritional value, composition, and importance of eggs in human nutrition. **Practical**: A Describe the color of the shell.	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	: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 The practical part of the subject is given in person	Exams, reports, discussions, quizzes

fourth week	2 Theoretical 3practical	**Theoretical**: A. Identify the chemistry of eggs and their products. **Practical**: A. Rewrite the factors that affect shell quality.	Chemistry of eggs and their products, The shell and membranes of the egg, Egg whites, egg yolks. Shell colour	: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 The practical part of the subject is given in person	Exams, reports, discussions, quizzes
Fifth week	2 Theoretical 3practical	**Theoretical**: A. Egg microbiology identifies pre- and post-laying egg contamination. **Practical**: A. Restate the factors that affect shell quality.	micro logia 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	: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

				subject is given electronically and on the Class Room platform :The practical part of the subject is given in person	
sixth week wee	2 Theoretical 3 practical	**Theoretical**: A Understands egg storage and marketing. **Practical**: A Mentions the albedo height scale.	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	: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 The practical part of the subject is given in person	Exams, reports, discussions, quizzes
seventh week	2 Theoretical 3practical	**Theoretical**: A. Learn about poultry meat production and broiler preparation, receiving and incubating chicks. **Practical**: C. Mention the egg-laying height scale.	poultry meat production, Preparing meat chickens, Receiving the chicks' meal and incubating them, commercial breeds of broilers, Standard rates for the economic	: 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	Exams, reports, discussions, quizzes, Conducting scientific v for students

			characteristics of broiler chickens and the factors affecting them	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	
eighth week	2 Theoretical 3practical	**Theoretical**: A. Know the chemical and nutritional properties of poultry meat and the composition of poultry meat. **Practical**: C. Demonstrate mathematicall y how to calculate the unit measure of HO.	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	: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 :The practical part of the subject is given in person	Exams, reports, discussions, quizzes
ninth week	2 Theoretical 3practical	**Theoretical**: A. Knows the processes of preparing poultry meat for consumption. Identifies the	Processes for preparing poultry meat for consumption, Types of poultry birds	:Audio and visual methods (teaching explanation of the topic) Style of writing on the	Exams, reports, discussions, quizzes

		types of poultry used in meat production. **Practical**: A. Recalls something about the quality of the yolk.	used in meat production, Poultry meat preparation processes, Cutting poultry carcasses. poultry meat assembly, Yolk quality Scientific visit	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 The practical part of the subject is given in person	
tenth week	2 Theoretical 3practical	**Theoretical**: A. Determines the quality of poultry meat and methods of preserving it in poultry varieties intended for marketing. **Practical**: C. Calculates the shape of the yolk mathematicall y.	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	: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 C5:The practical part of the subject is given in person	Exams, reports, discussions, quizzes

eleventh week	2 Theoretical 3practical	**Theoretical**: A. Define meat storage, refrigeration requirements, freezing poultry meat, and freezing requirements in poultry slaughterhouses. **Practical**: A. Describe yolk color and the factors affecting it.	cold storage, cooling requirements, freezing poultry meat, Freezing requirements in poultry slaughterhouses, Methods used in freezing poultry meat, Changes in the nutritional value of poultry meat during storage. Yolk color 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 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 3practical	**Theoretical**: A. Understand the microbiology of poultry meat. **Practical**: A. Rewrite the methods for measuring yolk color.	Microbiology of poultry meat. Methods for measuring yolk color Coz test 10 marks	: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

				subject is given electronically and on the Class Room platform :The practical part of the subject is given in person	
thirteenth week	2 Theoretical 3practical	**Theoretical**: A. Determines the flavor and tenderness of poultry meat. **Practical**: A. Recalls blood spots and flesh.	Flavor and tenderness of poultry meat. Bloody and fleshy spots. Coz test 10 marks	: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 :The practical part of the subject is given in person	Exams, reports, discussions, quizzes
fourteenth week	2 Theoretical 3practical	**Theoretical**: A. Explain the effect of cooking methods on the flavor, tenderness, and nutritional value of poultry meat. **Practical**: A. Describe the grading and	The effect of cooking methods on the flavor and tenderness of poultry meat and its nutritional value. Egg grading and examination. Coz test 10	: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

		inspection of eggs.	marks	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	
fifteenth week	2 Theoretical 3practical	**Theoretical**: A. Identify the inedible by-products of poultry. **Practical**: A. List the factors affecting egg weight.	Inedible poultry by-products. Factors affecting egg weight. The second exam	: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 :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 teachar: Yaser Ghanim Salih

Head of Scientific Committee : Prof Dr. Khalid Hasani Sultan

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

Course Description Form

1. Course Name:

Feed and Feeding

2. Course Code:

FEFD330

3. Semester / Year:

Semester 2 / 2024- 2025

4. Description Preparation Date:

1/2/2025

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: Professor. Omar Dheyaa Mohammed
Email: dr.omaralmallah@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 foo materials.** **Preparing hooks according to the produc 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
First	Theoretical 2 Practical 3	A: The student learns about Feed composition and specifications	T: Composition of components feeds and their specifications	Electronic and presence education	Quiz+ Homework+ report

		A : The student recognizes general terms in nutrition and feed formulation	p: Explanation of general terms in nutrition and feed formulation		
Second	Theoretical 2 Practical 3	A: The student remembers the importance and role of water in the body. A: The student recognizes the methods of analyzing feed and calculating the components.	T: The importance of water in the animal body p: Methods of analysis and calculating feed ingredients	Electronic and presence education	Quiz+ Homework+ a report
Third	Theoretical 2 Practical 3	A: The student remembers what the importance of carbohydrates in berries. A: The student recognizes ways to categorize forages and their chemical composition	T: The importance of carbohydrates in animal relationships p: Division of feed and their chemical composition	Electronic and presence education	Quiz+ Homework+ a report
Fourth	Theoretical 2 Practical 3	A: The student recalls the benefits of of fats associated with animal nutrition. A : The student recognizes the needs of agricultural animals	T: The importance of fat in animal feed p: nutritional requirements of animals	Electronic and presence education	Quiz+ Homework+ a report
Fifth	Theoretical 2 Practical 3	A: The student understands the new protein system and its role in bond formation C: The student calculates the protein and energy needs of dairy and meat for protein and energy	T: The importance of proteins in nutrition and the new protein regimen p: Nutritional requirements of agricultural animals	Electronic and presence education	Quiz+ Homework+ a report
Sixth	Theoretical 2 Practical 3	C: The student identifies the methods used to evaluate feed. C: The student calculates the coefficient of digestion of food compounds	T: Estimating the nutritional value of materials forage p: Calculate the digestibility coefficient of food compounds	Electronic and presence education	Quiz+ Homework+ a report

seven	Theoretical 2 Practical 3	A: The student discusses the factors influencing the quality of feed C: The student demonstrates the energy fate in the body	n: Factors affecting the nutritional value of nutritional value of feed p: Energy fate in the body	Electronic and presence education	
Eighth	Theoretical 2 Practical 3	D: The student explains the different types of different types of feedstuffs concentrated and coarse A: The student understands how to balancing the ration	n: Classification of feedstuffs Concentrated and coarse P: Balancing relationships Energy and protein balance and its importance	Electronic and presence education	Quiz+ Homework+ a report
Ninth	Theoretical 2 Practical 3	C: The student explains the factors that that affect the regulation of feed intake B: Apply Examples of balancing bovine leeches	T: Feed intake and factors influencing it P: Balancing cows' diets	Electronic and presence education	Quiz+ Homework+ a report
Tenth	Theoretical 2 Practical 3	A: The student recognizes the basic rules of relationship formation. B: Apply Examples of balancing sheep relationships	T: Basic rules of formation of relationships P: Balancing Sheep Relationships	Electronic and presence education	Quiz+ Homework+ a report
Eleven	Theoretical 2 Practical 3	B: The student calculates the proportions of of bush ingredients by Pearson's method. B: Apply Examples of balancing goat bush	T: Using the square method Pearson's method for balancing a bush P: Balancing goat relationships	Electronic and presence education	Quiz+ Homework+ a report
twelve	Theoretical 2 Practical 3	A: The student understands the basics of preparation of treats D: The student will experiment with making a recipe based on the information they have been given.	T: Preparation of perches p: Mathematical examples of forming relationships Scientific visit to a laboratory to learn about feed production techniques	Electronic and presence education	Quiz+ Homework+ a report
Thirteen	Theoretical 2 Practical 3	A: The student recognizes types of forage supplements in feeds.	T: feed supplements and other additives P: Discuss reports on Preparing the ration balance	Electronic and presence education	Quiz+ Homework+ a report

		C: The student discusses reports on feed preparation and balancing.			
Fourteen	Theoretical 2 Practical 3	A: The student recognizes how to set up a tutor B: The student applies the threshing method	T: Teaching: Methodology and quality assessment p: Preparation of the thresher in the field	Electronic and presence education	
Fifteen	Theoretical 2 Practical 3	A: The student recognizes how to make silage B: The student applies the preparation of silage	T: Silage: Method of work and quality assessment p: Field Silage Setup	Electronic and presence 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
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	tp://www.anypdftools.com/buy /buy-pdf-splitter.html

Theoretical Course Instructor: Prof. Dr. Omar D. Mohamed

Practical Instructor: Mr. M.M. Muhammad Riyad Muhammad

Head of the Scientific Committee: Prof. Dr. Khaled Hassani Sultan

Head of Department: Prof. Dr. Omar D. Mohamed

Course Description Form

1.Course Name:
Animal reproductive physiology
2.Course Code:
AGAP_F3131
3.Semester / Year:
Spring , 2024-2025.
4.Description Preparation Date:
01/02/2025 .
5.Available Attendance Forms: Blended learning (theoretical in-person)
Attendance learning (presence + electronic).
6.Number of Credit Hours (Total)
75 hours (2 hours theoretical + 3 hours practical per week),No. of units .35
7.Course administrator's name (mention all, if more than one name)
Name: Abdulnassir Thanoon Mahmood Alkhashab Email: dr.abdulnassir@uomosul.edu.iq **Mohammed Salem Ibrahim Almeteoty Email: mohammadalmoteoty@uomosul.edu.iq**
8.Course Objectives
Course Objectives The material includes: familiarizing the student with some basic scientific aspects, which include reproductive physiology and a comparative study of the reproductive organs and the functional activity of each part of the reproductive system in farm animal species, in addition to studying the role of seasons on reproductive effectiveness and hormonal activity in animals and the types of hormones associated with reproduction and the importance and functions of each
9.Teaching and Learning Strategies

Strategy	The course aims to: The student should be learn what reproductive activity is in animals, study the comparison of reproductive activities between farm animals, study the points of compatibility and differences in the functional effectiveness of reproductive organs and the role of hormones in reproductive activity during the different stages of the animal's life and the impact on the reproductive and productive performance of the animal, and thus give the student a wide scientific knowledge about the reproductive and functional performance of farm animals during the different seasonal stages of animal life . To make the student able to understand the internal environment associated with the reproductive activity of the animal and the scientific cognitive methods of dealing with it in order to be able to explain the physiological phenomena that belong to the animal.

10.Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	**Theoretical 2**	A Introduction to the study the concepts of comparative reproductiv science in farm animals	Historical about the concepts Physiology and the basic principles of reproduction in farm animals	Lectures and reports. Scientific bulletins and PowerPoint.	Exams, reports, discussions and quizzes.
2nd	**Theoretical 2**	A The study of hormones associated with	Study of hormones in the animal's body and hormones associated with reproduction	Lectures and reports. Scientific bulletins and	Exams, reports, discussions and quizzes.

		reproductive activity in a animal.		PowerPoint .	
3rd	**Theoretical 2**	A Mechanism and mechanization of the action of hormones associated with the reproductive activity of the animal.	Study of the mechanics of the action of hormones, the effectiveness of these hormones and their role in the reproductive activity of the animal.	Lectures and reports. Scientific bulletins and PowerPoint.	Exams, reports, discussions and quizzes.
4th	**Theoretical 2**	A Study of reproductive organs and their parts in farm animal species	Study of the structure and parts of the reproductive organs in the animal.	Lectures and reports. Scientific bulletins and PowerPoint .	Exams, reports, discussions and quizzes
5th	**Theoretical 2**	B Studying the types of endocrine glands and their role in reproductive performance	The structure and types of endocrine glands and the study of their functions and r in reproductive performance	Lectures and reports. Scientific bulletins and PowerPoint.	Exams, reports, discussions and quizzes
6th	**Theoretical 2**	**B** A scientific visit (field work) of the students to the veterinary teaching hospital at the university so that student to learn diagnose the most important infectious diseases common of farm animals .	Scientific visit to the veterinary hospital/ university of Mosul.	Lectures and reports. Scientific bulletins and PowerPoint.	Exam, reports, discussions and quizzes
7th	**Theoretical 2**	B Seasonal and non-seasonal animals and the role of the season in reproductive performance	Identify seasonal and non-seasonal animal species and study the effect of season on reproductive performance	Lectures and reports. Scientific bulletins and PowerPoint .	Exams, reports, discussions and quizzes
8th	**Theoretical 2**	C The study of puberty and sexual maturity in farm animal species	Study of sexual puberty and a at sexual maturity of farm animals	Lectures and reports. Scientific bulletins and PowerPoint .	Exams, reports, discussions and quizzes
9th	**Theoretical 2**	B Sexual cycles and their types in farm animals	Studying the types of sexual cycles and their role in farm animals.	Lectures and reports. Scientific bulletins and PowerPoint .	Exams, reports, discussions and quizzes
10th	**Theoretical 2**	C Comparative study of fertility and fertilization processes in animals	Study of fertility and fertilization processes in farm animals	Lectures and reports. Scientific bulletins and PowerPoint .	Exams, reports, discussions and quizzes

11th	**Theoretical 2**	C Stages and periods of pregnancy in animals	The study of pregnancy stages pregnancy screening and factors affecting pregnancy in farm animals	Lectures and reports. Scientific bulletins and PowerPoint .	Exams, reports, discussions and quizzes
12th	**Theoretical 2**	C Parturition and hormones related to the birth process and its type in animals	Study of the types of Parturition in animals, the mechanisms of parturition and hormones related to parturition	Lectures and reports. Scientific bulletins and PowerPoint .	Exams, reports, discussions and quizzes
13th	Theoretical 2	C A study of sterility and the etiological factors of low fertility, reproductive performanc and infertility in animals	Study of sterility and infertility and the factors causing the decline of fertility and reproductive performance in farm animals	Lectures and reports. Scientific bulletins and PowerPoint .	Exams, reports, discussions and quizzes
14th	Theoretical	B Artificial insemination, its features and methods used in the collection and preservation of sperm of animals	Studying the methods of artificial insemination, methods of storing and preserving semen and types of diluents used in semen storage .	Lectures and reports. Scientific bulletins and PowerPoint .	Exams, reports, discussions and quizzes
15th	Theoretical	C The structure, types, functional role of the mammary glands and their impact on the reproductive performance of farm animals.	Study of the mammary gland, structure, types of glands, its functional role and its impact on the reproductive and reproductive performance of farm animals.	Lectures and reports. Scientific bulletins and 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 textbo (curricular books, if any).	
Main references (sources)	1. Reproduction and artificial insemination (1981) Dr. Ismail Ajam, Hussein Abdulkarim Al-Saadi, Morteza Kamal al-Hakim
Recommended books and references (scientific journals, reports...)	.1. Endocrinology and reproduction in mammals and birds (1990) Written by: Dr. Khairaldine Mohieddine, Walid Hamid Youssef, Saad Hussein Tohla 2. The series of Lepidoptera and birds (1983) D . Taha Jassim Al Taha
Electronic References, Websites	

Signature:
Assistance Prof. Dr. Abdulnassir Thanoon Mahmoud Alkhashab
Instructor of theoretical subject

Signature:
Assistance lecturer : Mohammad Salem Ibrahim Almateoty

Signature:
Prof. Dr. Khalid Hassani Sultan
Chairman of the Scientific Committee
Date: / /2025

Signature:
Prof. Dr. Omer Dhiyaa Mohammed Al-Mallah
Head of Department
Date: / /2025.

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course Description of the Poultry Physiology

1.Course Name

Poultry Physiology

2.Course Code

POPH328

3.Term / Year

Spring Semester 2024-2025

4-Course description preparation date

1/2/2025

5.A. Available Attendance Forms

learning in presence + Online

6- Number of total academic hours

2 theoretical + 3 practical/ 3.5 units

7 - Name of the course administrator

Dr. Mohammad Salem Ibrahem
Moustafa Abdel Basset Abdel Rahman

8.Course Objectives

- **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

- **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	A: 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	B: 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	B: 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	B: 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	A: 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	B: 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	B: 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	B: 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	A: 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	B: 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	B: 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	B: The student is familiar with anemia and the origin of blood cells as well as the hemoclobin estimation process.	Anemia and blood cell origin as well as hemoclobin estimation process.	Laboratory work.	Exams , assignment, discussions.
7	2 Theoretical	A: 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.	**Scientific visit to state institutions (veterinary medicine, sciences, etc**.
	3 Practical	A: 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	B: 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	B: 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	A: 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	A: 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	B: 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	A: 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	C: 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.

	3 Practical	A: The student recognizes the pancreatic gland, the pineal gland, and the hormones secreted from these glands and their physiological effect.	Pancreatic gland, pineal gland and hormones secreted from these glands	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
12	2 Theoretical	A: The student identifies the components of the male reproductive system of birds and the process of spermatogenesis.	Installation of the male reproductive system for birds.	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C: The student explains the philosophy of hatching and the main events accompanying this process.	The philosophy of hatching and the main events accompanying this process.	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
13	2 Theoretical	B: The student shows the mechanism of artificial insemination and the factors affecting fertility as well as male sex hormones.	Artificial insemination and factors affecting bird fertility.	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C: The student explains the mechanism of egg laying and the factors affecting it.	The mechanism of laying eggs and the factors affecting them.	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
14	2 Theoretical	A: The student learns about the components of the female reproductive system in birds.	Installation of the female reproductive system in birds.	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A: The student understands the mechanism of albumin formation and egg shell.	The mechanism of the formation of albumin and the shell of the egg.	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

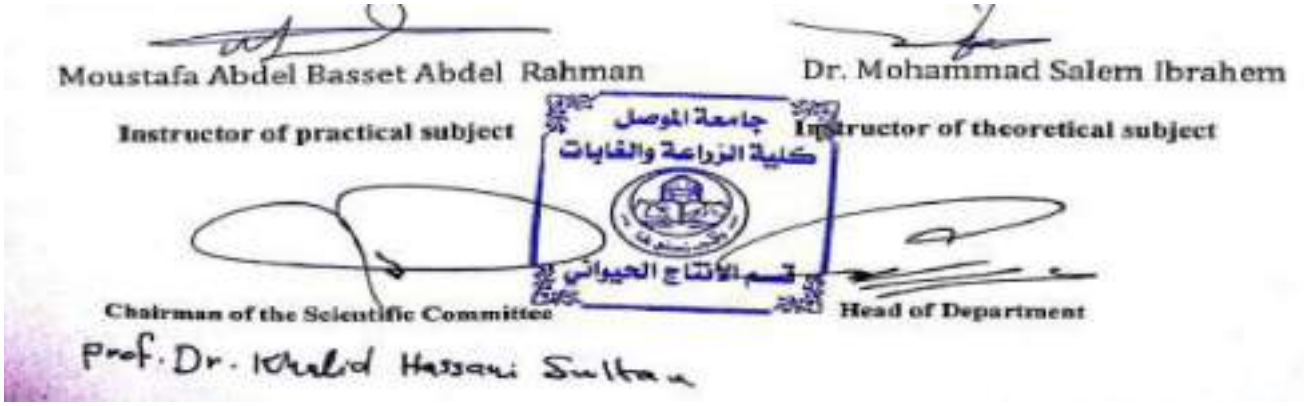
15	2 Theoretical	B: The student shows the movement of the egg channel and the excretion of the egg as well as the sperm storage glands.	Egg channel movement and egg laying.	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B: The student 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 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)	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	



وصف المقرر تطبيقات في الحاسوب3

1. اسم المقرر :
تطبيقات في الحاسوب3
2. رمز المقرر:
COMA301
3. الفصل / السنة:
الفصل الدراسي الثاني –2024–2025
4. تاريخ إعداد هذا الوصف:
1/2/2025
5. أشكال الحضور المتاحة:
حضوري + الكتروني
6. عدد الساعات الدراسية (الكلي)/ عدد الوحدات (الكلي):
45 ساعة عملي / 1.5 وحدة
7. اسم مسؤول المقرر الدراسي (اذا اكثر من اسم يذكر)
محمد معاذ عبد الغني albakri2@uomosul.edu.iq
8. اهداف المقرر

تمكين الطالب من التعرف على البرنامج الإحصائي **SPSS** وتطبيقاته في التجارب الزراعية. 2- تمكين الطالب من معرفة و فهم البرامج بلغة **SPSS** وتطبيق الخطوات والاجراءات المتبعة لاستخدام البرنامج الاحصائي **SPSS** في التحليلات الخاصة بالتجارب الزراعية. 3- تمكين الطالب من كتابة برامج بلغة **SPSS** للتجارب الزراعية والعلمية المختلفة. 4- اكساب الطالب مهارات التعامل مع أنواع البيانات عند كتابة البرامج بلغة **SPSS** . 5- تمكين الطالب من تصحيح الأخطاء القواعدية واللغوية التي تظهر عند تنفيذ البرامج المكتوبة بلغة **SPSS** . تمكين الطالب من قراءة النتائج والمخرجات من تنفيذ البرامج المكتوبة بلغة **SPSS** وفهمها وتفسيرها.	

9. استراتيجيات التعليم والتعلم	
- المحاضرة التفاعلية - العصف الذهني - الحوار والمناقشة	

- التدريب الميداني - التدريبات العملية - المشروع الميداني - التعلم الذاتي	

10. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	طريقة التقييم
الاول	3 عملي	a:1يتذكر الطالب مفاهيم علم الإحصاء	ما هو علم الإحصاء Statistics Science الإحصاء الوصفي Descriptive Statistics: الإحصاء الاستدلالي Statistics Inferential : المجتمع Population: الحصر الشامل Census: المقاييس الإحصائية أولاً: مقاييس النزعة المركزية Measures of Central Tendency ثانياً: مقاييس التشتت المطلق Measures of Dispersion	المحاضرة التفاعلية، العصف الذهني، الحوار والمناقشة، التدريبات العملية، التعلم الذاتي	الاختبار النهائي.
الثاني	3 عملي	a:2يتعرف الطالب على نوافذ برنامج SPSS والغرض من كل نافذة وكيفية التعامل معها.	تشغيل والتعرف على البرنامج SPSS نوافذ البرنامج	المحاضرة التفاعلية، العصف الذهني، الحوار والمناقشة، التدريبات العملية، التعلم الذاتي	تقرير، الاختبار النهائي.
الثالث	3 عملي	c:1يعدد الطالب أنواع الملفات التي يتعامل معها برنامج SPSS والخطوات	أنواع الملفات التي يتعامل معها برنامج SPSS الخطوات والقواعد	المحاضرة التفاعلية، العصف الذهني، الحوار	التكليف بواجب، الاختبار النهائي.

		والقواعد الأساسية في تحليل البيانات والأوامر الأساسية في برنامج SPSS	الأساسية في تحليل البيانات. الأوامر الأساسية في برنامج SPSS: استرجاع البيانات والملفات: حفظ الملف: إضافة، تعديل والتحكم بالمتغيرات إضافة متغير أو مشاهدة: إلغاء متغير أو مشاهدة أو حالة البحث عن حالة البحث عن قيمة	والمناقشة، التدريبات العملية، التعلم الذاتي	
الرابع	3 عملي	d:1يقوم الطالب بفرز وترتيب المشاهدات وإيجاد الرتب التسلسلية لها في برنامج SPSS .	ترتيب المشاهدات الامر sort cases إيجاد الرتب للمشاهدات حسب متغير معين Rank Cases	المحاضرة التفاعلية، العصف الذهني، الحوار والمناقشة، التدريبات العملية، التعلم الذاتي	الاختبار القصير، الاختبار النهائي.
الخامس	3 عملي	d:2ينفذ الطالب الأمر Compute واستخدامه في تكوين متغير جديد باستخدام تعبير حسابي او معادلة او دالة واستخدام دالة الشرط IF مع Compute	الأمر Compute تكوين متغير جديد باستخدام تعبير حسابي او معادلة تكوين متغير جديد باستخدام دالة استخدام الدالة IF مع Compute	المحاضرة التفاعلية، العصف الذهني، الحوار والمناقشة، التدريبات العملية، التعلم الذاتي	التكليف بواجب، الاختبار النهائي.
السادس	3 عملي	b:1يعمل الطالب على ايجاد جدول التوزيع التكراري ورسم المدرج التكراري.	جدول التوزيع التكراري والمدرج التكراري Frequencies and data histograms (+ زيارة علمية	المحاضرة التفاعلية، العصف الذهني، الحوار والمناقشة، التدريبات العملية، التعلم	زيارة علمية الاختبار النهائي.

				الذاتي	
السابع	3 عملي	2:bيقوم الطالب بإيجاد مقاييس الإحصاء الوصفي.	الإحصاء الوصفي Descriptive Statistics +امتحان فصلي1	المحاضرة التفاعلية، العصف الذهني، الحوار والمناقشة، التدريبات العملية، التعلم الذاتي	الاختبار الفصلي1، الاختبار النهائي.
الثامن	3 عملي	2:cيوظف الطالب الرسم البياني وانواعه في التحليل الاحصائي	الرسم البياني التعرف على عدة أنواع من الرسم البياني Graph Learn about several types of graph	المحاضرة التفاعلية، العصف الذهني، الحوار والمناقشة، التدريبات العملية، التعلم الذاتي	الاختبار عملي، الاختبار النهائي.
التاسع	3 عملي	3:aيتذكر الطالب اختبار الفرضيات والمصطلحات المستخدمة فيه وخطوات اختبار الفرضيات	اختبار الفرضيات Test of Hypotheses 1- الفرضية الإحصائية 2- مستوى المعنوية أو مستوى الاحتمال 3- دالة الاختبار الإحصائية 4- القيمة الاحتمالية (Sig. or P-value) : خطوات اختبار الفرضيات	المحاضرة التفاعلية، العصف الذهني، الحوار والمناقشة، التدريبات العملية، التعلم الذاتي	التكليف بواجب، الاختبار النهائي.
العاشر	3 عملي	3:bينفذ الطالب اختبار T في حالة اختبار فرضيات متعلقة بمتوسط واحد.	أولاً: اختبار T في حالة اختبار فرضيات متعلقة بمتوسط واحد.	المحاضرة التفاعلية، العصف الذهني، الحوار والمناقشة، التدريبات العملية، التعلم الذاتي	الاختبار القصير، الاختبار النهائي.
الحادي عشر	3 عملي	4:bيطبق الطالب اختبار الفروق بين	ثانياً: اختبارات الفروق بين متوسطين مجتمعين	المحاضرة التفاعلية،	التكليف بواجب، الاختبار النهائي.

		متوسطين مجتمعين مستقلين	مستقلين	العصف الذهني، الحوار والمناقشة، التدريبات العملية، التعلم الذاتي	
الثاني عشر	3 عملي	5:bيختبر الطالب اختبار الفروق بين متوسطى مجتمعين من عينات مرتبطة	ثالثاً: اختبارات الفروق بين متوسطي مجتمعين من عينات مرتبطة + امتحان فصلي 2	المحاضرة التفاعلية، العصف الذهني، الحوار والمناقشة، التدريبات العملية، التعلم الذاتي	الاختبار العملي، الاختبار النهائي.
الثالث عشر	3 عملي	6:bيستنتج الطالب تحليل التباين الأحادي	تحليل التباين Analysis of Variance ((ANOVA تحليل التباين الأحادي One-Way ANOVA	المحاضرة التفاعلية، العصف الذهني، الحوار والمناقشة، التدريبات العملية، التعلم الذاتي	الاختبار الفصلي2، الاختبار النهائي.
الرابع عشر		7:bيحدد الطالب الارتباط الخطي البسيط ومعامل الارتباط	الارتباط الخطي البسيط Simple Linear Correlation معامل الارتباط Correlation Coefficient:	المحاضرة التفاعلية، العصف الذهني، الحوار والمناقشة، التدريبات العملية، التعلم الذاتي	التكليف بواجب، الاختبار النهائي.
الخامس عشر		8:bيكتشف الطالب معادلة الانحدار الخطي البسيط	الانحدار الخطي البسيط Simple Linear Regression	المحاضرة التفاعلية، العصف الذهني، الحوار والمناقشة، التدريبات العملية، التعلم الذاتي	الاختبار العملي، الاختبار النهائي.

11. تقييم المقرر

ت	اساليب التقييم	موعد التقييم (اسبوع)	الدرجة	الوزن النسبي %
1	تقرير 1	الأسبوع الثاني	2	2%
2	التكليف بواجب1	الأسبوع الثالث	1	1%
3	اختبار قصير 1Quiz	الأسبوع الرابع	2	2%
4	التكليف بواجب2	الأسبوع الخامس	1	1%
5	زيارة علمية	الأسبوع السادس	1.5	1.5%
6	اختبار فصلي1	الأسبوع السابع	10	10%
7	اختبار عملي1	الأسبوع الثامن	2.5	2.5%
8	التكليف بواجب3	الأسبوع التاسع	1	1%
9	اختبار قصير Quiz2	الأسبوع العاشر	2	2%
10	التكليف بواجب4	الأسبوع الحادي عشر	1	1%
11	اختبار عملي2	الأسبوع الثاني عشر	2.5	2.5%
12	اختبار فصلي2	الأسبوع الثالث عشر	10	10%
13	التكليف بواجب5	الأسبوع الرابع عشر	1	1%
14	اختبار عملي3	الأسبوع الخامس عشر	2.5	2.5%
15	اختبار عملي نهائي	امتحانات الفصل النهائي	60	60
	المجموع		100	100%

12. مصادر التعلم والتدريس

الكتب المقررة المطلوبة (المنهجية أن وجدت)	تم اعداد منهج من قبل أساتذة الحاسوب في الكلية بالاستناد الى دليل البرنامج . SPSS software guide
المراجع الرئيسة (المصادر)	- 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 - تحليل البيانات باستعمال البرنامج الإحصائي SPSS تأليف الدكتور فراس رشاد السامرائي
الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)	- دليلك الى البرنامج الاحصائي SPSS اعداد سعد زغلول بشير.
المراجع الإلكترونية ، مواقع الانترنيت	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/

مدرس المادة: محمد معاذ عبد الغني

رئيس اللجنة العلمية

ا. د. خالد حساني سلطان

رئيس قسم الانتاج الحيواني

ا. د. عمر ضياء محمد

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course Description Form

1. Course Name
Management and production of poultry birds
2. Course Code
PBPM432
3. Semester/ year
First semester, fall 2024-2025
4. Date this description was prepared
01/09/2024
5. A. Available attendance forms
My presence +electronic
6. Number of study hours (total)/number of units (total)
(2 theoretical + 3 / practical) 75 hours / 3.5 unitunits
7. Name of the course administrator (if more than one name is mentioned)
Name Nawaf Gazi Abuud nawaf.gazi@uomosul.edu.iq Name Ahmed Mohammed thabet qasim ahmed.alniemy@uomosul.edu.iq
8. objectives Course

theoretical:	**practical:**
1- Enable the student to identify poultry, their types and classification. 2- For the student to recognize the importance of poultry production. 3- Teaching the student the correct scientific foundations of education. 4- And poultry production. 5- Enabling the student to know how to make the most of it. 6- From poultry production.	**1-** Introducing the student to the types of poultry and 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- Brainstorming 4- Dialogue and discussion.	practical: 1- Applied practical training in the poultry field. 2- Dialogue and discussion. 3- Writing reports.

10. Course structure

the week	hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
the first	**2 Theoretical** **3 Practical**	**theoretical:** A The student is introduced the concept of managing to and caring for poultry projects. **practical:** B: The student distinguishes the types of poultry birds - the importance of poultry production.	**theoretical:** The concept of managing and caring for poultry projects **practical:** Types of poultry birds - the importance of poultry production	**Theoretical:** visual and auditory methods Explanation and dialogue style **Practical:** Assigning tasks and reporting	Exams Assignment of duty discussions
the second	**2 Theoretical** **3 Practical**	**My theory:** A: The student learns about the economic importance of poultry projects **practical:** B: The student explains the classification of poultry - scientific classification - economic classification - geographical classification	**theoretical:** The economic importance of poultry projects **practical:** Poultry classification - scientific classification - economic classification - geographical classification	**Theoretical:** visual and auditory methods Explanation and dialogue style **Practical:** Assigning tasks and reporting	Exams Assignment of duty discussions
the third	**2 Theoretical** **3 Practical**	**theoretical:** A: The student learns about the types of poultry houses and the requirements for their construction **practical:** B: The student enumerates the importance of poultry products and their types	**theoretical:** Types of poultry housing and requirements for their construction **practical:** The importance of poultry products and their types	**Theoretical:** visual and auditory methods Explanation and dialogue style **Practical:** Assigning tasks and reporting	Exams Assignment of duty discussions
the fourth	**2 Theoretical** **3 Practical**	**theoretical:** A: about The student learns the environmental factors affecting the raising and production of poultry **practical:** B: The student explains poultry housing - types of housing - conditions for choosing a site	**theoretical:** Environmental factors affecting poultry farming and production **practical:** Poultry housing - types of housing - site selection conditions	**Theoretical:** visual and auditory methods Explanation and dialogue style **Practical:** Assigning tasks and reporting	Exams Assignment of duty discussions
the Fifth	**2 Theoretical** **3 Practical**	**theoretical:** A: The student is familiar with the requirements for rearing in poultry fields **practical:** B: The student enumerates the requirements for poultry fields - manholes and their types - feeders and their	**theoretical:** With breeding supplies in poultry fields **practical:** Poultry field supplies - manholes and their types feeders and their types -	**Theoretical:** visual and auditory methods Explanation and dialogue style **Practical:** Assigning tasks and reporting	Exams Assignment of duty discussions

		.types			
the Sixth	**2 Theoretical** **3 Practical**	**theoretical:** B: The student experiences hatching and hatchery management **practical:** B: Shows the means of heating, cooling, ventilation and lighting in education halls	**theoretical:** The student chooses eggs suitable for hatching **practical:** Heating, cooling, ventilation and lighting means in education halls	**Theoretical:** visual and auditory methods Explanation and dialogue style **Practical:** Assigning tasks and reporting	Exams Assignment of duty discussions
the Seventh	**2 Theoretical** **3 Practical**	**theoretical:** :AThe student learns about the methods and management of broiler hybrids **practical:** B: Shows the appropriate environmental factors that must be provided for raising ,poultry (ventilation ,the heat ,Humidity (lighting, brush	**theoretical:** Methods and management of broiler crosses **practical:** The appropriate environmental factors that must be provided for raising poultry ,ventilation) ,the heat ,Humidity lighting, (brush	**Theoretical:** visual and auditory methods Explanation and dialogue style **Practical:** Assigning tasks and reporting	Exams Assignment of duty discussions
the Eighth	**2 Theoretical** **3 Practical**	**theoretical:** A: The student learns about methods and management of laying hen crosses Field _ project. **practical:** B: The student enumerates hatching methods - types of hatcheries - specifications of eggs suitable for hatching - components of hatching - field project	**theoretical:** Methods and management of laying hen crosses Field _ project **practical:** Hatching methods - types of hatcheries - specifications of eggs suitable for hatching - hatching components - field project	**Theoretical:** visual and auditory methods Explanation and dialogue style **Practical:** Assigning tasks and reporting	Exams Assignment of duty discussions
the Ninth	**2 Theoretical** **3 Practical**	**theoretical:** A: The student understands the compulsory pruning and the methods for performing it. **practical:** B: The student explains the methods of preparing poultry halls to receive a new meal of chicks - a field project	**theoretical:** Forced moulting and methods of performing it **practical:** Methods of preparing poultry halls to receive a new meal of chicks - a field project	**Theoretical:** visual and auditory methods Explanation and dialogue style **Practical:** Assigning tasks and reporting	Exams Assignment of duty discussions
The tenth	**2 Theoretical** **3 Practical**	**theoretical:** B: The student distinguishes between the management of broodstock, eggs, and commercial flocks.	**theoretical:** Management of broodstock, eggs and commercial flocks **practical:**	**Theoretical:** visual and auditory methods Explanation and dialogue style	Exams Assignment of duty discussions

		practical: C: shows the management of broilers - poultry meat production - the factors affecting it.	Broiler management - poultry meat production - factors affecting it	**Practical:** Assigning tasks and reporting	
the eleventh	**2 Theoretical** **3 Practical**	**theoretical:** B: Preserves poultry flocks from heat stress. **practical:** C: It explains the management of laying hens - egg production in poultry - the factors affecting it	**theoretical:** Poultry flocks from heat stress **practical:** Management of laying hens - egg production in poultry - factors affecting it	**Theoretical:** visual and auditory methods Explanation and dialogue style **Practical:** Assigning tasks and reporting	Exams Assignment of duty discussions
the twelveth	**2 Theoretical** **3 Practical**	**theoretical:** B: The student employs some management procedures to enhance the health and immunity of birds. **practical:** C: shows the management of maternal flocks - reproduction - fertility - factors affecting fertility.	**theoretical:** Administrative measures to enhance the health and immunity of birds **practical:** : Management of maternal flocks - reproduction - fertility - factors affecting fertility	**Theoretical:** visual and auditory methods Explanation and dialogue style **Practical:** Assigning tasks and reporting	Exams Assignment of duty discussions
the Thirteenth	**2 Theoretical** **3 Practical**	**theoretical:** A: The student distinguishes between methods of managing and raising turkey chickens, ducks, and geese **practical:** C: The student explains health care - the vaccination process and its methods	**theoretical:** Methods of managing and raising turkeys, ducks and geese **practical:** Health care - vaccination process and methods	**Theoretical:** visual and auditory methods Explanation and dialogue style **Practical:** Assigning tasks and reporting	Exams Assignment of duty discussions
the fourteenth	**2 Theoretical** **3 Practical**	**theoretical:** C: The student documents data on raising, managing, and producing poultry flocks Field project_ **practical:** C: The student explains the massacres - the stages of the massacre process Field _ project.	**theoretical:** Breeding, management and production of poultry flocks - a field project **practical:** Massacres - stages of the carrot operation - a field project	**Theoretical:** visual and auditory methods Explanation and dialogue style **Practical:** Assigning tasks and reporting	Exams Assignment of duty discussions

the Fifteenth	**2 Theoretical 3 Practical**	**theoretical:** C: The student prepares rations for feeding poultry flocks **practical:** C: The student demonstrates keeping and organizing records	**theoretical:** Feeding poultry flocks **practical:** Keeping and organizing records	**Theoretical:** visual and auditory methods Explanation and dialogue style **Practical:** Assigning tasks and reporting	Exams Assignment of duty discussions

11.Course evaluation

T	Calendar methods	Calendar date (week)	Class	Relative weight %
1	Theoretical final report + practical experience reports	My theory is week 15 My work week is 1-15	7 theoretical + 6 practical	13 %
2	Short test (1)Quis	week (3)	4 theoretical + 2 practical	6 %
3	Midterm test (theoretical and (practical	week (9)	10 theoretical + 5 practical	15 %
4	Short test (1)Quis	week (12)	4 theoretical + 2 practical	6 %
5	Final practical test	Practical exam week	20	20 %
6	Final theoretical test	Theory exam week	40	40 %
	the total		100	100 %

12.Learning and teaching resources

Prescribed books required Methodology) (If any	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 Aldo Sciences I go crazy Management of broiler breeders, written by Dr. Saad Abdel Hussein Naji, 2008, College of Agriculture - University of Baghdad - affiliated technical bulletin. Ahmed, Iyad Shehab and others. 2021. - 5 For the Poultry Science Association Management and production of poultry birds. University of Kufa
Main references (sources)	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
Recommended supporting books and references (scientific (....journals, reports	Iraqi academic scientific journals ,Sources: Naji, Saad Abdel Hussein. 1999. Guide to raising broilers ,Arab Food Organization guide to raising laying hensHyline Company ,
,electronic references Internet sites	https://www.hyline.com/userdocs/pages/BRN_COM_ARB.pdf Broiler Breeding Guide, Inc ,Aviagenhttp://en.aviagen.com/brands/ross/products/ros Lohman Company's Guide to Raising Chickens , Whitenesshttp://www.ltz.de/en/downloads/management 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

Practical subject teacher:
Ahmed Mohammed thabet qasim

Theoretical subject teacher:
L. Nawaf Gazi Abuud

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

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

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course Description Form

1.	Course Name:
Pasture management	
2.	Course Code:
PAMA433	
3.	Semester / Year:
2024/2025 first semester (Autumn)	
4.	Description Preparation Date:
2024/ 9/1	
5.	Available Attendance Forms:
Presence+ Electronic	
6.	Number of Credit Hours (Total) / Number of Units (Total)
Two hours my theory , Two hours of work	
7.	Course administrator's name (mention all, if more than one name)
Name: DR. salim abdulla Younis Email: salimalghazal@uomosul.edu.iq Name : Ahmed Majeed Abdullah ahmed3079@uomosul.edu.iq	
8.	Course Objectives

Practical:	**Heoretical**
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	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

9.	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 Dialogu and discussion Assigning tasks and reporting View examples of forage crop plants

10.	Course Structure					
Week	**Hours**		**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2 heoretica 3 practical	A	It uses special ideas in managing natural pasture and its relationship with other sciences	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 heoretica 3 practical	A	Identify the most import causes of pasture degradation Determine which plants are more toxic	Theoretical: Types of pasture Practical: botanical description For the Leguminous family	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasks And report	Short exams, assignments, discussions
3	2 heoretica 3 practical	A	He compares the factors affecting the growth of pastures and compares these factors and their effect on plants. Differentiates between poisonous plan and others .	Theoretical: Factors affecting NPT Pastures . Practical: technical methods of measurement Pastures grew .	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report	Short exams, assignments, discussions
4	2 heoretica 3 practical	A	It gives examples of the extent to which pasture are vulnerable to degradation . Classifies which types of plants are most suitable for growing in 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 heoretica 3 practical	A	Finds ways to protect natural pastures and can be applied to the pastures of Nineveh Governorate . Identify the types of toxins in 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 heoretica 3 practical	B	It carries out the most important steps to identify the most important leguminous plants common in natural pastures . Shows which plants are most susceptible to grazing.	Theoretical : physiology of pasture plants These . Practical: grazing systems cond part	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report	Short exams, assignments, discussions
7	2 heoretica	A	It implements the most important special recommendations in cultivating the most important common	Theoretical: Animal management in pastures Practical: salting	Auditory methods Writing style On the board Dialogue style	Short exams, assignments, discussions

	3 practical		grass plants in natural pastures . Determines the types and quantities of toxins found in pasture plants		Direct practical: Assigni tasksAnd report	
8	2 heoretica 3 practical	C B	Distinguish between the most important factors through which pasture germination can be improved Distinguish types of animals	Exploiting pastu Practical: Animal behaviorres, part one	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report	Short exams, assignments, discussions
9	2 heoretica 3 practical	C B	Selects the most important poisonous grazing plants found in .Illustrates 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: Assigni tasksAnd report	Short exams, assignments, discussions
10	2 heoretica 3 practical	D B	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 Pastur	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report	Short exams, assignments, discussions
11	2 heoretica 3 practical	D C	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 heoretica 3 practical	D C	It explains the extent to which humans benefit from pastures and the ways to benefit . from them Write a repo on toxic and non-toxic plants	Theoretical: cladding Practical: cladding methods	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report	Short exams, assignments, discussions

13	2 heoretica 3 practical	D C	Supports the protection and revitalization of pastures and methods for measuring their growth Distinguish between harmful and harmless plan	Theory: harmful plants Practical: getting to know each other Harmful plants in pastures	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report	Short exams, assignments, discussions
14	2 heoretica 3 practical	E D	Recognizes the environmental and biological risks that affect pasture safety Explain why some plants are declining in pasture	A field visit to one of the pastures Natural Practical: identifying plants For natural pastur	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report	Short exams, assignments, discussions
15	2 heoretica 3 practical	E D	He decides to use one of the methods to protect pastures Trying out some growing plants	Theoretical: A field visit to artificial pastures Practical: Solve a problem	Auditory methods Writing style On the board Dialogue style Direct practical: Assigning tasksAnd report	Short exams, assignments, discussions

11	Course Evaluation			
Sequence	Calendar methods	Calendar date (week)	Class	Relative weight %
1	Report 1	fourth week	2.5	2.5
2	Report 2	fifth week	2.5	2.5
3	Short test (1) Quiz	sixth week	2	2
4	Short test (2) Quiz	fourteenth week	2	2
5	Short test (3) Quiz	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	third and fifth week	2	2
11	Practical short test (1) Quiz	first week	1	1
12	Short practical test (2) Quiz	fourth week	0.5	0.5
13	Short practical test (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
	Main references (sources)		100	

	Recommended books and references (scientific journals, reports...)	Cops and Forage Archives	
	Electronic References, Websites	ICARDA, Arab Organization for Agricultural Development	

Theoretical subject teacher
Dr. Salim Abdullah Younis

Practical subject:
Ahmed Majeed Abdullah

Chairman of the Scientific Committee
Muthanna Ahmed Mohammed Tayeb

Head of the Animal Production
Omar Dheyaa Mohammed

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course description

1. CourseName:	
Meat production	
2. Course Code:	
MEPR431	
3. Semester/Year: Annual	
First semester / fourth stage / 2024-2025	
4. The date this description was prepared	
1/9/2024	
5. Available attendance forms	
presence + electronic	
6. :Number of study hours (total)/number of units (total)	
2theoretical hours / 3 practical hours (5 hours) / 3 units	
7. Name of the course administrator (if more than one name is mentioned)	
D. Safwan Luqman Shihab Haitham Muhammad Sabeih	
8. Course objectives	
practical **1-Identify and learn about different animals and the most famous breeds.** **2-Identify the requirements necessary for any type of production and the ideal conditions that suit those animals** **3-Field operations necessary for farm Animals.**	**Theoretical** **1- The most important operations performed on all types of meat** **2- Identify the most important fodder crops that contribute to a specific type of animal production.** **3- Identify the most important animals spread in the region and thus find them 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 teamwork to reveal leadership skills** **Assigning tasks and reporting on each breed** **Utilizing office hours for department professors**	theoretical **Interactive lecture** **Dialogue and discussion** **Reports** **Seminar**

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 The importance of Meat. practical The importance of meat in nutrition Human	theoretical A knows the importance of meat And its connection with other sciences practical A Recognizes the importance 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 Beef cattle breeding. practical General characteristics of the Meat animal	theoretical A Explains the process to raise livestock the meat practical B Knows Advantages General model farm animals	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 B Distinguish between breeds Beef cattle practical A Explains the table Arbitration	Theoretical 2 practical 3	3
Short exams	theoretical Auditory Methods Writing style	theoretical Meat sources. practical Farn operations	theoretical A Tabulation and comparison Meat sources	Theoretical 2 practical 3	4

Assignment of duty discussions	on the blackboard Dialogue style direct practical Assigning tasks And report		B Recognize and understand Farn operations in Animal fields		
Short exams Assignment of duty discussions	theoretical Auditory Methods Writing style on the blackboard Dialogue style direct practical Assigning tasks And report	theoretical Growth and development of body. practical Farm operations.	theoretical A Understands the meaning of growth and evolution in animals the meat practical B Recognize and understand Farm operations in Animal fields	Theoretical 2 practical 3	5
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 Farm operations	theoretical A Discusses the Factors Influencing meat production practical C Recognize and understand Farm operations in Animal fields	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 weight carcass. practical Demands of meat benefits.	theoretical C Shows the relationsh between Live weight and carcass weight practical A Demands appear Animal benefits the meat	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 Beef cattle production programs practical Purebred cattle breeds	theoretical A Describe Programs for breeds Meat production practical C Explains meat Breed 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 of measuring efficiency Meat production practical Dual purpose cattle breeds	theoretical A The most important methods Used to measure efficiency meat production practical A Express and explain Dual-purpose cattle	Theoretical 2 practical 3	10
Short exams Assignment of duty discussions	theoretical Auditory Methods Writing style on the blackboard Dialogue style direct practical Assigning tasks And report	theoretical Changes the proportions of components carcass duri the growth and evolution Distribution difference muscles and bones practical Animal records the farm	theoretical A Know the Important approved variations by distributing muscle and fat practical A show types of record	Theoretical 2 practical 3	11
Short exams Assignment of duty	theoretical Auditory Methods Writing style on the blackboard	theoretical Energy effect on formation Muscles and influencing factors practical	theoretical A Discusses the effect energy in meat production practical A Explains	Theoretical 2 practical 3	12

discussions	Dialogue style direct practical Assigning tasks And report	Weight and nutrition records and animal health records	Importance Weight and nutrition records and health records		
Short exams Assignment of duty discussions	theoretical Auditory Methods Writing style on the blackboard Dialogue style direct practical Assigning tasks And report	theoretical Energy effect on formation fat and factors affecting practical Birth and death report importance in meat production projects	theoretical A Discusses effect of energy on meat production practical B Explains importance the report birth	Theoretical 2 practical 3	13
Short exams Assignment of duty discussions	theoretical Auditory Methods Writing style on the blackboard Dialogue style direct practical Assigning tasks And report	theoretical Reproductive in beef Cattle and factors affecting practical Measuring degree of body composition Animal by equations Predictive	theoretical C Explains concept Of reproductive in farm animals practical B Explains take Body measurements	Theoretical 2 practical 3	14
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 fattening in beef cattle and the factors affect practical	theoretical B Identify important factors Influencing the fattening process practical E Decide Field operati followed Work is involved in the field	Theoretical 2 practical 3	15

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

12. Learning and teaching resources	
Meat production and preservation book	Required textbooks (methodology, if any)
	Main references (references)
	Recommended supporting books and references (scientific journals, reports....)
The World Health Organization and the Food and Drug Administration American	Electronic references, Internet sites

أ.م. د. هيوان لقمان شهاب
مدرس المادة

أ.د. عمر رضا محمد
رئيس قسم الانتاج الحيواني

الأستاذ الدكتور
منتى احمد محمد طيب
رئيس اللجنة العلمية

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course description form

1. Course Name
Poultry bird Breeding
2. Course Code
POBB429
3. Semester/ year
First semester (autumn) for stage 2024-2025
4. description was prepared Date this
2024/9/1
5. A. Available attendance forms
My presence
6. Number of study hours (total)/number of units (total)
2theoretical + 3 practical / 3.5 units
7. (if more than one name is mentioned) Name of the course administrator
A.M. Raghad Naseer Waleed.. :Name M. M. Nahid Sharif Omar
8. objectives Course

Objectives of the study subject :theoretical - Enabling the student to understand and un - derstand what is related to educati - on and improvement Poultry and its relationship to improving speci .es and increasing production - Enabling the student to know t - he most important breeds and hybrids .And benefit from it to improve the quality - the student to become fam ilier - h selection and improvement meth**ods** .Genetic	:Practical Enabling the student to identify the most important .genes that Controls production traits and genetic equivalent values For each characteristic and benefit from it to see if it is impro ved The trait is hereditary and environmental

	– Empowering the student with he – is ability to discover the qualities of others .desired and improved – The student can judge the production of chicke ns based on the genes that control them With it - Conducting a scientific visit to resea rch centers related to improvement Poultry and increasing their production and b reeding

9. Teaching and learning strategies

The strategy	:My theory	:Practical
	– Interactive lecture – Brainstorming – Dialogue and discussion – Adapt tasks and reports – Presentations of model s of chicken breeds	– Adaptation through teamwork to reveal lead .ership skills – Adapting to tasks and leaving them to the fields – to learn about the most important – Types of breeds and hybrids

10. Course structure

the week	hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2 Theor etical 3	A1:My theory The student get to know origin On and classification Poultry evolutionary stages biological characteristics	:My theory Origin and classification of poultry :practical	:My theory Auditory methods Writing style the blackboard on Dialogue style Direct :practical Assigning tasakAnd report	Short exams, assignments, discussions

		Poultry classification	.And genetic A5 :Practical Identify the most important types Chicken by origin And the place of its origin	Practical	
Short exams, assignments, discussions	:My theory Auditory methods Style of writing on the blackboard Dialogue style Direct :practical Assigning tasks And report	:My theory Chromosomes :Practical Exercises on Mendel's law The first (the law (of isolation	A2 :My theory The student gets to know Chromosomes and identification On the characteristics Chromosomal .poultry B8 :Practical discovers a husband Genes one of This is don	2 Theoretical 3Practical	2

			e by solving quest ions for a pair One of the genes		
Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackbo ard Dialogue style Direct :practical Assig ning tasks And report	:My theory Phenotypic expression For genes :Practical Practical: ex ercises on the law) Mendel II Law of Distribu tion (Al-Mustaffal	B1 :Theoretical is proficient in visual expression Genes and inter action Genes and methods Phenotypic expression B9 :Practical discovers a couple of Genes by olving questions For two pairs of genes	2 Theor etical 3 Pract ical	3

Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	Theoretical: Mendelian inheritance Lineage and opinions Mendelian :Practical General exercises	A3 :Theoretical Familiar with Mendelian genetics And opinions Mendelian ratios and knowledge r Scientific Basis heredity Mendelism and law Isolation And distribution The Independent C4 :Practical exercise Enhances genes deadly	2 Theoretical 3Practical	4
Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackboard	:My theory Ratio modifications Mendelian	C1 :Theoretical Detects modifications in Mendelian ratios for a single pair	2 Theoretical	5

	Dialogue style Direct :practical Assig ning tasks And report	 :Practical Sex-linked g enetics	Of genes and Couple heredity Of genes And double pr evailing sup .eriority C5 :Practical Try t isting exercises . Mendelian ratios	 3Pract ical	
Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackbo ard Dial ogue style Direct :practical Assig ning tasks And report	:My theory Inherita nce of traits Sex-related :Practical Sex-linked genetics	B2 :Theoretical Determine inheritance Associated traits By sex and self-naturalization B10 :Practical Solve Chapter questions The third is f	2 Theor etical 3Pract ical	6

			or a book Poultry breedi ng and improvem ent		
Short exams, assignments, discussions	:My theory Auditory methods Writing style on th e blackboard Dial ogue style Direct :practical Assig ning tasks And report	:My theory Inheritanc e of custom form :Practical Sex-linked g enetics	C2 :Theoretical Determine inheritance Custom form Commo nness and inherit ance of the spur And deformed legs B10 :Practical amples enhances of heredity Sex-related	2 Theo retical 3Prac tical	7

8	2 Theoretical 3 Practical	C3 :Theoretical Determine inheritance Qualitative attributes in Chicken C6 :Practical Demonstrates an estimate of the most important parameters Genetic	:My theory Inheritance of traits Quality in .Chicken :Practical Genetic landmarks	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	Short exams, assignments, discussions
9	2 Theoretical	B3 :Theoretical Detects distortions some chicken feathers, ocean feather parts, and chicken recipes Depending on the form and distribution .Chicken	:My theory Some deformities in the plumage .Chicken	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct	Short exams, assignments, discussions

	:practical Assigning tasks And report	:Practical Selection ex periments	B11 :Practical Analyze Eq Genetic depend ing Selection ex periments	3 Pract ical	
Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	:My theory Deadly genes :Practical Similarity between relatives	B4 :Theoretical governs lethal genes And its classifica .tion C7 :Practical Calculate the genetic equ ivalent According to the brother s The apartment And fairness The apartment	2 The oretical 3 Pract ical	10
Short exams, assignments,	:My theory Auditor y methods Writing style on	:My theory Conditio nal lethal genes	A4 :Theoretical knows deadly genes Common	2 Theo retical	11

discussions	the blackboard Dialogue style Direct :practical Assigning tasks And report	:Practical Genetic l phenotypic correlation	condition .in chickens B12 :Practical Analyzes co rrelation values Genetic and phenotypic. f rom Calculate c orrelation values Genetic and phenotypic	3 Practic al	
Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	:My theory Phenoty pic variation :Practical netic and phenotypic correlation	B5 :Theoretical Masters phe notypic contrast From the defin ition of contrast and recognition .On its sources C8 :Practical Analyzes co rrelation values Genetic l phenotypic. In estimation Divergent design	2 The oretical 3 Pract ical	12
	:My theory Auditory	:My theory Genetic equivalent	B6 :Theoretical ıster the genetic	2 Theo retical	13

Short exams, assignments, discussions	methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	And method s of estimating it :Practical Analyzes co rrelation values Genetic and phenotypic appreciating the election	equivalent And knock Estimated by definition Genetic Eq s and methods Estimate and account for each Compone nt of its compone .nts C8 :Practical The electio n is calculated with discretion .Its components	3 Practi cal	
Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct :practical	:My theory Election :Practical	B7 :Theoretical Explains the concept of election By defini selection and recognition the most important .ways to divide it A6 :Practical	2 Theo retical 3 Pract	14

	Assigning tasks And report	Embroidery education	Tests tradit ional educati on in Understanding traditional educa tion And its compo .nents	ical	
Short exams, assignments, discussions	:My theory Auditory methods Writing style on the blackboard Dialogue style Direct :practical Assigning tasks And report	:My theory For genetic link :Practical Outdoor education	B7 :Theoretical Explains the concept of co rrelation From Genetic definition of correlation Genetics, i ts causes and methods .Appreciate it A7 :Practical Examin ation of ou tdoor educat ion in Identify the ty pes and components External e . ducation	2 Theo retical 3 Prac tical	15

11. Course evaluation

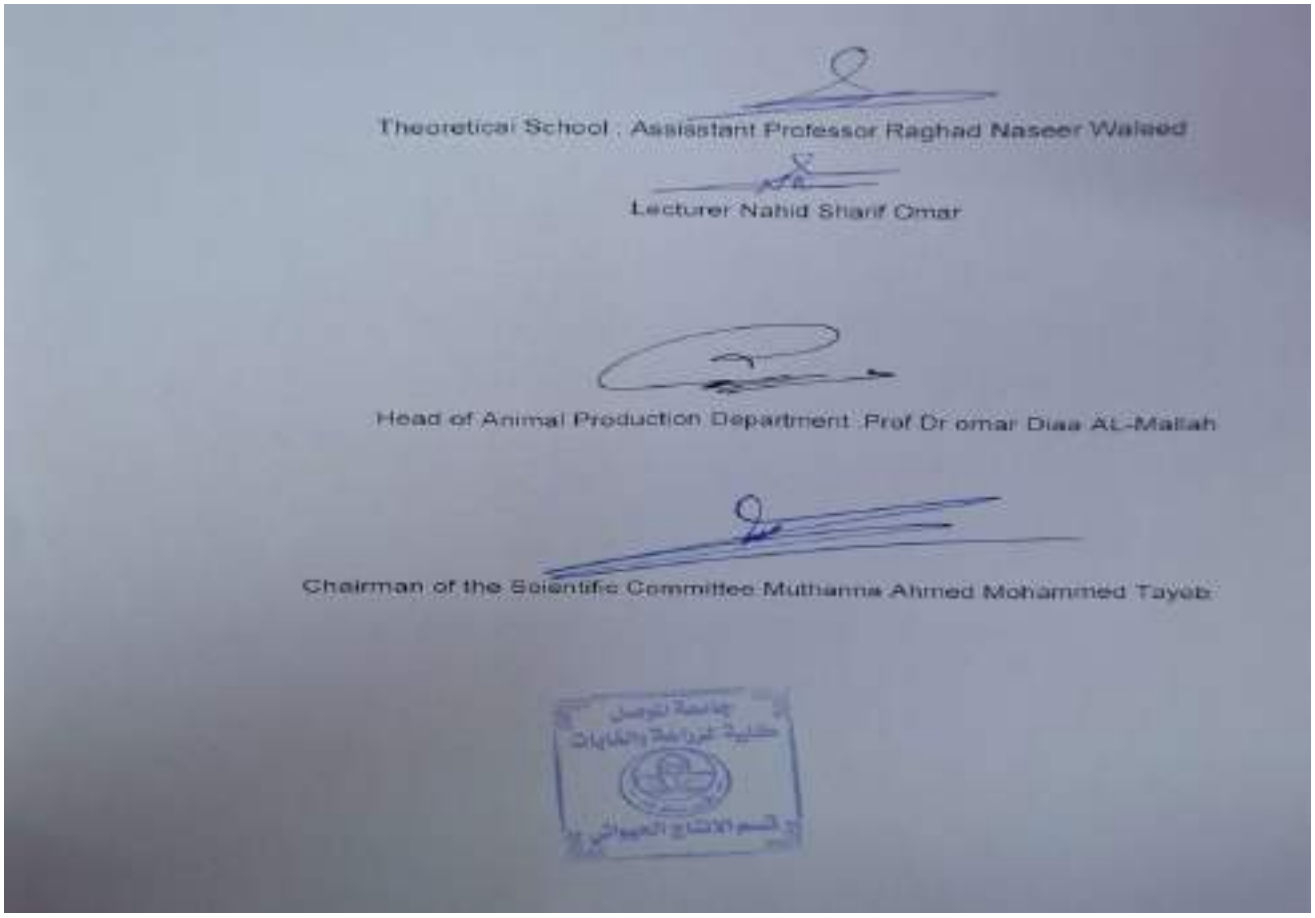
Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.

% Relative weight	Class	Calendar date (week)	Calendar methods	T
%13	7 theoreti + cal 6 practica l	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 Theoret + ical 2Practi cal	week (3)	Quiz Short test (1)	2
%15	10 theoreti +cal 5 practica l	week (9)	Midterm test (theoretical (and practical	3
%6	4Theor + etical 2Practi cal	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	

12. Learning and teaching resources

Required textbooks (methodolo (gy, if any	A book on raising and improving poultry birds

	Main references (sources)
Lectures and books published in universi ties Iraqi	Recommended supporting books and references (scientific (….journals, reports
ebsites specialized in raising and improving poultry	Electronic references, Internet sites



Course Description of the Poultry Bird Nutrition

1. Course Name
Poultry Bird Nutrition
2. Course Code
POBN428
3. Term /Year
First Semester Autumn 2024-2025
4. Description Preparation Date:
1-9-2024
5. A. Available Attendance Forms
In-Person + Electronic
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	**practical**
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.	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	**practical**
1- Interactive lecture. 2-Explanation and clarification. 3. Brainstorm: Brainstorming Debating and discussing	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** (A) The student learns about energy - energy sources – carbohydrates **Practical:** (B) Explains the primary feed materials	**theoretical** Energy - Energy Sources – Carbohydrates **Practical:** primary feed materials	**Theoretical:** Visual and auditory methods Explanation and dialogue style **Practical:** Assignment and report	- Tests. Assignment Discussions
Second	2 Theoretical	**Theoretical:**	**Theoretical:**	**Theoretical:**	- Tests.

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

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

	3Practical	(B) The student reveals the final products of the digestion of nutrients - the digestion of proteins - the digestion of carbohydrates - the digestion of fats - Scientific visit **Practical:** (B) The student is familiar with storing fodder materials - Scientific visit	final products of the 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	Visual and auditory methods Explanation and dialogue style **Practical:** Assignment and report	Assignment Discussions
Thirteen	2 Theoretical 3Practical	**Theoretical:** (A) The student learns about rancidity of fats and oils - digestion of mineral elements - digestion of vitamins **Practical:** (B) 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:** (A) The student learns about metabolism - carbohydrate metabolism - fat metabolism **Practical:** (B) 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:** (A) The student learns about protein metabolism, mineral metabolism, and water metabolism **Practical:** (B) 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	6%

			+2Practical	
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)	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

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Professor Dr. Omar Diaa Muhammad

Head of Department

Professor Dr. Methanna Ahmed Mohamed Tayeb

Chairman of the Scientific Committee

Course Description Form

1. Course Name:

Sheep and goats Production

2. Course Code:

SHGP430

3. Semester / Year:

Autumn 2024

4. Description Preparation Date:

1/9/2024

5. Available Attendance Forms:

Presence + Electronic

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	**Practical**
- 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.	Enabling the student to become familiar with the most important field operations related to raising sheep and goats.

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
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	A: 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**	B: 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	B: 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**	A: 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	B: Determines breeding season	One-time field operations sheep and goats	Assigning tasks And report	-short exam -Assignment of duty -discussions
Fourth	**2Theoretical**	A: 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	B: 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**	B: 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	A, B, C: 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	A: 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	B: Remembers types of records	Preparations for the vaccination season	Assigning tasks And report	-short exam -Assignment of duty -discussions
Seventh	**2Theoretical**	A: Learn about ways to establish and manage a flock of sheep and goats	Establishing and managin flock of sheep and goat	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	A: Explains arbitration in sheep	Preparing for lambing season	Assigning tasks And report	-short exam -Assignment of duty -discussions
Eighth	**2Theoretical**	A: 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	A: Explains the types of sheep farms	Weaning and its types in sheep	Assigning tasks And report	-short exam -Assignment of duty -discussions
Ninth	**2Theoretical**	B: 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	A: 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**	A: 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	A: Enumerates the types of field operations	Records	Assigning tasks And report	-short exam -Assignment of duty -discussions
Eleven	**2Theoretical**	B: 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	A, C shows special field operations in sheep	Arbitration and exhibitions	Assigning tasks And report	
Twelve		A: 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	A: 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**	A: 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	B: Determines which ewes enter the insemination season	Shear the wool	Assigning tasks And report	-short exam -Assignment of duty -discussions
Fourteen	**2Theoretical**	A: 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	B: 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**	B: 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	B: 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	3rd week	4 Theoretical + 2 Practical	%6
Theoretical and practical midterm test	9th week	10 Theoretical + 5 Practical	%15
Quiz	12th 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

مدرس المادة النظري

أ.د خالد حساني سلطان

مدرس المادة العملي

وسام جاسم محمد

رئيس اللجنة العلمية

أ.د. مثنى احمد محمد الطيب

رئيس قسم الإنتاج الحيواني

أ.د. عمر ضياء محمد

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course Description of the Research Project 1

1. Course Name:

Research Project 1

2. Course Code:

REPR402

3. Semester / Year:

First semester (autumn)/ Fourth class/2024-2025

4. Description Preparation Date:

1/9/2024

5. Available Attendance Forms:

Presence + Electronic

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

45 hours/1.5 units

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

Name: Nawaf Gazi Abuud nawaf.gazi@uomosul.edu.iq

8. Course Objectives

- The student is unable to understand and understand how to choose the title of the project that was researched
- Enabling the student to know the most important methods for conducting a graduation research project experiment
- Enable the student to become familiar with how to choose the necessary parameters to solve the proble of the research project under study
- Empowering the student with the ability to write a graduation research project report
- The student can judge the quality of the graduation research project by analyzing the results obtained in the practical part
- Enable the student to learn how to collect resources for writing a graduation research project

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	3 Practical	B: The student explains t sources necessary to cho the title of his graduation research project	How to choose a topic for a graduation research project	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Second	3 Practical	C: The student discusses parts of writing the vocabulary of the graduation research project	How to choose source and writing method	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Third	3 Practical	B: The student reviews supported characteristics best demonstrate the presentation of his research	Preparing presentation	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Fourth	3 Practical	A: The student learns abo the things that make his method of presenting his graduation research project simple, understandable, a clear.	elocution	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Fifth	3 Practical	C: The student cites examples of the most important results obtaine in his graduation research project	Discussion and answering questions	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Sixth	3 Practical	C: The student identifies most important scientific points that support his graduation research project	Discussing the graduation research project	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Seventh	3 Practical	C: The student identifies most important scientific points that support his graduation research project	Discussing the graduation research project	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
eighth	3 Practical	C: The student identifies most important scientific points that support his graduation research project	Discussing the graduation research project	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Ninth	3 Practical	C: The student identifies most important scientific points that support his graduation research project	Discussing the graduation research project	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Tenth	3 Practical	C: The student identifies most important scientific points that support his graduation research project	Discussing the graduation research project	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test

Eleventh	3 Practical	C: The student identifies most important scientific points that support his graduation research project	Discussing the graduation research project	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Twelveth	3 Practical	C: The student identifies most important scientific points that support his graduation research project	Discussing the graduation research project	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Thirteenth	3 Practical	C: The student identifies most important scientific points that support his graduation research project	Discussing the graduation research project	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Fourteenth	3 Practical	C: The student identifies most important scientific points that support his graduation research project	Discussing the graduation research project	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Fifteenth	3 Practical	C: The student identifies most important scientific points that support his graduation research project	Discussing the graduation research project	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test

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)	Different lectures
Main references (sources)	----------
Recommended books and references (scientific journals, reports...)	----------
Electronic References, Websites	----------

L.Dr. Nawaf Gazi Abuud

Head Of Department

Chairperson of the Scientific Committee

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course Description Form Computer applications4

1. Course Name:
Computer applications4
2. Course Code:
COMA401
3. Semester / Year:
First semester/ 2024-2025
4. Description Preparation Date:
1/9/2024
5. Available Attendance Forms:
In presence , online
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	• **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	- 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	A: The student learns about the SAS program and its importance in analyzing reactive analytics and the fraudulent tools 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.	Final test.
2	3 practical	A: The student is familiar with the windows of the SAS program, the information from each window, and how to deal with them, and is familiar with the general matters that people who want to use the SAS program must have in order to use 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.	Report, Final test.
3	3 practical	C: shows the negative trace of SAS.	General steps for writing a SAS program.	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Homework1, Final test.
4	3 practical	C: The student employs functions, their importance, and usage formulas in writing a program in the SAS language	Functions	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz1, Final test.
5	3 practical	D: The student applies the creation of new data from the input data set using mathematical operations or functions and formulas used in	Create new data from an input data set using mathematical operations or functions.	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Homework2, Final test.

		writing a program in the SAS language.			
6	3 practical	D: The student tests creating data using the IF statement and the formulas used 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.	scientific visit, Final test.
7	3 practical	D: The student implements the use of Portuguese sentences to delete data from a data set and the usage formulas 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.	semester test1, Final test.
8	3 practical	B: The child sorts and arranges data and formulas used 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.	practical test1, Final test.
9	3 practical	B: The artist uses the iterative profit plan tool with only one orthogonal syntax and their formula in writing an integrated SAS program.	- 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.	Homework3, Final test.
10	3 practical	B: The student produces cooperation and association standards by using their formulas 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.	Quiz2, Final test.
11	3 practical	B: The student tries out the T-test response and the formula used 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.	Homework, Final test.
12	3 practical	B: The student evaluates the balanced analysis of variance plot and the formula used 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.	practical test2, Final test.
13	3 practical	B: The student experiments with the unbalanced analysis of variance and the formulas used in writing a program in the SAS language	PROC GLM + Semester exam 2	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	semester test2, Final test.
14	3 practical	B: The student defines the contract and syntax	PROC CORR correlation coefficient formula	Interactive lecture, brainstorming,	Homework, Final test.

		used in writing a Bulgarian SAS program		dialogue and discussion, practical exercises, and self-learning.	
15	3 practical	B: The student does not rule out the regression equation and the formulas used in writing the Bulgaria SAS program	PROC REG REGRESSION FORMULA	interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	practical test3, Final test.

11. Course Evaluation

t	Evaluation methods	Evaluation date (one week)	Grade	Relative weight %
1	Report 1	second week	2	2%
2	Homework1	the third week	1	1%
3	Short test Quiz1	fourth week	2	2%
4	Homework2	The fifth week	1	1%
5	Scientific visit	the sixth week	1.5	1.5%
6	Semester test1	Seventh week	10	10%
7	Practical test1	The eighth week	2.5	2.5%
8	Homework3	Week nine	1	1%
9	Short test Quiz2	The tenth week	2	2%
10	Homework4	Week eleven	1	1%
11	Practical test2	The twelfth week	2.5	2.5%
12	Semester test2	The thirteenth week	10	10%
13	Homework5	The fourteenth week	1	1%
14	Practical test3	The fifteenth week	2.5	2.5%
15	Final practical test	Final semester exams	60	60%
	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 SAS software guide.
Main references (sources)	- 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/

subject teacher: Najla Matti Isaac

Chairman of the Scientific Committee:

الاستاذ الدكتور
منى احمد محمد طيب

Head of the Department:

Omar D. Mohammed

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course Description of the Poultry diseases

1.Course Name
Poultry diseases
2.Course Code
PODI434
3.Term / Year
Spring Semester 2024−2025
4.Description Preparation Date:
1/2/2025
5.A. Available Attendance Forms
learning in presence and electronic
6.Number of Credit Hours (Total of Units)
75 hours/ 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- Interactive lecture. 2- Brain storming. 3-Dialogue and discussion. 4 - Practical exercises.
10.Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject Name	Learning method	Evaluation Method
1	2 Theoretical	A : The student understands the disease, infectious agents and clinical signs.	Definition of disease, Infectious disease Etiology of infectious disease Classification of disease according to pathogens Duration of disease	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A : The student understands what diseases are	General introduction to poultry diseases	Laboratory work.	Exams , assignment, discussions.

2	2 Theoretical	A : The student understands infectious diseases in chickens.	Poultry diseases causes**,** , methods of transmission of infection in poultry, avian salmonella, white diarrhea, paratyphoid, salmonella poisoning	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C : Explain to the student what are the causes of diseases in poultry .	Types of pathogens in poultry	Laboratory work.	Exams , assignment, discussions.
3	2 Theoretical	B : Shows the student yolk sac inflammation and pyloric sac disease.	Infectious coryza, fowl cholera, Escherichia coli	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C : It shows the student what are the health conditions for raising poultry.	Health conditions for raising poultry	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
4	2 Theoretical	C : Explains to the student the symptoms and causes of infectious synovitis, syphilis, granuloma venereum, and avian syphilis.	Infectious synovitis, oviductitis, granuloma colonis, fowl syphilis	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C : It explains to the student the veterinary vaccines used in poultry.	Veterinary vaccines used in poultry	Laboratory work.	Exams , assignment, discussions.
5	2 Theoretical	A : The student understands the symptoms and causes of infectious hepatitis, Newcastle disease, and infectious laryngotracheitis. .	Infectious hepatitis, Newcastle disease, and infectious laryngotracheitis	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

	3 Practical	B : The student is familiar with the most important viral diseases, such as Newcastle disease.	Viral diseases in poultry, Newcastle disease	Laboratory work.	Exams , assignment, discussions.
6	2 Theoretical	C : Explain to the student the cases of infection with Cambodia disease and chicken pox. .	Komboro, chicken pox	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A : The student learns about a group of bacterial diseases, such as chicken cholera and diseases caused by Escherichia coli.	Bacterial diseases, chicken cholera, diseases caused by Escherichia coli	Laboratory work.	Exams , assignment, discussions.
7	2 Theoretical	A : Students learn about some diseases such as Marek's disease, infectious bronchitis, chronic respiratory disease, and avian influenza. .	Marek's disease, infectious bronchitis, chronic respiratory disease, avian influenza	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C : It shows the student the most important parasitic diseases, coccidiosis.	Parasitic diseases, coccidiosis Scientific visit	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
8	2 Theoretical	C : Explain to the student coccidiosis, hemorrhagic enteritis. .	Coccidiosis, hemorrhagic enteritis	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

	3 Practical	C : Explain to the student the deficiency of vitamins and minerals in poultry.	Vitamin and mineral deficiency in poultry	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
9	2 Theoretical	B : It explains to the student nutritional deficiency diseases in poultry.	Nutritional deficiency diseases in poultry	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A : The student understands Mark's disease, avian influenza.	Marek's disease, avian influenza.	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
10	2 Theoretical	C : Explain to the student what intestinal parasites and external parasites are in poultry.	Intestinal parasites, external parasites	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A : The student learns how to prevent poultry diseases and the most important vaccines used in poultry.	Prevention of poultry diseases and the most important vaccines used in poultry	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
11	2 Theoretical	A : The student learns about administrative diseases in poultry, the phenomenon of predation, and methods of preventing and controlling infectious diseases in poultry.	Administrative diseases in poultry, the phenomenon of predation, methods of prevention and control of infectious diseases in poultry	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

	3 Practical	A : The student understands how to control infectious diseases and Ports of entry of infection into the body	Control of infectious diseases and Ports of entry of infection into the body	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
12	2 Theoretical	B : Shows the student the health requirements for raising poultry.	Health conditions for raising poultry	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B : Shows the student the harms of vitamin B deficiency, calcium and phosphorus deficiency in poultry.	Vitamin B deficiency, calcium and phosphorus deficiency in poultry	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
13	2 Theoretical	B : Explains to the student the types of veterinary vaccines in poultry.	Types of vaccines in poultry	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	C : Shows the student how to perform a blood smear test on poultry.	Blood smear preparation in poultry Scientific visit	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
14	2 Theoretical	C : The student explains what mycotoxins are in poultry.	Mycotoxins in poultry	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	A : The student understands what are the administrative diseases in poultry.	Administrative diseases in poultry	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.

15	2 Theoretical	A : The student understands how to prevent poultry diseases. .	Prevention of poultry diseases	Auditory styles, writing style on the board, direct dialogue style.	Exams , assignment, discussions.
	3 Practical	B : it shows the student the methods of collecting blood and handling samples for various physiological and laboratory tests.	Methods of collecting blood and handling samples for various physiological and laboratory tests	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 Bashir
Key References (Sources)	
Recommended supporting books and references (scientific journals, reports…)	
E-References , Websites	

2025

Alaa Shamil Fakhri Al-Allaf

Instructor of practical subject

Dr. Hanan waleed kasim Agwaan

Instructor of theoretical subject

Dr. Khalid Hassani Sultan

Chairman of the Scientific Committee

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Dr. Omar Diaa Muhammad

Head of Department

Course Description Form

1.Course Name:
Buffalo Production
2.Course Code:
BUPR438.
3.Semester / Year:
Second season,2024-2025.
4.Description Preparation Date:
01/02/2025 .
5.Available Attendance Forms:
My presence +electronic
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 Kadhum Kuaiber Almahdawi Email: mozhir2007@uomosul.edu.iq
8.Course Objectives
Course Objectives 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 Asian and African buffalo. 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 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.
9.Teaching and Learning Strategies

Strategy	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.The most important challenges facing the development and breeding of buffalo production in Iraq can be summarized in the following points: 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
1st	**Theoretical 2**	a1 The student should be to learn the basic principles of a historical a historical overview of the buffalo origin and breeding,production of the buffalo.	A historical overview of buffalo origin and the Economic importance of Raising and producing of buffalo.	Lectures and reports. Scientific bulletins and PowerPoint.	Exams,reports, discussions and quizzes.
2nd	**Theoretical 2**	a2 The student must be to familiar with the basic principles of the buffalo' classification position within the animal kingdo and its advantages.	Location and classification of buffalo in the Animal kongdome. Advantages of buffalo breeding,obstacles facing buffalo breeding and its methods of improvement.	Lectures and reports. Scientific bulletins and PowerPoint .	Exams,reports, discussions and quizzes.
3rd	**Theoretical 2**	a3 The student should be to learn about the types of buffalo,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 and PowerPoint.	Exams,reports, discussions quizzes.
4th	**Theoretical 2**	a4 The student should be to explain 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 and PowerPoint .	Exams,reports, discussions and quizzes
5th	**Theoretical 2**	b1 The student should be learns about the nature and types of buffalo barns.	Buffalo barns, their types and its characteristics.	Lectures and reports. Scientific bulletins and PowerPoint.	Exams,reports, discussions and quizzes
6th	**Theoretical 2**	**b2** A scientific visit (field work) of the students to the veterinary teaching hospital at the university so that student to learn diagnose the most important infectious diseases common of buffalo.	Scientific visit to the veterinary hospital	Lectures and reports. Scientific bulletins and PowerPoint.	Exams,reports, discussions and quizzes

		.			
7th	**Theoretical 2**	b3 The students shows to learn about the origin of the Iraqi buffalo and its advantages and its disadvantages of raising.	The Iraqi buffalo, introduction,advantages, and obstacles to its rearing.	Lectures and reports. Scientific bulletins and PowerPoint .	Exams,reports, discussions and quizzes
8th	**Theoretical 2**	c1 The student to blame the principles of meat production, muscle composition and degree of demand for meat.	The meat production of buffalo.	Lectures and reports. Scientific bulletins and PowerPoint .	Exams,reports, discussions and quizzes
9th	**Theoretical 2**	b4 The student should be to explain about the physical characteristics of milk and its productive performance of buffalo.	Milk production, effect of factors on milk production of buffaloes, milk composition and milk substitutes.	Lectures and reports. Scientific bulletins and PowerPoint .	Exams,reports, discussions and quizzes
10th	**Theoretical 2**	c2 The student should be to explain the basic principles of reproductio and methods for pregnancy checks of female buffalo.	The reproduction and methods pregnancy checks of female buffalo.	Lectures and reports. Scientific bulletins and PowerPoint .	Exams,reports, discussions and quizzes
11th	**Theoretical 2**	c3 The student should be to appear basic principles of male and female reproductive system, parts and function of each part.	Male and female reproductive system, parts and function of each part.	Lectures and reports. Scientific bulletins and PowerPoint .	Exams,reports, discussions and quizzes
12th	**Theoretical 2**	c4 The student should be to blame 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 and PowerPoint .	Exams,reports, discussions and quizzes
13th	heoretical 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 and PowerPoint .	Exams,reports, discussions and quizzes
14th	Theoretica	b5 Students can learns	Internal and external	Lectures and reports. Scientific	Exams,reports, discussions

		about internal and external parasites that infect of buffalo determine the causes and it provide treatment.	parasites, causes, symptoms and treatment.	bulletins and PowerPoint .	and quizzes
15th	Theoretica	b6 Introducing students to the most important viral and bacterial diseases that cause significant losses of buffalo.	The most important viral and bacterial diseases that cause significant losses of buffalo.. .	Lectures and reports. Scientific bulletins and PowerPoint .	Exams,reports, discussions and quizzes

11.Course Evaluation:

No.	Evaluation methods	Evaluation date (week)	marks	Relative weight (%)
1	The first short test Quiz Theoritical:	Week 4: Theoritical: 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: Theoritical:Short Test (2) Qui	Theoretical: 2. 5	2.5%
4	Monthly exam (2).	Week 13: Theoritical 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 textbo (curricular books, if any).	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. 2.Buffalo breeding and improvement/Professor Samim Fakhri Al-Dabbagh/Animal Production Department College of Agriculture and Forestry/University of Mosul. for the year 2020.
Main references (source	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. 2.Buffalo Production /Dr. Hassan Khalil Abdullah /Anglo-Egyptian Library/2003.
Recommended books and references (scientific journals, reports...)	1.Buffalo Health and Production. https://www.frontiersin.org/articles/10.3389/fvets.2021.810923/full 2. Journal of Buffalo Science. https://journals.indexcopernicus.com/search/journal/issue?issueId=325199&journalId=64237 3.Buffalo Health and Production. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8873098/ 4.Journal of Dairy Science. https://www.sciencedirect.com/science/article/pii/S0022030209703984
Electronic Referenc Websites	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 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

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

Signature:
Prof.Dr.Khalid Hassani Sultan
Chairman of the Scientific Committee
Date: / /2025

Signature:
Prof.Dr.Omer Dhiyaa Mohammed Al-Mallah
Head of Department
Date: / /2025.

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course Description of the Seminar

1. Course Name:

Seminar

2. Course Code:

SEMN404

3. Semester / Year:

Second semester (spring)/ Fourth class/2024-2025

4. Description Preparation Date:

1/2/2025

5. Available Attendance Forms:

Presence + Electronic

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

15 hours/1 unit

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

Name: Muthanna Fathi Abdullah Email: muthanna.f.a@uomosul.edu.iq

8. Course Objectives

- **Enable the student to understand and understand how to choose the title of the seminar**
- **Enabling the student to know the most important ways to compile topics for writing a seminar**
- **Enable the student to be familiar with how to choose the topic of the seminar**
- **Empowering the student with the ability to write a seminar report**
- **The student can judge the importance of the seminar topic by analyzing the vocabulary of the topic**
- **Enable the student to learn how to collect resources for writing a seminar report**

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	B: The student explains sources necessary to cho the title of his seminar	How to choose a semi topic	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test

Second	2Theoretical	C: The student discusses parts of writing the vocabulary of the seminar	How to choose source and writing method	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Third	2Theoretical	B: The student reviews supported features to bes show his seminar presentation	Preparing presentatio	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Fourth	2Theoretical	A: The student learns abo the things that make the way he delivers his semi simple, understandable , a clear.	elocution	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Fifth	2Theoretical	C: The student cites examples of the most important results obtaine in his seminar	Discussion and answering questions	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Sixth	2Theoretical	C: The student identifies most important scientific points that support his seminar	Seminar discussion	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Seventh	2Theoretical	C: The student identifies most important scientific points that support his seminar	Seminar discussion	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
eighth	2Theoretical	C3: The student identifies most important scientific points that support his seminar	Seminar discussion	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Ninth	2Theoretical	C: The student identifies most important scientific points that support his seminar	Seminar discussion	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Tenth	2Theoretical	C: The student identifies most important scientific points that support his seminar	Seminar discussion	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Eleventh	2Theoretical	C: The student identifies most important scientific points that support his seminar	Seminar discussion	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Twelveth	2Theoretical	C: The student identifies	Seminar discussion	Interactive lecture	Short test

		most important scientific points that support his seminar		brainstorming, dialogue and discussion, self-learning	
Thirteenth	2Theoretical	C: The student identifies most important scientific points that support his seminar	Seminar discussion	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Fourteenth	2Theoretical	C: The student identifies most important scientific points that support his seminar	Seminar discussion	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test
Fifteenth	2Theoretical	C: The student identifies most important scientific points that support his seminar	Seminar discussion	Interactive lecture brainstorming, dialogue and discussion, self-learning	Short test

11. Course Evaluation

week	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)	Diffeent lectures
Main references (sources)	----------
Recommended books and references (scientific journals, reports...)	----------
Electronic References, Websites	----------

Dr. Muthanna Fathi Abdullah

Head Of Department

Chairperson of the Scientific Committee

Prof. Dr. Khalid Hassani Sulta

Molecular Biology Course Description

1. Course Name:
Molecular Biology
2. Course Code:
MOB1345
3. Semester/ Year: Annual
Spring Semester / Fourth Stage / 2024−2025
4. Date of preparation of this description
1/2/2025
5. Available Attendance Forms:
Present + electronic
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_agha@uomosul.edu.iq
8. Course Objectives
Thelearner should be able to describe the animal cell and identify its molecular components from the nucleus, its membrane, cytoplasm and other contents. Study the functions of cell components and organelles. differentiating between types of DNA and RNA, Identify genetic material (DNA), its components and molecular structure, distinguish between garden types and their divisions according to the type of planning Familiarity with the ways in which substances pass through the cell membrane emonstrates cell reproduction methods omprehensive study of RNA (and its types
9. Teaching and learning strategies
- 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	A: 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	A: 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	A: 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	A: 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	A: Recognizes the cytoplasm and identifies the types of cytoplasmic reticulum	Definition of cytoplasm, cytoplasm, cytoplasmic reticulum and their types and colgi bodies	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester1 exam, final exam
	3 Practical	A : 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	Interactive lecture, brainstorming, dialogue and discussion, field	Practical quiz

			animal's body	training, self-learning	
4	1 Theoretical	A: 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	A: 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 Theoretical	A: 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	A: 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 Theoretical	A: 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	A: 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 Theoretical	A: 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	B: 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	A: Efficient transport methods explained	The most important effective mobile methods	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester2 exam, final exam
	3 Practical	A: The student knows how cells are multiplied and identify the types of cells	Introducing the student to the process of cell	Interactive lecture, brainstorming, dialogue and discussion, field	Practical quiz with report

			proliferation through light microscopy as well as slideshows that illustrate the process of cellular reproduction in the tissue	training, practical exercises, self-learning	
9	1 Theoretical	A: Defined on energy+ Scientific visit	Stages of cellular respiration and energy production	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester2 exam, final exam
	3 Practical	A : 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	A: Material-level phosphorylation	Phosphorylation at the material level	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Semester Exam2
	3 Practical	A: 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	A: 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	A: Introducing the student to cytosis, what it means and how it occurs	The student's knowledge and 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	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, self-learning	Practical quiz

			divisions.		
12	1 Theoretical	A: Identifies carbohydrates and glycogen types	Types of carbohydrates	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Final Exam
	3 Practical	A : 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	B: Demonstrates cell reproduction methods	Types and methods of cell reproduction	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Final Exam
	3 Practical	A: 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	A: Familiarity with the phases of mitosis	Know the phases of mitosis	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Quiz, Final Quiz
	3 Practical	A: 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	A: Meiosis Phase Familiarity	The most important phases of meiosis	Interactive lecture, brainstorming, dialogue and discussion, self-learning	Quiz, Final Quiz
	3 Practical	A : 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

quired textbooks (methodology, if any)	
n references (sources)	
Recommended books and references (scientific journals, reports…)	ere isn't any
ctronic References, Websites	ere isn't any

Theoretical Subject Teacher
ssoc. Prof. Ghadeer Abdel Monem Mohamed

Practical Subject Teacher
Rowaida Zuhair Younis

Chairman of the Scientific Committee
Prof. Khalid Hassani Soultan

Head of Animal Production Department
Mr Doctor Omar Diaa Muhammad

Course description

1. CourseName:	
Meat since	
2. Course Code:	
MTSC437	
3. Semester/Year: Annual	
Second semester fourthstage / 2024-2025	
4. The date this description was prepared	
1/2/2025	
5. Available attendance forms	
My presence + electronic	
6. :Number of study hours (total)/number of units (total)	
2theoretical hours / 3 practical hours (5 hours) / 3 units	
7. Name of the course administrator (if more than one name is mentioned)	
D. Safwan Luqman Shihab Haitham Muhammad Sabeih	
8. Course objectives	
practical **1-Identify and learn about different animals and the most famous breeds.** **2-Identify the requirements necessary for any type of production and the ideal conditions that suit those animals** **3-Field operations necessary for farm Animals.**	**Theoretical** **1- The most important operations performed on all types of meat** **2- Identify the most important fodder crops that contribute to a specific type of animal production.** **3- Identify the most important animals spread in the region and thus find them 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 teamwork to reveal leadership skills** **Assigning tasks and reporting on each breed** **Utilizing office hours for department professors**	theoretical **Interactive lecture** **Dialogue and discussion** **Reports** **Seminar**
10. CourseName:	

11. Course structure					
Evaluation method	Learning method	Name the unit or topic	Required learning outcomes	hours	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 tools Used in laboratory Meat	theoretical A Remember the importance Economics of meat production practical A Recognizes devic 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 report	theoretical Nutritional value of meat practical Skeletal system Hinge	theoretical C Determines nutritional value For meat practical A Familiar the devic Skeleton and skeletal system detailed	Theoretical 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 General composition of meat practical Animal body structure	theoretical A Explains fiber Muscles and how they formed practical A Understands the structure body Animal	Theoretical practical 3	3
Short exams	theoretical Auditory Methods Writing style on the	theoretical Muscle fibers. Muscle structure practical Animal body structure	theoretical C Explains fiber Muscles and formed practical	Theoretical practical 3	4

Assignment of duty discussions	blackboard Dialogue style direct practical Assigning tasks And report		A Understands structure body Animal		
Short exams Assignment of duty discussions	theoretical Auditory Methods Writing style on the blackboard Dialogue style direct practical Assigning tasks And report	theoretical Muscle tissue proteins practical Slaughterhouses and meat factories	theoretical A Discusses importance Proteins in body practical A Learn massacres And meat factories	Theoretical practical 3	5
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 Dressing percentage and factors Affecting	theoretical A Explains tissue development Fatty in the body practical A knows the Dressi 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. practical Approximate analysis meat And how take Samples.	theoretical A Lists tissue types Structure and development practical B Knows and understands Analysis Approximate meat and method of taking samples	Theoretical practical 3	7

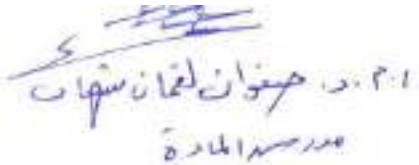
Short exams Assignment of duty discussions	theoretical Auditory Methods Writing style on the blackboard Dialogue style direct practical Assigning tasks And report	theoretical Changes occurring in components body after slaughter. practical The important technologies used To market beef cattle And the factors affecting it	theoretical A Explains the important changes Occurring after slaughter practical B Explains Marketing techniques Cattle and carcasses	Theoretical practical 3	8
Short exams Assignment of duty discussionss	theoretical Auditory Methods Writing style on the blackboard Dialogue style direct practical Assigning tasks And report	theoretical The phenomenon of rigor mortis and factors Affecting practical Stages of preparing the animal for slaughter And cutting	theoretical A Explains the conc of the phenomenon rigor mortis practical B 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 report	theoretical Meat characteristics And the factors affecting it practical Stages of preparing the animal for slaughter And cutting	theoretical C identify Meat characteristics practical B Shows the animal's condition For slaughtering and cutting	Theoretical practical 3	11
Short exams Assignment of duty discussions	theoretical Auditory Methods Writing style on the blackboard Dialogue style direct	theoretical Meat characteristics And the factors affecting it practical The important means used for transportation carcass	theoretical A Recognizes the characteristics of meat practical C Explains means o transportation carcass	Theoretical practical 3	12

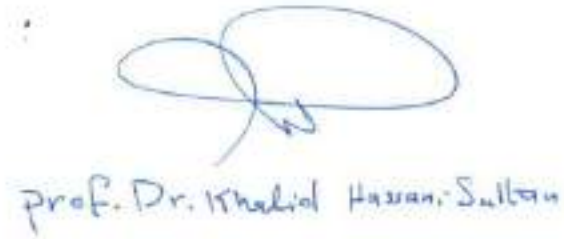
	practical Assigning tasks And report				
Short exams Assignment of duty discussions	theoretical Auditory Methods Writing style on the blackboard Dialogue style direct practical Assigning tasks And report	theoretical Methods of storing and preserving meat the factors affecting it practical Meat palatability and the most important factors determine it	theoretical A Distinguish the m important methods F storage and preservation Meat practical C Determines the m important factors Palatability of meat	Theoretical practical 3	13
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 Distinguishing between animal carcass	theoretical B Distinguish betwe the most important sources Contamination and spoilage of meat practical B Describes the distinction between Animal carcass	Theoretical practical 3	14
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 practical Minced meat industry Sausage industry	theoretical D Expresses the mo important sources Contamination and spoilage in meat practical C Explains the most important operations Processing of meat	Theoretical practical 3	15
12	Course evaluation				

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

13 Learning and teaching resources

Meat production and preservation book	Required textbooks (methodology, if any)
	Main references (references)
	Recommended supporting books and references (scientific journals, reports....)
The World Health Organization and the Food and Drug Administration American	Electronic references, Internet sites





Course Description Form

1. Course Name:
English Language 4
2. Course Code:
ENGL 400
3. Semester / Year:
2024/2025
4. Description Preparation Date:
01/02/2025
5. Available Attendance Forms:
Presence + Online live and Google classroom
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: Omar AbdulHameed Al-Kurjia Email : omarkj @uomosul.edu.iq
8. Course Objectives

Course Objectives	• **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 a like auditory or visual in addition to the white board plus google classroom

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2hours Presence	(A)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	(A)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	(A)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	(A)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	(A)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	(A)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	(A)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	(A)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	(A)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	(A)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	(A)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	(A)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	(A)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	(A)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	(A)The student should be able to know the basics of the English language	Jamie Oliver (The Worlds Greatest Chef) 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	• **British Council – Upper-Intermediate (B2)** https://learnenglish.britishcouncil.org/general-english/upper-intermediate-b2 (Grammar, vocabulary, listening, and reading exercises) • **Perfect English Grammar** https://www.perfect-english-grammar.com (Detailed grammar explanations and exercises)

A.L. Omar AbdulHameed Al-Kurjia

Head Of Department

Omar D. Mohammed

Chairperson of the Scientific Committee

Pro. Dr. Khalid Hassan Sul

جامعة الموصل
كلية الزراعة والغابات
قسم الانتاج الحيواني

Course description form

1. : Course name
Dairy cattle production
2. Course Code:
DACP436
3. Semester/Year:
Spring /2025
4. Description Preparation Date:
1/2/2025
5. Available forms of attendanc:
Presence + electronic
6. Number of study hours (total) / number of units (total):
hours (2 theoretical + 3 practical) * 15 weeks 75 3.5 units
7. Name of the course administrator
M. Nadia Muhammad Bashir (theoretical teacher)**nmb@uomosul.edu.iq** Mohamed Abdel-Iilah **(** practical teacher) **mohmed.alzubaydee@uomosul.edu.iq**
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	Learning	Required learning	the unit or topic	hours	the

method	method	outcomes			week
Short exams, assignments, discussions.	Theoretical: audio methods, And visual Brainstorming Direct dialogue Practical: Write a report on College field	Theoretical: A 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: C 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: describ parts Milk animal body report	Theoretical: A 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: C Milk animal model	Recognize and distinguish types Global dairy cattle And local	2Theoretical 3Practical	Second
Short exams, assignments, discussions.	audio methods, Writing style on Chalkboard style Direct dialogue Practical: Learn about the most important objecti of arbitration and the tools used	Theoretical: A Methods of caring for and feeding livestock a To care for pregnancy and dry periods. Birth and care of newborn calves and cows. Practical: C	Identify and explain to the student Methods of care and eding Livestock	2Theoretical 3Practical	Third

		Livestock arbitration			
Short exams, assignments, discussions.	Auditory methods And visual Writing style on Chalkboard style Direct dialogue Practical: Write a report On the importanc of exhibitions	Theoretical: C Physiology and structure of the digestive system. - The mechanism of work of the digestive system Practical: A Exhibitions and their importance	The student recalls digestive system in Livestock	2Theoret ical 3Practica l	Fourth
Short exams, assignments, discussions.	Theoretical: Audio-visual methods Writing style on Chalkboard style Direct dialogue Practical: participates in Animal numberin process In the field, field practice	Theoretical: A Breastfeeding methods Methods of artificial feeding Weaning methods Practical: C Numbering and its methods	Feeding suckling	2Theoret ical 3Practica l	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 practica way, Field practice Self-education	Theoretical: A Milk composition Factors affecting milk production Properties of milk Practical: D Estimate age	The student remembers and enumerates Factors affecting Milk production	2Theoret ical 3Practica l	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	Theoretical: A Shape and physiology of the udder Practical: A Milking methods	The student remembers parts Installation and physiology of the udder	2Theoret ical 3Practica l	Seventh

	Field				
Short exams, assignments, discussions.	Theoretical: audio methods, Writing style on Chalkboard style Direct dialogue Practical: Write a report on Udder installation	Theoretical: C Factors affecting milk production Practical: C Installation and physiology of the udder	Milk secretion	2Theoretical 3Practical	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: A Adjust the milk to 4% fat Laws for adjusting the milk season Laws of perseverance calculation Practical: A Records	milk period (calculations)	2Theoretical 3Practical	Ninth
Short exams, assignments, discussions.	Theoretical: audio methods, Writing style on Chalkboard style Direct dialogue Practical: Watch and write a report About housing in the field	Theoretical: B Laws for calculating fertility rates Practical: D Animal habitats	Reproductive efficiency And fertility	2Theoretical 3Practical	Tenth
Short exams, assignments, discussions.	:Theoretical Auditory method And visual Writing style on Chalkboard style Direct dialogue :Practical Participates in operations Field by field, fie practice	Theoretical: A Anatomy of the reproductive organs Practical: C Daily operations on the farm	Reproductive organs in Cows	2Theoretical 3Practical	Eleventh

Short exams, assignments, discussions.	:Theoretical ,audio methods Writing style on Chalkboard style Direct dialogue :Practical Learn about ways establish a herd	Theoretical: A Health care for vaccination bulls Practical: D Establishing the herd	Factors affecting fertility in thera n	2Theoretical 3Practical	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: A Methods of pregnancy screening and embryo transfer Practical: A Calculations for estimating the percentage of fat and adjusting jewelry b	Pregnancy examination in cows	2Theoretical 3Practical	Thirteen
Discussions and dialogue	:Theoretical ,audio methods Writing style on Chalkboard style Direct dialogue :Practical It solves some issues related to t milk season	Theoretical: C The origin and production of buffalo Buffalo care and feeding Practical: A Calculations to evaluate reproductive efficiency	Economic importance For buffalo	2Theoretical 3Practical	Fourtee
He writes a report about what he saw during the visit		A scientific trip to one of the animal production fields			Fifteen

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 theoretica + 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	

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

Al. Nadia Mohammed Basher
theoretical teacher

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

Mohamed Abdel-Hilah
practical teacher

Chairman of the Scientific Committee
Prof .Dr . khalid hassani sultan

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