



**Ministry of Higher Education and
Scientific Research
Scientific Supervision and Scientific
Evaluation Apparatus
Directorate of Quality Assurance and
Academic Accreditation
Accreditation Department**

Academic Program Course Description Guide Department Of Animal Production

Wasit University - College of Agriculture

2024

In trodution

The academic program is considered a coordinated and organized package of courses that includes procedures and experiences organized into study units. Its main purpose is to build and refine graduates' skills to make them qualified to meet the demands of the job market. It is reviewed and evaluated annually through internal or external audit procedures and programs such as the external examiner program.

The academic program description provides a brief summary of the main features of the program and its courses, outlining the skills that students are expected to acquire based on the program's objectives. The importance of this description lies in its role as the cornerstone of program accreditation, and it is collaboratively written by faculty under the supervision of academic committees in academic departments.

This guide, in its second edition, includes a description of the academic program after updating vocabulary and paragraphs in light of developments in the Iraqi educational system. It includes the traditional description of the academic program (annual, semester system), as well as adopting the generalized description of the academic program under the Ministry of Education's letter M3/2906 on 3/5/2023 regarding programs that primarily follow the Bologna process.

In this context, we cannot but emphasize the importance of writing academic program descriptions and course outlines to ensure the smooth running of the educational process.

Concepts and Terminology:

Academic Program Description: Provides a concise summary of its vision, mission, and objectives, including a detailed description of the targeted learning outcomes according to specific learning strategies.

Course Description: Offers a concise summary of the main features of the course and the expected learning outcomes for students to achieve, demonstrating whether they have maximized their learning opportunities. It is derived from the program description.

Program Vision: A visionary image of the academic program's future, aiming for it to be advanced, inspiring, motivating, realistic, and applicable.

Program Mission: Clarifies the goals and activities necessary to achieve them succinctly, outlining the program's development paths and trends.

Program Objectives: Statements describing what the academic program intends to achieve within a specific time frame, measurable and observable.

Curriculum Structure: All academic courses/subjects included in the academic program according to the adopted learning system (semester, annual, Bologna process), whether they are core (ministerial, university, college, scientific department) with the number of study units.

Learning Outcomes: A cohesive set of knowledge, skills, and values that a student has acquired upon successful completion of an academic program. Learning outcomes for each course must be defined in a way that achieves the program's objectives.

Teaching and Learning Strategies: These are the strategies used by faculty members to develop student learning. They are plans followed to achieve learning objectives, describing all classroom and non-classroom activities to achieve the program's learning outcomes.

Academic program description

Academic Program Description Form

University Name: Wasit

Faculty/Institute: Agriculture

Scientific Department: Animal production

Academic or Professional Program Name:

Final Certificate Name: Bachelor of Animal production

Academic System: Colleges

Description Preparation Date: 12/2/2024

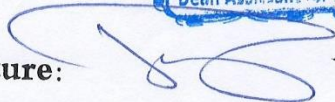
File Completion Date: 12/2/2024

Signature: 

Head of Department Name:

Dr. mohammed A. Rashid

Date: 21/5/2024

Signature: 

Scientific Associate Name:

Date: 21/5/2024

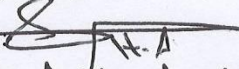


The file is checked by:

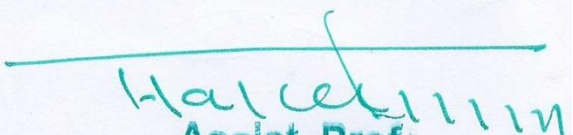
Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date: 21/5/2024

Signature: 

Hibat Allah A. Hussein


Assist. Prof.
Dr. Hakeem S. Abed
Approval of the Dean

Academic program description

This academic program description provides a concise summary of the program's key features and the expected learning outcomes for students, demonstrating whether they have maximized their learning opportunities. It is accompanied by a description for each course within the program.

1. Educational Institution	Wasit University- College of Agriculture
2. Scientific Department / Center	Animal production
3. Academic Program or Professional Program Name	Animal production
4. Final Degree Name	Bachelor of Science in Agriculture - Animal Production
Study System: (Annual, Modular, Semester)	Semester
6. Accredited Accreditation Program	The Agricultural Sector Committee – Ministry of Higher Education and Scientific Research
7. Other External Influences	Decisions issued by the Ministry of Higher Education and Scientific Research and Baghdad University.
8. Description Preparation Date	

Academic Program Objectives:

- Prepare agricultural engineers specializing in animal production who are qualified for work, supervision, and the development of animal production projects through the scientific experiences incorporated into the modern curricula that keep pace with the advancements in their field, encompassing theoretical foundations and practical skills that meet the requirements of the job market.
- Lay the foundation for an enlightened generation that is aligned with the principles and traditions of scientific research to be a fundamental asset in rebuilding this province, especially, and the country as a whole.
- Follow a policy of continuous development for the academic program's courses by developing the teaching staff and engaging them in training courses, seminars, and conferences within and outside Iraq to ensure scientific interaction and keep pace with regional and global developments.
- Develop the reality of animal wealth in the province by coordinating with agricultural and veterinary departments through field visits to public and private sector projects to develop poultry breeding and production projects (meat and egg

production projects), as well as large animal breeding projects (cattle, buffalo, sheep, and goats), in addition to aquaculture projects, through effective cooperation between the department's outputs, the College of Agriculture, and the university with agricultural and veterinary departments in the province.

The required program outcomes and teaching, learning, and assessment methods

Cognitive Objectives:

١. Develop students' capabilities in their specific field of specialization, as well as related agricultural sciences.
٢. Enable students to acquire knowledge and understanding of course content.
٣. Enable students to understand the needs of agricultural animals for growth and production.
٤. Familiarize them with methods of handling agricultural animals and caring for them.

Program's Skills Objectives:

١. Understanding how to interact with different animals and comprehend their behavior.
٢. Learning how to prepare feed mixtures and utilize factory by-products to achieve optimal production with minimal costs.
٣. Empowering students to identify problems related to the animal production sector and devise solutions.
٤. Encouraging students to participate in discussions on topics covered in lectures.

Teaching and Learning Methods:

١. Delivering theoretical lectures to convey information to students using one of the following methods:
 - Whiteboard.
 - Data projector.
 - Interactive lectures.
 - Educational video presentations.
٢. Applying practical lectures through observations and interaction with field or laboratory aspects.
٣. Involving students in acquiring information by presenting scientific reports on a specific topic to enhance cognitive capacity.
٤. Training students in logical discussion methods to reach conclusions based on available data.

Assessment Methods:

١. Conducting quick daily quizzes.
٢. Administering monthly exams.

٢. Performing practical assessments.

٤. Administering the final exam.

Emotional and Values Objectives:

١. The program adopts educational values in dealing with students to instill the desire for knowledge and interaction among students.

٢. Striving to disseminate scientific benefit to society through mastery of work and dedication to accomplishing it.

٣. Emphasizing the importance of fair competition in project development and gaining market share for their products through quality assurance.

٤. Linking scientific advancements with the animal production sector.

Transferable General Skills and Qualifications (Other Skills Related to Employability and Personal Development):

١. Empowering students to present the required expertise and pass job interviews.

٢. Enhancing students' ability to conduct and write scientific research.

٣. Encouraging students to establish their own projects after graduation from college.

٤. Empowering students to acquire knowledge and understanding of work ethics in the animal production sector.

Teaching and Learning Methods:

١. Empowering students with discussion and logical deduction skills for research findings.

٢. Conducting educational advisory seminars.

٣. Honoring exemplary students to highlight positive role models in behavior.

٤. Encouraging student initiative by presenting ideas and addressing inappropriate behavior in the academic environment.

٥. Activating the work of specialized educational committees in the program's academic years.

Assessment Methods:

١. Conducting student surveys to assess opinions within the student community.

٢. Monitoring reports from educational committees in the program's years.

٣. Evaluating the frequency of positive behavioral occurrences within the student community and identifying unacceptable cases.

٤. Involving students in discussions and seminars to develop skills in presenting scientific ideas.

Program Structure:

Approved Hours	Course Name or Title	Course Code or	Study Level
----------------	----------------------	----------------	-------------

Practical	Theoretical		Title	
۳	۲	Analytical Chemistry	ANCH 111	First - Autumn Semester
۳	۲	Principles of Soil Science	SOSC 112	First - Autumn Semester
۳	۲	Principles of Plant Protection	PLPR 113	First - Autumn Semester
۳	۲	Principles of Animal Production	ANPR 114	First - Autumn Semester
۳	۲	Principles of Statistics	STAT 115	First - Autumn Semester
۳	-	Computer Applications (1)	COMA 102	First - Autumn Semester
-	۲	English Language (1)	ENGL 101	First - Autumn Semester
-	1	Human Rights	HURI 103	First - Autumn Semester
۳	۲	Organic Chemistry	ORCH 120	First - Spring Semester
۳	۲	Principles of Field Crops	PCSC 119	First - Spring Semester
۳	۱	Surveying	SUV 118	First - Spring Semester
۳	۲	Poultry Principles	PRPO 117	First - Spring Semester
۳	۲	General Animal	ZOOL 116	First - Spring Semester
3	-	Mathematics	MATH 106	First - Spring Semester
۳	-	Computer Applications (2)	COMA 105	First - Spring Semester
-	۲	Arabic Language	ARAL 104	First - Spring Semester
۳	۲	Biochemistry	BICH 211	Second - Autumn Semester
۳	۲	Animal Product Health	SAAP 212	Second - Autumn Semester
۳	۲	Fish Principles	ICHT 213	Second - Autumn

				Semester
୨	୨	Horticulture Principles	PHSC 214	Second - Autumn Semester
୨	୨	Microbiology Principles	PRMI 215	Second - Autumn Semester
୨	୨	Animal Production Machinery	APME 216	Second - Autumn Semester
-	୨	Agricultural Extension Principles	PRAE 217	Second - Autumn Semester
୨	-	Computer Applications (3)	COMA 202	Second - Autumn Semester
-	୨	English Language (2)	ENGL 201	Second - Autumn Semester
୨	2	Genetics	GENE 218	Second - Spring Semester
୨	2	Forage Crops and Pastures	FOCR 219	Second - Spring Semester
୨	2	Fish Farming and Production	HPRE 220	Second - Spring Semester
୨	2	Dairy Science Principles	PDSC 221	Second - Spring Semester
-	2	Agricultural Economics Principles	PRAE 222	Second - Spring Semester
-	1	Freedom and Democracy	FRDE 204	Second - Spring Semester
୨	-	Computer Applications (4)	COMA 203	Third - Autumn Semester
୨	୨	Animal Physiology	ANPH 311	Third - Autumn Semester
୨	୨	Incubation and Hatchery Management	HMHA 312	Third - Autumn Semester
୨	୨	Animal Nutrition	ANNU 313	Third - Autumn Semester
-	3	Livestock Production Economics	APEC 314	Third - Autumn Semester
-	୨	Animal Environment and Behavior	AEBE 315	Third - Autumn Semester
୨	୨	Experiment Design and Analysis	EXDA 316	Third - Autumn Semester

୨	୨	Medical and Veterinary Entomology	MVIN 317	Third - Autumn Semester
୨	୨	Poultry Physiology	POPH 318	Third - Spring Semester
୨	୨	Poultry Products Technology	POPT 319	Third - Spring Semester
୨	୨	Feeds and Rations	FEFE 320	Third - Spring Semester
୨	୨	Animal Diseases	ANDI 321	Third - Spring Semester
୨	୨	Animal Breeding and Improvement	ANBR 322	Third - Spring Semester
୨	୨	Reproductive Physiology	REPH 323	Third - Spring Semester
-	୨	English Language (3)	ENGL 301	Fourth - Autumn Semester
୨	୨	Poultry Nutrition	PONU 411	Fourth - Autumn Semester
୨	୨	Poultry Breeding and Improvement	POBR 412	Fourth - Autumn Semester
୨	୨	Dairy Cattle Production	DCPR 413	Fourth - Autumn Semester
୨	୨	Meat Production	MEPR 414	Fourth - Autumn Semester
୨	୨	Poultry Management and Production	POMP 415	Fourth - Autumn Semester
୨	୨	Pasture Management	PAMA 416	Fourth - Autumn Semester
୨	-	Graduation Research Project	REPR 417	Fourth - Spring Semester
୨	୨	Poultry Diseases	PODI 418	Fourth - Spring Semester
୨	୨	Molecular Biology	MOMI 419	Fourth - Spring Semester
୨	୨	Sheep and Goat Production	SGPR 420	Fourth - Spring Semester
୨	୨	Meat Science	MESC 421	Fourth - Spring Semester
-	୨	Buffalo Production	BUPR 422	Fourth - Spring

				Semester
-	1	Seminar Sessions	SEMN 423	Fourth - Spring Semester
٣	-	Graduation Research Project	REPR 424	Fourth - Spring Semester
-	٢	English Language (4)	ENGL 401	Fourth - Spring Semester

Academic Program Structure

Notes	Percentage	Number of Units	Number of Courses	Program Structure
Basic	٦,٧٦	١٢	٧	Institution Requirements
Basic	٣٢,٣٩	٥٧,٥	٢٠	College Requirements
Basic	٦٠,٨٤	١٠٨	٣٤	Department Requirements
Basic	-	Fulfiller	-	Summer Training
	١٠٠	١٧٧,٥	٦١	Total

Personal Development Planning:

Personal follow-up on related topics on the internet.

Summer training and practical lessons.

Reading and increasing knowledge in other general topics.

14. Admission Criteria (Institutional Admission Systems):

Centralized Admission (Central Planning).

Academic Level of the Student (Grade Point Average obtained in preparatory studies).

Personal Interview at the College.

15. Key Information Sources about the Program:

References and textbooks.

Journals and scientific magazines.

Information network (Internet).

Study sessions and training courses.

Instructions issued by the Ministry of Higher Education and Scientific Research, as well as Baghdad University.

Course Description Template

This course description provides a concise summary of the key features of the course and the expected learning outcomes for students to achieve, demonstrating whether they have maximally benefited from the available learning opportunities. It must be linked to the program description.

Course Description:

First level:

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Analytical Chemistry
Course Code	ANCH 111
Number of Credit Units	3.5
Available Attendance Modes	Attendance: Yes
Level - Semester	First Year - Autumn Semester
Total Hours of Instruction	(2) Theoretical Hours + (3) Practical Hours = (5) Hours per Week
Date of Description Preparation	12/2/2024
Course Coordinator's Name	Assist. Professor Dr. Hyder Najy Resun
Course Objectives	Basic understanding of Analytical Chemistry. knowledge of chemicals used in analyses. Quantitative and qualitative estimation of elements or

		compounds in the material being analyzed.		
Teaching and Learning Methods		Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.		
Assessment Methods		Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.		
Infrastructure		Required textbooks: Analytical Chemistry Fundamentals (Translated by Zuhair Meti Qusair, Edmond Mikhail Hanna, and Abdul Latif Abdul Razzaq). Key references (sources): Analytical Chemistry: Basic Concepts in Traditional and Automated Analysis by Abdullah Mahmoud Abu Al-Kubash. Recommended books and references (scientific journals, reports). Electronic references, internet websites.		
Evaluation of the course		Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Importance of Quantitative Chemistry and Concentration Expressions with Problems	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Expression of Laws of ppm, w/w%, v/v% with Dilution Laws for Standard Solutions with Problems	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours	Introduction to Ionic	Theoretical	Theoretical

	theoretical (3) hours practical	Balance, Theories of Hydrolysis, and pH for Acids, Bases, and Salts with Strong and Weak Types with Problems	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	pH Measurement Methods and pH Meter Explanation with Detailed Description of Buffered Solutions	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Preparation Methods of Buffered Solutions with Problems	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Explanation of Acid-Base Indicators with Multiple Problems on all the Above Topics	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Ka Estimation Method and Titration Curves with Problems	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Precipitation Titration and Introduction to Mohr and Volhard Methods	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Standards and Characteristics of Standard Substances, Titration Steps with Problems on the Subject with Introduction to Complex Titration	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical	Complex Titrations with EDTA, Characteristics,	Theoretical lectures	Theoretical quiz

	(3) hours practical	and Problems on the Subject	Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Student's Familiarity with Volumetric Methods including the use of (EDTA)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Student's Introduction to Gravimetric Analysis with Problems	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Student's Introduction to Oxidation-Reduction Titrations	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourteenth	(2) hours theoretical (3) hours practical	Student's Familiarity with Oxidation-Reduction Indicators with Problems	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Automated Analysis and Understanding of Lambert-Beer Law and Spectrophotometer with Problems	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Principles of soil science
Course Code	SOSC 112
Number of Credit Units	3.5
Available Attendance Modes	Attendance: Yes
Level - Semester	First Year - Autumn Semester
Total Hours of Instruction	(2) Theoretical Hours + (3) Practical Hours = (5) Hours per Week
Date of Description	12/2/2024

Preparation				
Course Coordinator's Name				
Course Objectives		Familiarizing the students with the science of soil formation and development. Including the physical and chemical properties of soil. Classifying and managing soil in Iraq.		
Teaching and Learning Methods		Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.		
Assessment Methods		Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.		
Infrastructure		Required Textbooks: Principles of Soil Science by Dr. Abdullah Najm Al-Ani. Main References (Sources): Chemical Analysis of Soil by Dr. Hamad Allah Sulaiman Rahi and Dr. Mohammed Ali. Recommended books and references (scientific journals, reports). Electronic references, internet websites.		
Evaluation of the course		Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	General Concepts of Soil and Soil Sciences, Formation and Development of Soil	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical	Student's Familiarity with the Physical	Theoretical lectures	Theoretical quiz

	(3) hours practical	Properties of Soil	Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Student's Familiarity with Soil Water	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Student's Familiarity with Aggregates and Chemical Properties of Soil	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Student's Familiarity with Soil Salinity, Alkalinity, Reclamation of Saline Lands, and Managed Soil	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Understanding Biological and Biochemical Properties of Soil	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Student's Familiarity with Soil Fertility and Plant Nutrition	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Understanding Soil Aggregates and Chemical Properties	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Types of Soil Particles and Their Characteristics	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

The tenth	(2) hours theoretical (3) hours practical	Student's Familiarity with Organic Soil Aggregates	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Understanding Soil Formation Processes	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Student's Familiarity with Soil Salinity and Alkalinity	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Understanding Ion Exchange in Soil	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Student's Familiarity with Soil Salinity Determination	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Student's Familiarity with Soil Water Classification	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Principles of plant protection
Course Code	PLPR 113
Number of Credit Units	3.5
Available Attendance Modes	Attendance: Yes

Level - Semester		First Year - Autumn Semester		
Total Hours of Instruction		(2) Theoretical Hours + (3) Practical Hours = (5) Hours per Week		
Date of Description Preparation		12/2/2024		
Course Coordinator's Name				
Course Objectives		Familiarizing the students with Entomology and related sciences, including the benefits and harms of insects. Understanding plant diseases and their treatment methods.		
Teaching and Learning Methods		Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.		
Assessment Methods		Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.		
Infrastructure		Required Textbook: General Entomology by Dr. Ibrahim Qadouri Al-Qaddou. Main References (Sources): Fungi Book by Dr. Ibrahim Aziz Al-Suhaili. Recommended books and references (scientific journals, reports). Electronic references, internet websites.		
Evaluation of the course		Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Introduction to Entomology	Theoretical lectures Practical lectures Laboratory	Theoretical quiz Practical quiz Scientific

			experiments	Reports
The second	(2) hours theoretical (3) hours practical	Feeding Methods of Insects and Factors aiding Survival	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Insect Reproduction Methods	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Environmental Factors Influencing Insect Life and Activity	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Methods of Controlling Palm/Fruit and Cucumber Pests	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Economic Significance and Important Factors in Iraq	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Nature of Life and Damages by Agricultural Rodents	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Economic Importance of Pests	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours	Definitions of Disease Terms	Theoretical lectures Practical lectures	Theoretical quiz Practical quiz

	practical		Laboratory experiments	Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Causes of Parasitic Plant Diseases	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Causes of Non-Parasitic Diseases	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Disease Development Years and Spread Methods	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Methods of Plant Disease Control	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	General Characteristics of the Class Insecta and Insect Orders	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Feeding Methods of Insects and Factors aiding Survival	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Principles of Animal Production
Course Code	ANPR 114
Number of Credit Units	3.5

Available Attendance Modes		Attendance: Yes		
Level - Semester		First Year - Autumn Semester		
Total Hours of Instruction		(2) Theoretical Hours + (3) Practical Hours = (5) Hours per Week		
Date of Description Preparation		12/2/2024		
Course Coordinator's Name				
Course Objectives		Defining the economic importance of animal production as well as its general relevance. Relationship between animal production and plant production.		
Teaching and Learning Methods		Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.		
Assessment Methods		Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.		
Infrastructure		Required Textbook: Principles of Animal Production by Najib Tawfiq Ghazal and others, 1979, Mosul University. Main References (Sources): Fundamentals of Sheep and Goat Production and Rearing by Dr. Jalal Elia Al-Qass, Dr. Zuhair Fakhri Al-Jalili, and Dr. Daib Isaac Aziz. Recommended books and references (scientific journals, reports). Electronic references, internet websites.		
Evaluation of the course		Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours theoretical	Economic Importance of Animal Products	Theoretical lectures	Theoretical quiz

	(3) hours practical		Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Cattle and Buffalo Breeds	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Cattle Breeds and Types	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Introduction to Reproduction in Cattle	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Care of Young Calves	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Concept of Nutrition for Ruminant Animals	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Milk Production from Cattle and Buffaloes	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Basic Daily, Weekly, and Seasonal Field Operations	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours	Field Records and	Theoretical	Theoretical

	theoretical (3) hours practical	Understanding Production Information	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Housing and Its Types	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Buffaloes	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Sheep and Goat Rearing	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Economic Importance of Sheep and Goat Products	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Classification and Classification Methods	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Reproduction in Ruminant Animals	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Principles of statistics
Course Code	STAT 115

Number of Credit Units	3.5			
Available Attendance Modes	Attendance: Yes			
Level - Semester	First Year - Autumn Semester			
Total Hours of Instruction	(2) Theoretical Hours + (3) Practical Hours = (5) Hours per Week			
Date of Description Preparation	12/2/2024			
Course Coordinator's Name				
Course Objectives	Definition of the principles of statistics and methods of statistical sampling. Understanding the most important statistical measures used.			
Teaching and Learning Methods	Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.			
Assessment Methods	Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.			
Infrastructure	Required Textbook: Introduction to Statistics, 1984, by Dr. Khashae Mahmoud Al-Arawi, Mosul University. Recommended books and references (scientific journals, reports). Electronic references, internet websites.			
Evaluation of the course	Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.			
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Nature of Statistics	Theoretical lectures Practical lectures Laboratory	Theoretical quiz Practical quiz Scientific

			experiments	Reports
The second	(2) hours theoretical (3) hours practical	Tabular Presentation and Graphical Representation	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Frequency Distribution Table	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Relative Frequency Distribution Table	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Cumulative Distributions	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Measures of Central Tendency and Dispersion	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Measures of dispersion and variation.	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Principles of Probability Theory	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours	Probability Distribution	Theoretical lectures Practical lectures	Theoretical quiz Practical quiz

	practical		Laboratory experiments	Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Binomial Distribution	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Multinomial Probability Distribution	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Normal Distribution	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Hypothesis Testing	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Chi-Square Test	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Regression and Simple Correlation	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Computer applications (1).
Course Code	COMA 102
Number of Credit Units	1.5

Available Attendance Modes		Attendance: Yes		
Level - Semester		First Year - Autumn Semester		
Total Hours of Instruction		(3) Practical Hours = (3) Hours per Week		
Date of Description Preparation		12/2/2024		
Course Coordinator's Name				
Course Objectives		Understanding the components of a computer, their functions, and familiarization with computer technologies, software, and necessary applications for work and task completion.		
Teaching and Learning Methods		Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.		
Assessment Methods		Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.		
Infrastructure		Required Textbook: Systematic Computer Book. Main References (Sources): Guide to Using Office Software. Recommended books and references (scientific journals, reports). Electronic references, internet websites.		
Evaluation of the course		Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(3) hours practical	What is a computer? Computer Features Computer Components Types of Computers	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

The second	(3) hours practical	Main Components of a Personal Computer	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(3) hours practical	Operating Systems and Their Types	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(3) hours practical	Information Networks	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(3) hours practical	Telephone Networks and the World of Computers	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(3) hours practical	Internet	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(3) hours practical	Computers in Our Daily Lives	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(3) hours practical	Insurance, Copyrights, and Laws	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(3) hours practical	Working with Menus and Icons	Theoretical lectures Practical lectures Laboratory	Theoretical quiz Practical quiz Scientific

			experiments	Reports
The tenth	(3) hours practical	Desktop Quick Launch Menu	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(3) hours practical	Windows Explorer Program	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(3) hours practical	Using Some Built-in Programs with Windows	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(3) hours practical	Optimizing Screen Fonts for LCD or Laptop Displays	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(3) hours practical	Understanding and Activating Windows XP's Firewall	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(3) hours practical	Dynamic Disk	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	English language (1)
Course Code	ENGL 101
Number of Credit Units	2
Available Attendance Modes	Attendance: Yes
Level - Semester	First Year - Autumn Semester

Total Hours of Instruction	(2) Theoretical Hours = (2) Hours per Week			
Date of Description Preparation	12/2/2024			
Course Coordinator's Name				
Course Objectives	Understanding the English language, its tenses, vocabulary, writing style, and reading skills.			
Teaching and Learning Methods	Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation).			
Assessment Methods	Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting final exam.			
Infrastructure	Required Textbook: Systematic English Language Book. Main References (Sources): Authentic language textbooks. Writing Academic English, Level 1 by Alice Oshima Recommended books and references (scientific journals, reports). Electronic references, internet websites.			
Evaluation of the course	Theory Exam (50 points) + Daily Exam = (50 points) Effort + (50 points) Final Exam			
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours theoretical	English preposition	Theoretical lectures	Theoretical exam
The second	(2) hours theoretical	Passive voice	Theoretical lectures	Theoretical exam
The third	(2) hours theoretical	Negative	Theoretical lectures	Theoretical exam
The fourth	(2) hours theoretical	If clause (conditional) sentences	Theoretical lectures	Theoretical exam
The fifth	(2) hours theoretical	Kinds of sentences	Theoretical lectures	Theoretical exam
The sixth	(2) hours theoretical	A- Simple tense	Theoretical lectures	Theoretical exam
The Seventh	(2) hours	B-compound tense	Theoretical	Theoretical

	theoretical		lectures	exam
The eighth	(2) hours theoretical	c- complex tense	Theoretical lectures	Theoretical exam
The ninth	(2) hours theoretical	The use of so 'and neither'	Theoretical lectures	Theoretical exam
The tenth	(2) hours theoretical	Singular	Theoretical lectures	Theoretical exam
The eleventh	(2) hours theoretical	plural	Theoretical lectures	Theoretical exam
The twelfth	(2) hours theoretical	How to answer causations	Theoretical lectures	Theoretical exam
The thirteenth	(2) hours theoretical	Number + Roman Numerals	Theoretical lectures	Theoretical exam
The Fourteenth	(2) hours theoretical	Every day sentences	Theoretical lectures	Theoretical exam
The fifteenth	(2) hours theoretical	The verb to be	Theoretical lectures	Theoretical exam

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Human rights
Course Code	HURI 103
Number of Credit Units	1
Available Attendance Modes	Attendance: Yes
Level - Semester	First Year - Autumn Semester
Total Hours of Instruction	(1) Theoretical Hours = (1) Hours per Week
Date of Description Preparation	12/2/2024
Course Coordinator's Name	
Course Objectives	Understanding human rights and their respective systems, as well as defining public and private freedoms.
Teaching and Learning Methods	Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation).
Assessment Methods	Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting final exam.

Infrastructure		Required Textbook: Systematic Book. Main References (Sources): Authentic books on rights and freedoms. Recommended books and references (scientific journals, reports). Electronic references, internet websites.		
Evaluation of the course		Theory Exam (50 points) + Daily Exam = (50 points) Effort + (50 points) Final Exam.		
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(1) hours theoretical	Definition of Human Rights	Theoretical lectures	Theoretical exam
The second	(1) hours theoretical	Origin and Evolution of the Concept of Human Rights	Theoretical lectures	Theoretical exam
The third	(1) hours theoretical	Overview of Human Rights in Ancient Civilizations (Mesopotamian Civilization, Nile Valley Civilization)	Theoretical lectures	Theoretical exam
The fourth	(1) hours theoretical	Human Rights in Divine Religions	Theoretical lectures	Theoretical exam
The fifth	(1) hours theoretical	Human Rights and Their Relationship with Other Variables	Theoretical lectures	Theoretical exam
The sixth	(1) hours theoretical	The Relationship between Rights and Law	Theoretical lectures	Theoretical exam
The Seventh	(1) hours theoretical	The Relationship between Rights and Duties	Theoretical lectures	Theoretical exam
The eighth	(1) hours theoretical	Fundamental Human Rights	Theoretical lectures	Theoretical exam
The ninth	(1) hours	The Impact of	Theoretical	Theoretical

	theoretical	Globalization on Human Rights	lectures	exam
The tenth	(1) hours theoretical	Major International Declarations and Treaties on Human Rights	Theoretical lectures	Theoretical exam
The eleventh	(1) hours theoretical	Universal Declaration of Human Rights (1948)	Theoretical lectures	Theoretical exam
The twelfth	(1) hours theoretical	Cairo Declaration on Human Rights in Islam	Theoretical lectures	Theoretical exam
The thirteenth	(1) hours theoretical	Human Rights in International Treaties and Laws	Theoretical lectures	Theoretical exam
The Fourteenth	(1) hours theoretical	International Covenant on Civil and Political Rights	Theoretical lectures	Theoretical exam
The fifteenth	(1) hours theoretical	Financial and Administrative Corruption	Theoretical lectures	Theoretical exam

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Organic chemistry
Course Code	ORCH 120
Number of Credit Units	3.5
Available Attendance Modes	Attendance: Yes
Level - Semester	First Year - Spring Semester
Total Hours of Instruction	(2) Theoretical Hours + (3) Practical Hours = (5) Hours per Week
Date of Description Preparation	12/2/2024
Course Coordinator's Name	
Course Objectives	Understanding the Importance of Chemistry in Describing the Structure, Properties, and Reactions of Compounds and Organic Materials
Teaching and Learning	Delivering theoretical lectures using the following

Methods		methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.		
Assessment Methods		Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.		
Infrastructure		Required Textbooks: Organic Chemistry by Abdul Ilah Al-Abdo Recommended books and references (scientific journals, reports). Electronic references, internet websites.		
Evaluation of the course		Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Introduction to Organic Chemistry - Importance of Bonds - Hybridization - Possibilities of C-C π - Bond Splitting - Major Reactions in Organic Chemistry	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Alkanes - Definition - Nomenclature - Examples - sp^3 Hybridization - Rotational Motion - Preparation - Reactions	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical	Alkenes - Definition - Nomenclature -	Theoretical lectures	Theoretical quiz

	(3) hours practical	Examples - Sp ² Hybridization - Formation of Double Bonds - Preparation – Reactions	Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Compounds Containing Multiple Double Bonds - Examples - Dienes - Types - Reactions	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Alkynes - Definition - Nomenclature - Examples - Sp Hybridization - Formation of Triple Bonds - Preparation - Reactions	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Alicyclic Aliphatic Compounds - Definition - Major Rings - Preparation - Major Reactions	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	First Theoretical Exam	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Aromatic Compounds - Definition - Nomenclature - Calculation of Electronic Resonance Energy - Formation of Aromatic Rings - Activity and Orientation - Preparation - Reactions	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours	Aliphatic and	Theoretical	Theoretical

	theoretical (3) hours practical	Aromatic Halides - Definition - Nomenclature - Examples - Preparation - Reactions (SN1, SN2, E1, E2)	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Nucleophilic Substitution in Aryl Halides	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Alcohols, Phenols, and Ethers - Definition - Nomenclature - Preparation - Reactions	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Aldehydes and Ketones - Definition - Examples - Nomenclature - Carbonyl Group - Preparation - Reactions - Nitrogen Derivatives of Aldehydes and Ketones	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Second Theoretical Exam	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Amines - Definition - Types - Nomenclature - Examples - Preparation - Reactions	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical	Carboxylic Acids - Definition - Examples	Theoretical lectures	Theoretical quiz

	(3) hours practical	- Nomenclature - Carboxyl Group - Preparation - Reactions	Practical lectures Laboratory experiments	Practical quiz Scientific Reports
--	---------------------	--	--	--------------------------------------

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Principles of Field Crops
Course Code	PCSC 119
Number of Credit Units	3.5
Available Attendance Modes	Attendance: Yes
Level - Semester	First Year - Spring Semester
Total Hours of Instruction	(2) Theoretical Hours + (3) Practical Hours = (5) Hours per Week
Date of Description Preparation	12/2/2024
Course Coordinator's Name	
Course Objectives	Understanding Major Field Crops and Their Interactions with Other Factors
Teaching and Learning Methods	Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.
Assessment Methods	Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.
Infrastructure	Book: Principles of Field Crops by Dr. Majid Mohsen Al-Ansari Recommended books and references (scientific journals, reports). Electronic references, internet websites.
Evaluation of the course	Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.

Course structure:				
Week	Hours		Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Definition, origin, and development of field crops	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Classification of field crops based on economic use, growing season, duration in the field, and other uses	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Botanical description of major families of field crops such as grasses, legumes, and others	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Environmental factors and their impact on the growth of field crops	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Biological factors - light, temperature, humidity	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Soil factors including composition, texture, fertility, and solution reaction; types of crops based on salt tolerance	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours	Water Relationship with Field Crop Growth	Theoretical lectures Practical lectures	Theoretical quiz Practical quiz

	practical		Laboratory experiments	Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Biological Factors with Microorganisms	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Land Preparation for Agriculture and Conducting Seasonal Examinations	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Seeds and Grains: Germination Testing, Purity, Necessary Conditions for Crop Seeds Prepared for Cultivation, with an Overview of Grain Grading, Drying, Storage, and Marketing	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Weeds: Definition, Spread Factors, Damages Caused, Control Methods, with a Mention of Major Weeds in the Region	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Crop Rotation: Key Considerations in Evaluating Crop Rotations, Types of Crop Rotations, and Their Benefits with Illustrative Examples	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Brief Introduction to Field Crop Cultivation Methods	Theoretical lectures Practical lectures Laboratory	Theoretical quiz Practical quiz Scientific

			experiments	Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Years of Production and Multiplication of Improved Seeds	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Brief Overview of Major Field Crops in Iraq in Tabular Form	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Survey
Course Code	SUV 118
Number of Credit Units	2.5
Available Attendance Modes	Attendance: Yes
Level - Semester	First Year – Spring Semester
Total Hours of Instruction	(1) Theoretical Hours + (3) Practical Hours = (4) Hours per Week
Date of Description Preparation	12/2/2024
Course Coordinator's Name	
Course Objectives	To introduce students to the concepts of area, measurement systems, and drawing scales. Students will learn about surveying systems, how to calculate point elevations, and height differences.
Teaching and Learning Methods	Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.
Assessment Methods	Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams.

		Conducting final exam.		
Infrastructure		The required textbook: Flat Surface Area: Between Theory and Application by Dr. Mohannad Ahmed Khalil. Recommended books and references (scientific journals, reports). Electronic references, internet websites.		
Evaluation of the course		Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(1) hours theoretical (3) hours practical	Area Definition / Survey Types / Requirements for Good Surveying / Importance of Surveying in Agricultural Work	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(1) hours theoretical (3) hours practical	Measurement Systems / Units of Measurement / Errors and Mistakes	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(1) hours theoretical (3) hours practical	Tape Surveying / Station Selection Criteria	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(1) hours theoretical (3) hours practical	Errors in Surveying Process / Methods of Correction and Avoidance	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(1) hours theoretical (3) hours practical	Drawing Scale / Types and Classifications / Determining Factors	Theoretical lectures Practical lectures Laboratory	Theoretical quiz Practical quiz Scientific

			experiments	Reports
The sixth	(1) hours theoretical (3) hours practical	Areas / Regular and Irregular Shapes / Coordinate-based Area Calculation	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(1) hours theoretical (3) hours practical	Leveling / Terminology / Adjustment Types / Uses of Leveling Equipment	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(1) hours theoretical (3) hours practical	Types of Leveling / Curvature and Refraction Phenomena and Their Corrections	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(1) hours theoretical (3) hours practical	Methods for Calculating Point Elevations and Height Differences / Direct and Indirect Methods	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(1) hours theoretical (3) hours practical	Longitudinal Sectioning / Definition / Steps / Central Axis Determination / Point Grouping / Scale of Drawing	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(1) hours theoretical (3) hours practical	Point Elevations Calculation / Distance Measurement / Plotting on Graph Paper / Design vs. Actual Sectioning	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(1) hours theoretical (3) hours practical	Excavation Depth and Fill Depth Calculation / Parcel and Fill Area Calculation / Volume Calculations / Actual Excavation and Fill	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

		Volume Calculation / Project Economics Evaluation using Calculations		
The thirteenth	(1) hours theoretical (3) hours practical	Topographic Maps / Representation Techniques	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(1) hours theoretical (3) hours practical	Contour Lines Definition and Usage / Contour Interval Determination / Contour Lines Plotting / Contour Interval Factors / Contour Line Properties / Contour Line Drawing Methods	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(1) hours theoretical (3) hours practical	Various Applications and Problems in Land Division / Reviews / Theodolite Instrument Budget / Usage / Horizontal and Vertical Angle Measurement	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Principles of Poultry
Course Code	PRPO 117
Number of Credit Units	3.5
Available Attendance Modes	Attendance: Yes
Level - Semester	First Year - Spring Semester
Total Hours of Instruction	(2) Theoretical Hours + (3) Practical Hours = (5) Hours per Week

Date of Description Preparation		12/2/2024		
Course Coordinator's Name				
Course Objectives		Introduction to Poultry, Types, and Economic Importance		
Teaching and Learning Methods		Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.		
Assessment Methods		Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.		
Infrastructure		Required Books: "Poultry Production" by Dr. Hamdi Al-Fayyad and Jamil Mohammed Saeed. Main References (Sources): "Fundamentals of Poultry Production" by Dr. Mohammed Ali Maki Jasim. Recommended books and references (scientific journals, reports). Electronic references, internet websites.		
Evaluation of the course		Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Composition of Chicken Organs and Their Vital Functions	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Genetic Principles in Poultry	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

The third	(2) hours theoretical (3) hours practical	Incubation and Hatchery Management	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Basics of Poultry Nutrition	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Poultry Diseases and Parasites	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Nutritional Deficiency Diseases	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Parasitic Diseases	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Biosecurity Measures for Disease Prevention	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Current Status of Poultry Meat Production	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Geographic Classification	Theoretical lectures Practical lectures Laboratory	Theoretical quiz Practical quiz Scientific

			experiments	Reports
The eleventh	(2) hours theoretical (3) hours practical	Types of Incubation	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Examples of Calculating Poultry Feeds for Broilers and Layers	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Brooding of Chicks	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Requirements for Poultry Housing	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Poultry Nutrition	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Zoology
Course Code	ZOOL 116
Number of Credit Units	3.5
Available Attendance Modes	Attendance: Yes
Level - Semester	First Year - Spring Semester
Total Hours of Instruction	(2) Theoretical Hours + (3) Practical Hours = (5) Hours per Week
Date of Description	12/2/2024

Preparation				
Course Coordinator's Name				
Course Objectives		The student should become familiar with zoology and its relationship with other sciences.		
Teaching and Learning Methods		Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.		
Assessment Methods		Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.		
Infrastructure		The required textbook is "General Zoology" by Dr. George Haddad. Recommended books and references (scientific journals, reports). Electronic references, internet websites.		
Evaluation of the course		Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	General Introduction to Zoology and its Relations	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Scientific Research Methods	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical	Origin of Life and Theories	Theoretical lectures	Theoretical quiz

	(3) hours practical		Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Protoplasm	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Cytoplasm	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Cell Division and Its Causes	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Biological Eggs and Their Classification	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Enzymes and Their Role in Organisms	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Chemical Coordination in Biology and Nervous System Formation	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Organic Evolution	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours	Environmental	Theoretical	Theoretical

	theoretical (3) hours practical	Science	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Light Microscope	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Electron Microscope	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Preparing a Slide for Examination	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Plant and Animal Cells	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Mathematics
Course Code	MATH 106
Number of Credit Units	2
Available Attendance Modes	Attendance: Yes
Level - Semester	First Year - Spring Semester
Total Hours of Instruction	(2) Theoretical Hours = (2) Hours per Week
Date of Description Preparation	12/2/2024
Course Coordinator's Name	
Course Objectives	For students to become familiar with the arithmetic operations and equations related to important

	mathematical laws.			
Teaching and Learning Methods	Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation).			
Assessment Methods	Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting final exam.			
Infrastructure	Required Textbooks: Mathematics Curriculum Book. Primary References (Sources): Original books on mathematics. Recommended books and references (scientific journals, reports). Electronic references, internet websites.			
Evaluation of the course	Theoretical Exam (50 points) + daily Exam = (50 points) Continuous Assessment + (50 points) Final Exam.			
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours theoretical	Definition of matrices and their types	Theoretical lectures	Theoretical quiz
The second	(2) hours theoretical	Operations on matrices	Theoretical lectures	Theoretical quiz
The third	(2) hours theoretical	Matrix equality / Exercises	Theoretical lectures	Theoretical quiz
The fourth	(2) hours theoretical	Ranges and their types	Theoretical lectures	Theoretical quiz
The fifth	(2) hours theoretical	Limits and methods of finding them	Theoretical lectures	Theoretical quiz
The sixth	(2) hours theoretical	Continuity	Theoretical lectures	Theoretical quiz
The Seventh	(2) hours theoretical	Derivative / Derivative theories	Theoretical lectures	Theoretical quiz
The eighth	(2) hours theoretical	Exercises on derivatives	Theoretical lectures	Theoretical quiz
The ninth	(2) hours	Trigonometric	Theoretical	Theoretical

	theoretical	functions	lectures	quiz
The tenth	(2) hours theoretical	Function data shifts	Theoretical lectures	Theoretical quiz
The eleventh	(2) hours theoretical	Integration	Theoretical lectures	Theoretical quiz
The twelfth	(2) hours theoretical	Definition of matrices and their types	Theoretical lectures	Theoretical quiz
The thirteenth	(2) hours theoretical	Operations on matrices	Theoretical lectures	Theoretical quiz
The Fourteenth	(2) hours theoretical	Matrix equality / Exercises	Theoretical lectures	Theoretical quiz
The fifteenth	(2) hours theoretical	Definition of matrices and their types	Theoretical lectures	Theoretical quiz

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Computer Applications (2)
Course Code	COMA 105
Number of Credit Units	1.5
Available Attendance Modes	Attendance: Yes
Level - Semester	First Year - Spring Semester
Total Hours of Instruction	(3) Practical Hours = (3) Hours per Week
Date of Description Preparation	12/2/2024
Course Coordinator's Name	
Course Objectives	For students to get acquainted with Office programs like Word, Excel and PowerPoint
Teaching and Learning Methods	Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.
Assessment Methods	Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams.

		Conducting final exam.		
Infrastructure		Primary References (Sources): Primary Source Books Recommended books and references (scientific journals, reports). Electronic references, internet websites.		
Evaluation of the course		Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(1) hours theoretical (2) hours practical	Microsoft Word 2007 Program and Its Interface	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz
The second	(1) hours theoretical (2) hours practical	The Office Button and Its Contents	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz
The third	(1) hours theoretical (2) hours practical	Program Toolbars	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz
The fourth	(1) hours theoretical (2) hours practical	Home Tab and Its Groups	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz
The fifth	(1) hours theoretical (2) hours practical	Insert Tab and Its Groups	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz
The sixth	(1) hours theoretical	Page Layout Tab and Its Groups	Theoretical lectures	Theoretical quiz

	(2) hours practical		Practical lectures Laboratory experiments	Practical quiz
The Seventh	(1) hours theoretical (2) hours practical	References Tab and Its Groups	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz
The eighth	(1) hours theoretical (2) hours practical	Mailings Tab and Its Groups	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz
The ninth	(1) hours theoretical (2) hours practical	Review Tab and Its Groups	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz
The tenth	(1) hours theoretical (2) hours practical	View Tab and Its Groups	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz
The eleventh	(1) hours theoretical (2) hours practical	Introduction to Excel 2007 Program	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz
The twelfth	(1) hours theoretical (2) hours practical	Design Tab from Equation Tools	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz
The thirteenth	(1) hours theoretical (2) hours practical	Using Some Keyboard Keys in Office 2007 Program	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz
The	(1) hours	Design Tab from	Theoretical	Theoretical

Fourteenth	theoretical (2) hours practical	Equation Tools	lectures Practical lectures Laboratory experiments	quiz Practical quiz
The fifteenth	(1) hours theoretical (2) hours practical	Formatting Tab from Picture Tools	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Arabic language
Course Code	ARAL 104
Number of Credit Units	2
Available Attendance Modes	Attendance: Yes
Level - Semester	First Year - Spring Semester
Total Hours of Instruction	(2) Theoretical Hours = (2) Hours per Week
Date of Description Preparation	12/2/2024
Course Coordinator's Name	
Course Objectives	To introduce students to grammar, syntax, and eloquence in the Holy Quran.
Teaching and Learning Methods	Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation).
Assessment Methods	Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting final exam.
Infrastructure	Required textbooks: "Arabic Language" by Dr. Rafid Sabah Al-Tamimi and Tugheed Fadel Abbas. Primary references (sources): Original books. Recommended books and references (scientific journals, reports). Electronic references, internet websites.
Evaluation of the course	Theoretical Exam (50 points) + Daily Exam = (50 points) Continuous Assessment + (50 points) Final Exam.

Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours theoretical	Introduction to the history of the Arabic language.	Theoretical lectures	Theoretical quiz
The second	(2) hours theoretical	Division of Arabic grammar: Nominatives (Marfu'at) and their explanation.	Theoretical lectures	Theoretical quiz
The third	(2) hours theoretical	Predicate (Khabar) and its role in Arabic grammar.	Theoretical lectures	Theoretical quiz
The fourth	(2) hours theoretical	Noun of being (Ism Kana) and its usage.	Theoretical lectures	Theoretical quiz
The fifth	(2) hours theoretical	Sisters of the noun of being and their functions.	Theoretical lectures	Theoretical quiz
The sixth	(2) hours theoretical	Application of nominatives in sentences.	Theoretical lectures	Theoretical quiz
The Seventh	(2) hours theoretical	Accusatives (Mansubat) and their explanation.	Theoretical lectures	Theoretical quiz
The eighth	(2) hours theoretical	Object (Maful bihi) and Absolute Object (Maful lahu).	Theoretical lectures	Theoretical quiz
The ninth	(2) hours theoretical	Application of accusatives in sentences.	Theoretical lectures	Theoretical quiz
The tenth	(2) hours theoretical	Circumstantial adjunct (Hal) and its significance.	Theoretical lectures	Theoretical quiz
The eleventh	(2) hours theoretical	Vocative (Munadi) and its usage.	Theoretical lectures	Theoretical quiz
The twelfth	(2) hours theoretical	Introduction to numerals in Arabic.	Theoretical lectures	Theoretical quiz
The thirteenth	(2) hours	Morphological scale	Theoretical	Theoretical

	theoretical	(Mizan sarfi) and practical application.	lectures	quiz
The Fourteenth	(2) hours theoretical	Perfect verb (Fi'l sahih) and its distinction from other verbs.	Theoretical lectures	Theoretical quiz
The fifteenth	(2) hours theoretical	Spelling rules and punctuation marks in Arabic writing.	Theoretical lectures	Theoretical quiz

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	biochemistry
Course Code	BICH 211
Number of Credit Units	3.5
Available Attendance Modes	Attendance: Yes
Level - Semester	Second Year - Autumn Semester
Total Hours of Instruction	(2) Theoretical Hours + (3) Practical Hours = (5) Hours per Week
Date of Description Preparation	12/2/2024
Course Coordinator's Name	Dr. Hyder Najy Resun
Course Objectives	The student should recognize the importance of biochemistry, study carbohydrates, study amino acids, study lipids, and study nucleic acids.
Teaching and Learning Methods	Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.
Assessment Methods	Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.

Infrastructure		Required Textbooks: Principles of Biochemistry by Dr. Ali Al-Dawoodi. Primary References (Sources): Biochemistry by Lehninger Recommended books and references (scientific journals, reports). Electronic references, internet websites.		
Evaluation of the course		Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Introduction, Cell	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Carbohydrates - Definition - Categories	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Monosaccharides	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Oligosaccharides	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Polysaccharides	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

The sixth	(2) hours theoretical (3) hours practical	Amino Acids - Categories - Reactions	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Proteins - Structure - Synthesis - Categories	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Fatty Acids - Categories - Reactions	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Simple Lipids - Structure - Categories	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Complex and Derived Lipids - Structure - Categories	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Nucleic Acids, Importance, Structure, Categories	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Enzymes, Characteristics, Factors Affecting Them	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Important Reactions	Theoretical lectures Practical lectures Laboratory	Theoretical quiz Practical quiz Scientific

			experiments	Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Biochemical Pathways	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Energy Production Pathways	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Sanitation of Animal Products
Course Code	SAAP 212
Number of Credit Units	3.5
Available Attendance Modes	Attendance: Yes
Level - Semester	Second Year - Autumn Semester
Total Hours of Instruction	(2) Theoretical Hours + (3) Practical Hours = (5) Hours per Week
Date of Description Preparation	12/2/2024
Course Coordinator's Name	
Course Objectives	The student should understand the concept of animal product health, recognize the signs of products unfit for consumption, and understand the mechanisms for protecting humans from diseases and preventing them
Teaching and Learning Methods	Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.
Assessment Methods	Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.

Infrastructure		Recommended books and references (scientific journals, reports). Electronic references, internet websites.		
Evaluation of the course		Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	The concept of animal product health and its relationship to community health	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	The importance of health supervision on meat and its products	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Essential principles to be followed in producing meat fit for consumption	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Precautions to be taken during animal transportation	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	The harms resulting from animal transportation and their impact on meat health	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Necessary considerations when selecting a slaughterhouse	Theoretical lectures Practical lectures Laboratory	Theoretical quiz Practical quiz Scientific

		location	experiments	Reports
The Seventh	(2) hours theoretical (3) hours practical	Examination of animals before and after slaughter	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Conditions required for complete bleeding	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Specifications for meat and fat from different animals in livestock slaughter	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Factors affecting bacterial growth and effectiveness in meats	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Types of bacteria that can be found in meats	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Chemical residues in meats	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Signs of poor bleeding in slaughtered animals during laboratory examination	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours	Meat examination for oxidation and disease absence	Theoretical lectures Practical lectures	Theoretical quiz Practical quiz

	practical		Laboratory experiments	Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	The concept of animal product health and its relationship to community health	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Ichthyology
Course Code	ICHT 213
Number of Credit Units	3.5
Available Attendance Modes	Attendance: Yes
Level - Semester	Second Year - Autumn Semester
Total Hours of Instruction	(2) Theoretical Hours + (3) Practical Hours = (5) Hours per Week
Date of Description Preparation	12/2/2024
Course Coordinator's Name	
Course Objectives	Introduce the student to the basic principles of fish and their internal organs, familiarize them with the different types of fish in various environments, explain how fish grow and methods to estimate their ages, and provide insight into their needs
Teaching and Learning Methods	Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.
Assessment Methods	Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.
Infrastructure	Recommended books and references (scientific journals, reports). Electronic references, internet websites.

Evaluation of the course		Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Fish Classification	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	External Appearance of Fish	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Embryology in Fish	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Life Years After Hatching	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Food and Nutrition	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Age and Growth	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical	Fish Aggregations	Theoretical lectures	Theoretical quiz

	(3) hours practical		Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Fertility in Fish	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Water Pollution and Its Impact on Fish	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Water as a Habitat for Fish	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Natural Diet of Fish	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Natural Fish Productivity	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Ornamental Fish	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Setting Up Ornamental Fish Tanks	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours	Some Iraqi Fish	Theoretical	Theoretical

	theoretical (3) hours practical	Species and Identification	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
--	---------------------------------------	-------------------------------	---	---

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Principles of Horticulture
Course Code	PHSC 214
Number of Credit Units	3.5
Available Attendance Modes	Attendance: Yes
Level - Semester	Second Year - Autumn Semester
Total Hours of Instruction	(2) Theoretical Hours + (3) Practical Hours = (5) Hours per Week
Date of Description Preparation	12/2/2024
Course Coordinator's Name	
Course Objectives	To provide the student with an understanding of horticulture, including the classification of horticultural plants, establishing and maintaining gardens, and the importance of fruits and vegetables.
Teaching and Learning Methods	Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.
Assessment Methods	Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.
Infrastructure	Recommended books and references (scientific journals, reports). Electronic references, internet websites.
Evaluation of the course	Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.

Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Horticulture, the history of tissue science, economic and nutritional importance.	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Classification of horticultural plants	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Suitable environmental factors and their impact on horticultural crop production (light, temperature, humidity, soil)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Methods of horticultural plant propagation (sexual and asexual propagation, tissue culture)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Nurseries, field cultivation patterns (for fruits, vegetables, ornamental, medicinal, and aromatic plants)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Agricultural operations (irrigation, fertilization, pruning, thinning, pest and weed control, etc.)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical	Cultivation under controlled	Theoretical lectures	Theoretical quiz

	(3) hours practical	environments	Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Harvesting, harvesting, marketing	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Storage and preservation	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Overview of plant breeding and improvement in horticultural plants	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Examples of fruit trees (deciduous, evergreen)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Examples of strategic vegetable crops	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Examples of ornamental plants and landscape design, including shrubs, perennials	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Examples of medicinal and aromatic plants	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours	Introduction to fields	Theoretical	Theoretical

	theoretical (3) hours practical	and horticultural facilities: gardens, orchards, fields, plastic and glasshouse	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
--	---------------------------------------	---	---	---

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Principles of Microbiology
Course Code	PRMI 215
Number of Credit Units	3.5
Available Attendance Modes	Attendance: Yes
Level - Semester	Second Year - Autumn Semester
Total Hours of Instruction	(2) Theoretical Hours + (3) Practical Hours = (5) Hours per Week
Date of Description Preparation	12/2/2024
Course Coordinator's Name	
Course Objectives	To introduce students to microbiology, the classification of microorganisms, and the importance of microbiology.
Teaching and Learning Methods	Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.
Assessment Methods	Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.
Infrastructure	Recommended books and references (scientific journals, reports). Electronic references, internet websites.
Evaluation of the course	Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.
Course structure:	

Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	A historical overview of microbiology and the scientists who contributed to its development.	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Bacteria (morphological characteristics and functional anatomy)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Fungi (molds and yeasts)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Algae	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Viruses	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Pathogenic microorganisms	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Microorganisms in water and wastewater	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical	Preserving cultures of microorganisms	Theoretical lectures	Theoretical quiz

	(3) hours practical		Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Introduction to microbiology laboratory equipment	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Preparation of culture media	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Sterilization	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Simple staining	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Differential staining (Gram staining)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Structural staining (spore staining)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Isolation of microorganisms	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

Educational Institution		College of Agriculture - Wasit University		
Scientific Department / Center		Animal Production		
Course Name		Animal Production Machinery		
Course Code		APME 216		
Number of Credit Units		3.5		
Available Attendance Modes		Attendance: Yes		
Level - Semester		Second Year - Autumn Semester		
Total Hours of Instruction		(2) Theoretical Hours + (3) Practical Hours = (5) Hours per Week		
Date of Description Preparation		12/2/2024		
Course Coordinator's Name				
Course Objectives		To introduce the student to the use of advanced machinery for increasing production through modern techniques in field management and operation, increasing output, reducing manual labor, and expanding horizontally and vertically.		
Teaching and Learning Methods		Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.		
Assessment Methods		Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.		
Infrastructure		Recommended books and references (scientific journals, reports). Electronic references, internet websites.		
Evaluation of the course		Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours	Electric fencing	Theoretical	Theoretical

	theoretical (3) hours practical		lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Psycho-metric chart	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Controlling environmental conditions in animal shelters	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Heating in animal shelters	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Control and warning systems used in ventilation systems	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Preparing agricultural buildings with water supply	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Milking equipment and systems	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Cooling devices and their uses	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

The ninth	(2) hours theoretical (3) hours practical	Wool shearing equipment	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Components of electric wool shearing machines	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Waste disposal equipment	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Equipment, devices, and means used in waste management	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Hatcheries and egg packaging equipment	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Treatment of eggs before placing them in hatcheries	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Animal slaughtering equipment and meat processing	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Principles of Agricultural Extension

Course Code		PRAE 217		
Number of Credit Units		2		
Available Attendance Modes		Attendance: Yes		
Level - Semester		Second Year - Autumn Semester		
Total Hours of Instruction		(2) Theoretical Hours = (2) Hours per Week		
Date of Description Preparation		12/2/2024		
Course Coordinator's Name				
Course Objectives		Introduction to Agricultural Extension, the Functions of Administrative Guidance, Counseling Methods, and Field Demonstration		
Teaching and Learning Methods		Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation).		
Assessment Methods		Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting final exam.		
Infrastructure		Recommended books and references (scientific journals, reports). Electronic references, internet websites.		
Evaluation of the course		Theoretical Exam (50 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours theoretical	A historical overview of agricultural guidance and the scientists who contributed to its development.	Theoretical lectures	Theoretical quiz Scientific Reports
The second	(2) hours theoretical	Definition of agricultural guidance.	Theoretical lectures	Theoretical quiz Scientific Reports
The third	(2) hours	Importance of	Theoretical	Theoretical

	theoretical	agricultural guidance.	lectures	quiz Scientific Reports
The fourth	(2) hours theoretical	Principles of agricultural guidance.	Theoretical lectures	Theoretical quiz Scientific Reports
The fifth	(2) hours theoretical	Objectives of agricultural guidance.	Theoretical lectures	Theoretical quiz Scientific Reports
The sixth	(2) hours theoretical	Communication.	Theoretical lectures	Theoretical quiz Scientific Reports
The Seventh	(2) hours theoretical	Rural leadership.	Theoretical lectures	Theoretical quiz Scientific Reports
The eighth	(2) hours theoretical	Adoption and dissemination of agricultural innovations (technologies).	Theoretical lectures	Theoretical quiz Scientific Reports
The ninth	(2) hours theoretical	Planning agricultural guidance programs.	Theoretical lectures	Theoretical quiz Scientific Reports
The tenth	(2) hours theoretical	Methods of agricultural guidance and counseling.	Theoretical lectures	Theoretical quiz Scientific Reports
The eleventh	(2) hours theoretical	Evaluation of agricultural guidance programs.	Theoretical lectures	Theoretical quiz Scientific Reports
The twelfth	(2) hours theoretical	Agricultural guidance in Iraq and its years of development.	Theoretical lectures	Theoretical quiz Scientific

				Reports
The thirteenth	(2) hours theoretical	Field visits to the guidance organization.	Theoretical lecture	Theoretical quiz Scientific Reports
The Fourteenth	(2) hours theoretical	Sites for implementing agricultural guidance activities.	Theoretical lectures	Theoretical quiz Scientific Reports
The fifteenth	(2) hours theoretical	The role of guidance in enhancing production.	Theoretical lectures	Theoretical quiz Scientific Reports

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Computer Applications
Course Code	COMA 202
Number of Credit Units	1.5
Available Attendance Modes	Attendance: Yes
Level - Semester	Second Year - Autumn Semester
Total Hours of Instruction	(3) Practical Hours = (3) Hours per Week
Date of Description Preparation	12/2/2024
Course Coordinator's Name	
Course Objectives	- Familiarize the student with office programs, including Excel, Database management using Excel.
Teaching and Learning Methods	Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.
Assessment Methods	Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.

Infrastructure		Required Textbook: "Computers and Office Applications" by Dr. Hashem Abdul Kareem. Main References (Sources): "Electronic Computer Programming" books by Dr. Abdullatif Abd. Recommended books and references (scientific journals, reports). Electronic references, internet websites.		
Evaluation of the course		Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Microsoft Word 2007 Program and Its Interface	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Office Button and Its Contents	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Program Ribbons	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Home Tab and Its Groups	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Insert Tab and Its Groups	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

The sixth	(2) hours theoretical (3) hours practical	Introduction to Excel 2007 Program	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Some Concepts and Terminologies in Excel 2007	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Home Tab and Its Groups	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Insert Tab and Its Groups	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Some Concepts Used in PowerPoint 2007 Program	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Home Tab and Its Groups	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Drawing Tools Format Toolbar	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	- Insert Tab and Its Groups	Theoretical lectures Practical lectures Laboratory	Theoretical quiz Practical quiz Scientific

			experiments	Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Design Tab and Its Groups	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Animations Tab and Its Groups	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	English Language (2)
Course Code	PRAE 217
Number of Credit Units	2
Available Attendance Modes	Attendance: Yes
Level - Semester	Second Year - Autumn Semester
Total Hours of Instruction	(2) Theoretical Hours = (2) Hours per Week
Date of Description Preparation	12/2/2024
Course Coordinator's Name	
Course Objectives	Introduction to Agricultural Extension, the Functions of Understanding English at the intermediate level, including its tenses, vocabulary, writing style, and reading comprehension.
Teaching and Learning Methods	Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation).
Assessment Methods	Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting final exam.
Infrastructure	Required textbooks: Systematic English Language Book. Writing Academic English, Level 2 by Alice Oshima. Recommended books and references (scientific journals, reports).

		Electronic references, internet websites.		
Evaluation of the course		Theoretical Exam (50 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours theoretical	English preposition	Theoretical lectures	Theoretical quiz Scientific Reports
The second	(2) hours theoretical	Passive voice	Theoretical lectures	Theoretical quiz Scientific Reports
The third	(2) hours theoretical	Negative	Theoretical lectures	Theoretical quiz Scientific Reports
The fourth	(2) hours theoretical	If clause (conditional) sentences	Theoretical lectures	Theoretical quiz Scientific Reports
The fifth	(2) hours theoretical	Kinds of sentences	Theoretical lectures	Theoretical quiz Scientific Reports
The sixth	(2) hours theoretical	A- Simple tense	Theoretical lectures	Theoretical quiz Scientific Reports
The Seventh	(2) hours theoretical	B-compound tense	Theoretical lectures	Theoretical quiz Scientific Reports
The eighth	(2) hours theoretical	c- complex tense	Theoretical lectures	Theoretical quiz Scientific

				Reports
The ninth	(2) hours theoretical	The use of so 'and neither'	Theoretical lectures	Theoretical quiz Scientific Reports
The tenth	(2) hours theoretical	Singular	Theoretical lectures	Theoretical quiz Scientific Reports
The eleventh	(2) hours theoretical	plural	Theoretical lectures	Theoretical quiz Scientific Reports
The twelfth	(2) hours theoretical	How to answer causations	Theoretical lectures	Theoretical quiz Scientific Reports
The thirteenth	(2) hours theoretical	Number + Roman Numerals	Theoretical lecture	Theoretical quiz Scientific Reports
The Fourteenth	(2) hours theoretical	Every day sentences	Theoretical lectures	Theoretical quiz Scientific Reports
The fifteenth	(2) hours theoretical	The verb to be	Theoretical lectures	Theoretical quiz Scientific Reports
Educational Institution		College of Agriculture - Wasit University		
Scientific Department / Center		Animal Production		
Course Name		Genetics		
Course Code		GENE 218		
Number of Credit Units		3.5		
Available Attendance Modes		Attendance: Yes		
Level - Semester		Second Year - Spring Semester		
Total Hours of Instruction		(2) Theoretical Hours + (3) Practical Hours = (5) Hours per Week		
Date of Description		12/2/2024		

Preparation				
Course Coordinator's Name				
Course Objectives		The student should be familiar with understanding the concept of genetics, Mendel's laws, and the concept of dominance, its types, and genetic mutations, recognize the concept of genetics, Mendel's laws, understanding dominance and its types, and genetic mutations.		
Teaching and Learning Methods		Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.		
Assessment Methods		Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.		
Infrastructure		The required textbook: "Genetics" by Dr. Abbas Hassan Mughir. Recommended books and references (scientific journals, reports). Electronic references, internet websites.		
Evaluation of the course		Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Introduction	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Nucleic Acids	Theoretical lectures Practical lectures Laboratory	Theoretical quiz Practical quiz Scientific

			experiments	Reports
The third	(2) hours theoretical (3) hours practical	Replication and Synthesis of Nucleic Acids	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Mendel's Principles Segregation, independent assortment	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Dominance and statistical testing	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Dominance Relation and multiple Alleles	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Environmental effects and gene expression	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Gene Interaction and Lethality	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Sex determination and Sex Linkage	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours	Maternal effects and cytoplasmia	Theoretical lectures Practical lectures	Theoretical quiz Practical quiz

	practical		Laboratory experiments	Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Quantitative Inheritance	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Linkage and recombination and gene mapping"	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	chromosome variation in number	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	changes in chromosome structure	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Mutations	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

Educational Institution	College of Agriculture - Wasit University
Scientific Department / Center	Animal Production
Course Name	Feed crops and pastures
Course Code	FOCR 219
Number of Credit Units	3.5
Available Attendance Modes	Attendance: Yes
Level - Semester	Second Year - Spring Semester
Total Hours of Instruction	(2) Theoretical Hours + (3) Practical Hours = (5) Hours per Week
Date of Description	12/2/2024

Preparation				
Course Coordinator's Name				
Course Objectives		To introduce students to the science of forage field crops and understand the principles of this science, plant types, the importance of this science, and to identify the most important families.		
Teaching and Learning Methods		Delivering theoretical lectures using the following methods: (whiteboard, data projector, interactive lecture, educational video presentation). Applying practical lectures through observations and interaction with field or laboratory aspects.		
Assessment Methods		Conducting daily quick tests. Evaluating students through scientific reports and oral questions. Conducting monthly exams. Conducting practical exams. Conducting final exam.		
Infrastructure		Required textbooks: "Forage Crops" by Dr. Hamid Kharrabit. Main references (sources): "Production of Forage Crops" by Dr. Ahmed Abu Al-Najja. Recommended books and references (scientific journals, reports). Electronic references, internet websites.		
Evaluation of the course		Theoretical Exam (30 points) + Practical Exam (20 points) = (50 points) Continuous Assessment + (50 points) Final Exam.		
Course structure:				
Week	Hours	Unit or Topic Name	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	The economic importance of forage crops, some important terms, and the agricultural importance of forage crops.	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours	Economic	Theoretical	Theoretical

	theoretical (3) hours practical	Importance: a. Importance in agricultural cycles. b. Importance in soil maintenance. c. Importance in reclaiming saline soils.	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Types of Forage Crops: a. Legumes, including: clover, alfalfa, annual clover, true clovers like Egyptian clover, red clover, Iranian clover, white clover, vetch, and forage peas. Also includes the sweet clover group (melilot), birdsfoot trefoil, mash, forage beans, and soybeans for fodder.	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	b. Grasses, including: barley, oats, sorghum forage, sudangrass, yellow corn, white corn, sorghum Sudan grass hybrid. For each of the above crops: Importance and benefits, native habitat, suitable environment, nutritional value, varieties, and seed production.	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours	Forage Mixtures:	Theoretical	Theoretical

	theoretical (3) hours practical	Types, advantages, and benefits.	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Forage crop cultivation.	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Classification of fodder: a. Dry bales, b. Silage.	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Forage crop production automation.	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Importance of natural pastures and their distribution, natural pastures and their relation to other sciences, types of natural pastures, characteristics of good pastures.	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Natural factors affecting pastures, environmental factors, soil factors, biological factors, fire factors, and locational factors.	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Grazing management, plant cover components in pasture lands.	Theoretical lectures Practical lectures Laboratory	Theoretical quiz Practical quiz Scientific

			experiments	Reports
The twelfth	(2) hours theoretical (3) hours practical	Effect of grazing on the forage plants' biomass, root growth, soil, grazing intensity, effect on forage plant reproduction, and impact on plant cover composition.	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Grazing systems, continuous protection in grazing.	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Status of natural pastures, assessment of pasture status, classification of pasture conditions, direction of status.	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Harmful and toxic plants in pasture lands, natural preserves.	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

433- Educational institution:	Collage of Agriculture-Wasit University
434- Scientific department / Center:	Animal production
435- Course name:	Fish rearing and production
436- Course code:	HPRE 220
437-Number of academic units:	3.5
438- Available forms of attendance:	Presence
439- Semester / year:	The second year - the spring semester
440- Number of academic	(2) hours theoretical + (3) hours practical = (5) hours per

hours (total):	week			
441- Date of preparation of this description:	12 / 2 / 2024			
442- Name of the course administrator:	Dr. Ali Ayad Hussein			
443- Course objectives	It is necessary for the student to get acquainted with the methods of raising fish in different ponds, to know how the fish grow inside the ponds, the methods of feeding them, and the means of raising fish			
444- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.			
445- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.			
446- Infrastructure:	Required course books: fundamentals of fish breeding and production Dr. Mahfouz Hussein Mohamed From the main references (sources): books of food and nutrition of fish Dr. Telfan anad Ahmad Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.			
447- Evaluation of the course:	Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam			
448- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	A brief history of the importance of fish farming and rapid development Definition of fish farming, types and	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

		sharing of fish farming Objectives of fish farming"		
The second	(2) hours theoretical (3) hours practical	Features of breeding fish in comparison with farm animals Conditions to be met in breeding fish Culture systems	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Basic components of fish farming Different fish farming methods –breeding ponds	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Scientific and practical bases for the establishment of soil breeding ponds	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Types of soil breeding ponds construction of types of ponds-supplying ponds with water - gates, drainage ditches and drainage of pond water"	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Feeding and feeding of fish, goals, precautions Division of fish according to their nutrition	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Natural food, its composition, calculation, development Complementary food, artificial cancellation.	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours	Components of the	Theoretical	Theoretical

	theoretical (3) hours practical	relays, their manufacture and estimation of their efficiency. Fish needs protein, carbohydrates and fats	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Factors affecting the nutrition and nutrition of fish the relationship of food to growth"	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Energy, vitamins, mineral salts. Methods of providing food for domesticated fish	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Productivity of Ponds, Natural productivity and its components, fish harvest and increasing its production are the means to increase fish productivity"	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Reproduction, factors affecting it and its types. Natural and artificial reproduction by desire	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	The characteristics of fish prepared for reproduction , the abundance of common carp fish in Iraq and its calculations"	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	1. Fertilization, its types and conditions 2. Fertilization goals and needs of breeding	Theoretical lectures Practical lectures Laboratory	Theoretical quiz Practical quiz Scientific

		ponds 3. The effect of fertilization on fish growth rates"	experiments	Reports
The fifteenth	(2) hours theoretical (3) hours practical	Fish diseases and characteristics of infected fish factors leading to the spread of the disease bacterial and viral diseases diseases methods of disease identification and methods of disease treatment	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

449- Educational institution:	Collage of Agriculture-Wasit University
450- Scientific department / Center:	Animal production
451- Course name:	Dairy science
452- Course code:	PDSC 221
453-Number of academic units:	3.5
454- Available forms of attendance:	Presence
455- Semester / year:	The second year - the spring semester
456- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
457- Date of preparation of this description:	12 / 2 / 2024
458- Name of the course administrator:	Dr. Haider Naji Rasen
459- Course objectives	It is necessary for the student to get acquainted with the structure and loading of the major and minor milk components , the effect of thermal coefficients on milk blindness and its components, the effect of each of the components blindness of the manufacturing processes of milk derivatives
460- Teaching and learning	The purpose of providing theoretical lectures to deliver

methods:	information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.			
461- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.			
462- Infrastructure:	The required textbooks: the book of principles of dairy Dr. Jassim Mohammed Main references (sources): milk products books Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.			
463- Evaluation of the course:	Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam			
464- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Examination of milk components	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Estimation of acidity in milk	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Microscopic examination of fat and estimation of fat percentage	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical	Babcock and Kerber	Theoretical lectures	Theoretical quiz

	(3) hours practical		Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Specific weight and milk cheats	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Sorting milk	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Cheese making (soft +ricotta +Cois Blanca +halloumi +cooked)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Butter industry and factors affecting vegetables	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Dairy and water ice cream industry	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Milk enzymes	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Microbiology of milk and milk products	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours	Cheese products	Theoretical	Theoretical

	theoretical (3) hours practical		lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Sour-milk yogurt	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Butter production	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Treatment of milk in laboratories	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

465- Educational institution:	Collage of Agriculture-Wasit University
466- Scientific department / Center:	Animal production
467- Course name:	Agricultural economics principles
468- Course code:	PRAE 222
469-Number of academic units:	2
470- Available forms of attendance:	Presence
471- Semester / year:	The second year - the spring semester
472- Number of academic hours (total):	(2) hours theoretical = (2) hours per week
473- Date of preparation of this description:	12 / 2 / 2024
474- Name of the course administrator:	Sara Ali Hussain
475- Course objectives	The aim is to familiarize the student with economics and the role of agricultural activity in the national economy,

		marketing and agricultural finance as well as agricultural policy		
476- Teaching and learning methods:		The purpose of providing theoretical lectures is to convey information to students through the following means: (blackboard, data projector, interactive lecture, video tutorial presentation).		
477- Evaluation methods:		Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Just take the final exam.		
478- Infrastructure:		The required prescribed books: The Book of agricultural extension science, Dr. Abdullah the Samurai Dr. Adnan Hussein The main references (sources) are: books Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.		
479- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
480- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical	General concepts / manifestations of economic life / economic problem.	Theoretical lectures	Theoretical quiz
The second	(2) hours theoretical	Theory of consumer behavior	Theoretical lectures	Theoretical quiz
The third	(2) hours theoretical	The modern theory of consumer balance	Theoretical lectures	Theoretical quiz
The fourth	(2) hours theoretical	Supply and demand (individual demand) table and demand curve	Theoretical lectures	Theoretical quiz
The fifth	(2) hours theoretical	Elasticity of demand and influencing factors	Theoretical lectures	Theoretical quiz
The sixth	(2) hours theoretical	Display / table and display curve	Theoretical lectures	Theoretical quiz
The	(2) hours	Elasticity of supply and	Theoretical	Theoretical

Seventh	theoretical	influencing factors	lectures	quiz
The eighth	(2) hours theoretical	Demand, supply and price determination	Theoretical lectures	Theoretical quiz
The ninth	(2) hours theoretical	Agricultural production and production elements	Theoretical lectures	Theoretical quiz
The tenth	(2) hours theoretical	The law of diminishing returns and its years	Theoretical lectures	Theoretical quiz
The eleventh	(2) hours theoretical	General economics and agricultural economics	Theoretical lectures	Theoretical quiz
The twelfth	(2) hours theoretical	The role of agricultural activity in the national economy	Theoretical lectures	Theoretical quiz
The thirteenth	(2) hours theoretical	Branches of agricultural economics / economics of agricultural production	Theoretical lectures	Theoretical quiz
The Fourteenth	(2) hours theoretical	Agricultural prices, agricultural marketing, financing and agricultural credit	Theoretical lectures	Theoretical quiz
The fifteenth	(2) hours theoretical	Department of agricultural business, agricultural cooperation, Agricultural Policy and development	Theoretical lectures	Theoretical quiz

481- Educational institution:	Collage of Agriculture-Wasit University
482- Scientific department / Center:	Animal production
483- Course name:	Freedom and democracy
484- Course code:	FRDE 204
485-Number of academic units:	1
486- Available forms of attendance:	Presence
487- Semester / year:	The second year - the spring semester
488- Number of academic hours (total):	(1) hours theoretical = (1) hours per week

489- Date of preparation of this description:	12 / 2 / 2024			
490- Name of the course administrator:	Amer Karim hadal			
491- Course objectives	The aim of the student is to get acquainted with the types of public freedoms and to get acquainted with the rights and duties of society			
492- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation).			
493- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Just take the final exam.			
494- Infrastructure:	The required prescribed books: The Book of agricultural extension science, Dr. Abdullah the Samurai Dr. Adnan Hussein The main references (sources) are: books Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.			
495- Evaluation of the course:	Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam			
496- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(1) hours theoretical	Definition of freedom and its meanings	Theoretical lectures	Theoretical quiz
The second	(1) hours theoretical	Distinction between freedom and anarchism	Theoretical lectures	Theoretical quiz
The third	(1) hours theoretical	A study in the most important civil liberties	Theoretical lectures	Theoretical quiz
The fourth	(1) hours theoretical	A study in the most important political freedoms	Theoretical lectures	Theoretical quiz
The fifth	(1) hours theoretical	What is meant by democracy, the historical	Theoretical lectures	Theoretical quiz

		dimension		
The sixth	(1) hours theoretical	Forms of democracy	Theoretical lectures	Theoretical quiz
The Seventh	(1) hours theoretical	Democratic state standards	Theoretical lectures	Theoretical quiz
The eighth	(1) hours theoretical	The democratic constitution	Theoretical lectures	Theoretical quiz
The ninth	(1) hours theoretical	The state and its forms	Theoretical lectures	Theoretical quiz
The tenth	(1) hours theoretical	Types of systems	Theoretical lectures	Theoretical quiz
The eleventh	(1) hours theoretical	The institutions that democratic countries need	Theoretical lectures	Theoretical quiz
The twelfth	(1) hours theoretical	Democratic elections (concept-conditions-requirements-purposes)	Theoretical lectures	Theoretical quiz
The thirteenth	(1) hours theoretical	Parties and electoral systems	Theoretical lectures	Theoretical quiz
The Fourteenth	(1) hours theoretical	Agricultural prices, agricultural marketing, financing and agricultural credit	Theoretical lectures	Theoretical quiz
The fifteenth	(1) hours theoretical	Pressure groups (what they are, types, means) Minority representation in democratic governance	Theoretical lectures	Theoretical quiz

497- Educational institution:	Collage of Agriculture-Wasit University
498- Scientific department / Center:	Animal production
499- Course name:	Computer applications (4)
500 Course code:	COMA 203
501-Number of academic units:	1.5
502- Available forms of attendance:	Presence

503- Semester / year:	The second year - the autumn semester			
504- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week			
505- Date of preparation of this description:	12 / 2 / 2024			
506- Name of the course administrator:	Dr. Huda lifta			
507- Course objectives	The student should familiarize himself with the Office programs, including the SPSS statistical analysis program How to manage databases using Excel			
508- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation).			
509- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.			
510- Infrastructure:	Required course books: computer book and its Office applications Dr. Hashim Abdulkarim The main references (sources): electronic computer programming books by Dr. Abdul Latif Abdul Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.			
511- Evaluation of the course:	Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam			
512- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Types of files that make up the SPSS program	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical	How to run the SPSS program	Theoretical lectures	Theoretical quiz

	(3) hours practical		Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	SPSS program windows	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Data editor Data Editor	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	View menu commands	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Data menu commands	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Operations performed on variables and their attributes in the Data Editor window	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Transform menu commands	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Statistical analysis of data through the analyze menu commands	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours	Descriptive Statistics	Theoretical	Theoretical

	theoretical (3) hours practical	descriptive Statistics	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	First : Frequency Distribution Tabled frequency distribution tables	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Second : descriptive statistics Measure Descriptive Statistics	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Testing the differences between the averages using the T-Test	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	First: T - Test of independent samples	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Second: T-Test for non-independent samples	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

The Third year:

513- Educational institution:	Collage of Agriculture-Wasit University
514- Scientific department / Center:	Animal production
515- Course name:	Animal physiology
516 Course code:	ANPH 311
517-Number of academic	3.5

units:				
518- Available forms of attendance:		Presence		
519- Semester / year:		The third year - the autumn semester		
520- Number of academic hours (total):		(2) hours theoretical + (3) hours practical = (5) hours per week		
521- Date of preparation of this description:		12 / 2 / 2024		
522- Name of the course administrator:		Dr. Mohammed Abdul Amir Rashid		
523- Course objectives		It is necessary for the student to get acquainted with the features of animal physiology, to get acquainted with the working functions of organs and body systems, to get acquainted with the physiology of body systems.		
524- Teaching and learning methods:		The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.		
525- Evaluation methods:		Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.		
526- Infrastructure:		Among the required prescribed books: The Book of animal physiology Dr. Zia Hassan Al-Hasani The main references (sources) are: books of organ philology Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.		
527- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
528- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical	Types of files that make up the SPSS	Theoretical lectures	Theoretical quiz

	(3) hours practical	program	Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	How to run the SPSS program	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	SPSS program windows	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Data editor Data Editor	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	View menu commands	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Data menu commands	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Operations performed on variables and their attributes in the Data Editor window	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Transform menu commands	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours	Statistical analysis of	Theoretical	Theoretical

	theoretical (3) hours practical	data through the analyze menu commands	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Descriptive Statistics descriptive Statistics	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	First : Frequency Distribution Tabled frequency distribution tables	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Second : descriptive statistics Measure Descriptive Statistics	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Testing the differences between the averages using the T-Test	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	First: T - Test of independent samples	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Second: T-Test for non-independent samples	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

529- Educational institution:	Collage of Agriculture-Wasit University
530- Scientific department	Animal production

/ Center:	
531- Course name:	Hatching and hatchery management
532 Course code:	HMHA 312
533-Number of academic units:	3.5
534- Available forms of attendance:	Presence
535- Semester / year:	The third year - the autumn semester
536- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
537- Date of preparation of this description:	12 / 2 / 2024
538- Name of the course administrator:	Dr. Mohammad Ali Makki Jassim
539- Course objectives	The student should get acquainted with hatching, the components of the hatching process, hatching methods, the quality of hatched chicks and the economic feasibility of the hatching laboratory
540- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.
541- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.
542- Infrastructure:	Required prescribed books □ hatching and hatchery management book by Dr. Glass satisfaction The main references (sources) are: books Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.
543- Evaluation of the course:	Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam
544- Course structure:	

Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	History of artificial spawning and its development	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	The male reproductive system, its anatomy, sexual maturity in Roosters, fertility and factors affecting it	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	The female reproductive system, its anatomy, the structure of the egg, the effect of lighting on egg production	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Treatment of eggs before hatching (collection, transportation, selection, storage and heating of eggs)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Components of the hatching process (treatment of eggs in the hatchery)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Years of embryonic development (laying models of hatching eggs in the hatchery and breaking it to monitor embryonic development)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours	Vital monitoring during the hatching process	Theoretical lectures Practical lectures	Theoretical quiz Practical quiz

	practical		Laboratory experiments	Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Hatching methods and hatchery types (building design and hatchery management)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Sanitary management of hatcheries and biosecurity	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Sources of hatching eggs and care of maternal flocks	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Nutrition, heredity and their relationship to hatching	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Identification and evaluation of the quality of hatched chicks and their marketing	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Economic feasibility of the hatching coefficient (cost, revenue and profit calculation(	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	History of artificial spawning and its development	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical	The male reproductive system, its anatomy,	Theoretical lectures	Theoretical quiz

	(3) hours practical	sexual maturity in Roosters, fertility and factors affecting it	Practical lectures Laboratory experiments	Practical quiz Scientific Reports
--	---------------------	---	--	--------------------------------------

545- Educational institution:	Collage of Agriculture-Wasit University
546- Scientific department / Center:	Animal production
547- Course name:	Animal nutrition
548 Course code:	ANNU 313
549-Number of academic units:	3.5
550- Available forms of attendance:	Presence
551- Semester / year:	The third year - the autumn semester
552- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
553- Date of preparation of this description:	12 / 2 / 2024
554- Name of the course administrator:	Dr. Mohammed Abdul Amir Rashid
555- Course objectives	It is necessary for the student to get acquainted with animal nutrition, food elements, including carbohydrates, fats, proteins, vitamins and mineral elements
556- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.
557- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.
558- Infrastructure:	The required prescribed books □ animal nutrition book, Dr. Shaker Abdul Amir Al Attar

		The main references (sources) are: books Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.		
559- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
560- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	"Food / animal body structure/ plant structure/ the role of water and its needs in Animal body/ properties and functions of water/ energy ."	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	"Digestive processes in animals / gastrointestinal tract / false ruminants	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Types of digestion / enzymes / qualities of enzymes / microbial digestion of carbohydrates / "	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	"Saliva production / saliva functions / factors affecting quantity and quality	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Saliva / factors affecting digestion	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical	Saliva production / saliva functions /	Theoretical lectures	Theoretical quiz

	(3) hours practical	factors affecting quantity and quality	Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Saliva / factors affecting digestion	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Second: proteins / classification of proteins/amino acids / properties of proteins	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Metabolism of proteins in the rumen/ enzymatic	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	digestion of proteins	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Felids classification of felids / lipid properties/ digestion of felids in the rumen	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Inorganic elements / essential or necessary inorganic elements	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Vitamins /nutritional needs of various nutrients	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The	(2) hours	Methods for	Theoretical	Theoretical

Fourteenth	theoretical (3) hours practical	estimating nutrients in the Bush	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Biological value protein needs	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

561- Educational institution:	Collage of Agriculture-Wasit University
562- Scientific department / Center:	Animal production
563- Course name:	Economics of animal production
564 Course code:	APEC 314
565-Number of academic units:	3
566- Available forms of attendance:	Presence
567- Semester / year:	The third year - the autumn semester
568- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
569- Date of preparation of this description:	12 / 2 / 2024
570- Name of the course administrator:	Rabab Amen fshak
571- Course objectives	The aim of the student is to get acquainted with the generalization of the economy and to know the relationships between resources and agricultural production
572- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation).
573- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams.

		Just take the final exam.		
574- Infrastructure:		The required textbooks: the book of animal production economics, Dr. Salem Tawfiq Al-Najafi The main references (sources) are: books Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.		
575- Evaluation of the course:		Theoretical exam (50 points) = (50 points) + (50 points) final exam		
576- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(3) hours theoretical	Introductory topics in economics	Theoretical lectures	Theoretical quiz
The second	(3) hours theoretical	The economy of animal production	Theoretical lectures	Theoretical quiz
The third	(3) hours theoretical	Relations between resources and agricultural production	Theoretical lectures	Theoretical quiz
The fourth	(3) hours theoretical	Price relations and selection indicators	Theoretical lectures	Theoretical quiz
The fifth	(3) hours theoretical	Productive relations in the case of using more than one productive element	Theoretical lectures	Theoretical quiz
The sixth	(3) hours theoretical	Optimal axial combination and cost reduction	Theoretical lectures	Theoretical quiz
The Seventh	(3) hours theoretical	Distribution of resources between different production projects	Theoretical lectures	Theoretical quiz
The eighth	(3) hours theoretical	Production costs of animal production projects	Theoretical lectures	Theoretical quiz
The ninth	(3) hours theoretical	Agricultural Costs and maximum profits for animal production projects	Theoretical lectures	Theoretical quiz
The tenth	(3) hours	Agricultural Cost Curves	Theoretical	Theoretical

	theoretical		lectures	quiz
The eleventh	(3) hours theoretical	Statistical estimation of Agricultural Costs	Theoretical lectures	Theoretical quiz
The twelfth	(3) hours theoretical	Feed economics and natural pastures	Theoretical lectures	Theoretical quiz
The thirteenth	(3) hours theoretical	Measures of economic efficiency	Theoretical lectures	Theoretical quiz
The Fourteenth	(3) hours theoretical	Marketing of animal products	Theoretical lectures	Theoretical quiz
The fifteenth	(3) hours theoretical	Introductory topics in economics	Theoretical lectures	Theoretical quiz

577- Educational institution:	Collage of Agriculture-Wasit University
578- Scientific department / Center:	Animal production
579- Course name:	Ecology and animal behavior
580 Course code:	AEBE 315
581-Number of academic units:	2
582- Available forms of attendance:	Presence
583- Semester / year:	The third year - the autumn semester
584- Number of academic hours (total):	(2) hours theoretical = (2) hours per week
585- Date of preparation of this description:	12 / 2 / 2024
586- Name of the course administrator:	Sarah Kata
587- Course objectives	The aim of the student is to learn about ecology, the role of Ecology in animal life, the behaviors of farm animals and ways of communication between animals
588- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation).
589- Evaluation methods:	Take quick daily exams.

		The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Just take the final exam.		
590- Infrastructure:		One of the required books is the animal behavior book by Dr. Talal Boutros, Dr. Zia Khalil Ibrahim The main references (sources) are: books Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.		
591- Evaluation of the course:		Theoretical exam (50 points) = (50 points) + (50 points) final exam		
592- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical	Definitions of Ecology, historical development of Ecology, sections of Ecology, collective ecology, subjectivity, the importance of atmospheric conditions for agriculture and animal husbandry, climate, societies, laws of animal distribution on the globe	Theoretical lectures	Theoretical quiz
The second	(2) hours theoretical	The influence of physical factors in the animal's environment, the temperature rate, the decreasing temperature rate, factors affecting temperatures	Theoretical lectures	Theoretical quiz
The third	(2) hours theoretical	Sources of heat in the animal's body, heat loss , solar radiation reflected from clouds , air temperature and thermal	Theoretical lectures	Theoretical quiz

		radiation, the fate of radiation autumnning on Earth , heat gained from solar radiation		
The fourth	(2) hours theoretical	The cover of the animal's body and the role of the surrounding skin and hair , thermal reflection in poultry, humidity, the importance of humidity for the physiological state of the animal	Theoretical lectures	Theoretical quiz
The fifth	(2) hours theoretical	Thermal equilibrium, heat sources acquired as a result of metabolic activity of internal organs , energy produced by hormones , heat loss	Theoretical lectures	Theoretical quiz
The sixth	(2) hours theoretical	Pregnancy, heat loss by conduction and evaporation, animal distress, thermoregulation, sweating, how to regulate heat by sweating, control devices Body temperature, daily temperature changes	Theoretical lectures	Theoretical quiz
The Seventh	(2) hours theoretical	Critical temperature, environmental factors, fertility, beauty and desert environment, calves and ecology, thermal insulation of calves and critical heat, hormones and thermoregulation , sensory perception of temperatures	Theoretical lectures	Theoretical quiz

The eighth	(2) hours theoretical	The role of the hypothalamus and its centers, pathological disorders as a result of thermoregulation, trophic levels and thermoregulation, energy measurement, direct and indirect pricing, factors affecting the basal metabolism, the influence of weather conditions on nutritional utilization	Theoretical lectures	Theoretical quiz
The ninth	(2) hours theoretical	About the concept of animal behavior, differences of behavior between varieties, domestication, comfort and welfare of the animal, How can social behavior problems be analyzed, general behaviors in cattle	Theoretical lectures	Theoretical quiz
The tenth	(2) hours theoretical	Birthing behavior (before and after), the bond between the cow and the newborn, the cow's behavior towards the newborn, the newborn's behavior towards the mother, artificial care, social ranking in calves	Theoretical lectures	Theoretical quiz
The eleventh	(2) hours theoretical	Lactation problems, adoption of calves by lactating cows, treatment of surplus calves, behavior when breeding	Theoretical lectures	Theoretical quiz

		signs of estrus, insemination		
The twelfth	(2) hours theoretical	Rumination behavior and drinking water, sleeping, driving, social overcoming, problems of large herds, behavior during milking, training of herds, behavior of sheep and goats	Theoretical lectures	Theoretical quiz
The thirteenth	(2) hours theoretical	Behavioral overview of poultry, jungle chickens, nervous system , senses, sight, smell, laying eggs, social behavior	Theoretical lectures	Theoretical quiz
The Fourteenth	(2) hours theoretical	Behavior in the embryonic years, behavior at hatching , tracking, fear , the ratio between feed and water , learning and ability to memorize, activity and movement, social behavior	Theoretical lectures	Theoretical quiz
The fifteenth	(2) hours theoretical	Migratory behaviors of birds, distinguishing individuals, pecking, social ladder, sand pigeons, grooming and feather care, sleeping, caution, beak trimming , crushed eggs, laying eggs on the ground, catching birds, transportation and slaughter	Theoretical lectures	Theoretical quiz

institution:	
594- Scientific department / Center:	Animal production
595- Course name:	Design and analysis of experiments
596 Course code:	EXDA 316
597-Number of academic units:	3.5
598- Available forms of attendance:	Presence
599- Semester / year:	The third year - the autumn semester
600- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
601- Date of preparation of this description:	12 / 2 / 2024
602- Name of the course administrator:	Dr. Riyad Jabbar Mansour
603- Course objectives	It is necessary for the student to get acquainted with many types of designs, as for each experiment, how to test the morale of each mathematical model, tests are conducted before the experiment and tests are proposed after the experiment
604- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.
605- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.
606- Infrastructure:	Required course books: The Book of design and analysis of agricultural experiments Dr. Khasha Mohammed Al-Rawi Main references (sources): introduction to statistics by Dr. Khasha Mohammed Al-Rawi Books and references that are recommended (scientific journals, reports).

		Find electronic references, Internet sites.		
607- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
608- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Some statistical terms and concepts related to the science of design and analysis of experiments	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Complete random design	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Sector design	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Multiple comparisons of averages	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Some statistical concepts	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Design of complete random sectors	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical	Latin square design	Theoretical lectures	Theoretical quiz

	(3) hours practical		Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Analysis of covariance	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Analysis of covariance	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Single contrast analysis	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Alanova schedule	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Testing hypotheses	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	The Duncan test	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	The least significant difference test	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The	(2) hours	Toki's test	Theoretical	Theoretical

fifteenth	theoretical (3) hours practical		lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
-----------	---------------------------------------	--	---	---

609- Educational institution:	Collage of Agriculture-Wasit University
610- Scientific department / Center:	Animal production
611- Course name:	Medical and veterinary insects
612- Course code:	MVIN 317
613-Number of academic units:	3.5
614- Available forms of attendance:	Presence
615- Semester / year:	The third year - the autumn semester
616- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
617- Date of preparation of this description:	12 / 2 / 2024
618- Name of the course administrator:	Dr. Qais Meri
619- Course objectives	The aim of the student is to familiarize himself with the concept of medical and Veterinary Entomology, to learn about the mechanisms of protecting agricultural animals and humans from diseases and to prevent
620- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). Apply practical lectures through observations and interaction with field or Laboratory aspects.
621- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.
622- Infrastructure:	The required prescribed books □ The Book of medical and

		veterinary entomology Dr. Jalil Abu al-Ha The main references (sources) are: books Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.		
623- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
624- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	The veterinary importance of insects	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Insects are carriers of pathogens	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Ectoparasites : sucking lice	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Ectoparasites : rodent lice	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	The medical and veterinary importance of fleas	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	The veterinary importance of flies	Theoretical lectures Practical lectures Laboratory	Theoretical quiz Practical quiz Scientific

			experiments	Reports
The Seventh	(2) hours theoretical (3) hours practical	The veterinary importance of blood-sucking flies	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Internal parasites : myiasis and toxoplasmosis	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Veterinary importance of tick parasites	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Ticks are carriers of pathogens	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	The veterinary importance of Dream parasites	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Insects are carriers of pathogens	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Babesia	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours	Theileria	Theoretical lectures Practical lectures	Theoretical quiz Practical quiz

	practical		Laboratory experiments	Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Trypanosoma	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

625- Educational institution:	Collage of Agriculture-Wasit University
626- Scientific department / Center:	Animal production
627- Course name:	Poultry physiology
628- Course code:	POPH 318
629-Number of academic units:	3.5
630- Available forms of attendance:	Presence
631- Semester / year:	The third year - the autumn semester
632- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
633- Date of preparation of this description:	12 / 2 / 2024
634- Name of the course administrator:	Dr. Mohammad Ali Makki Jassim
635- Course objectives	The aim of the student is to identify the components of blood in poultry birds, the lymphatic system, and various body systems in poultry birds
636- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.
637- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations.

		Just take the final exam.		
638- Infrastructure:		Among the required prescribed books: The Book of poultry birds, Dr. Dia Al-Hasani The main references (sources): Books and references that are recommended (scientific journals, reports). Find electron		
639- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
640- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Body fluids	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Body fluids and blood	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	The heart	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Respiratory system	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Respiratory system	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical	Urinary system	Theoretical lectures	Theoretical quiz

	(3) hours practical		Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Test 1 lectures(1 - 6)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Thermoregulation device	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Digestive system	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	The female reproductive system	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	The female reproductive system	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	The male reproductive system	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Test 2 lectures(7 - 11)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The	(2) hours	Endocrinology	Theoretical	Theoretical

Fourteenth	theoretical (3) hours practical		lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Nervous system	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

641- Educational institution:	Collage of Agriculture-Wasit University
642- Scientific department / Center:	Animal production
643- Course name:	Poultry products technology
644- Course code:	POPT 319
645-Number of academic units:	3.5
646- Available forms of attendance:	Presence
647- Semester / year:	The third year - the spring semester
648- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
649- Date of preparation of this description:	12 / 2 / 2024
650- Name of the course administrator:	Dr. Abdul Aal Farhan Feza
651- Course objectives	The student should learn about the importance of the poultry industry and know the nutritional value of poultry products, whether eggs or meat
652- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.
653- Evaluation methods:	Take quick daily exams.

		The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.		
654- Infrastructure:		Among the required textbooks: the book of technology of poultry products Dr. Hamdi Al Fayyad The main references (sources) are: books Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.		
655- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
656- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	The poultry industry in the new Iraq and the role of the state in achieving food security	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Nutritional value of eggs	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Qualitative measurements of eggs	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Chemistry of eggs and egg products	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific

				Reports
The fifth	(2) hours theoretical (3) hours practical	Egg microbiology	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Egg storage and marketing	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Functional characteristics of eggs	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Chemical properties of eggs	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Poultry meat preparation processes	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Quality of poultry meat	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical	Storage of poultry meat	Theoretical lectures	Theoretical quiz

	(3) hours practical		Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Microorganisms that grow on poultry products	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Ways of cooking poultry meat	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Sensory tests	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	The importance of the availability of types of poultry products	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

657- Educational institution:	Collage of Agriculture-Wasit University
658- Scientific department / Center:	Animal production
659- Course name:	Feed and feed stuff
660- Course code:	FEFE 320
661-Number of academic units:	3.5

662- Available forms of attendance:	Presence			
663- Semester / year:	The third year - the spring semester			
664- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week			
665- Date of preparation of this description:	12 / 2 / 2024			
666- Name of the course administrator:	Dr. Mohammed Abdul Amir Rashid			
667- Course objectives	It is necessary for the student to get acquainted with the concept of animal feed, coarse and concentrated feed, digestion assessment			
668- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.			
669- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.			
670- Infrastructure:	The required prescribed books □ The Book of feed and relations of Dr. Mohamed Riad Main references (sources): nutrition books Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.			
671- Evaluation of the course:	Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam			
672- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Feed stuff / types of Feed stuffs / specifications of ideal Feed stuffs	Theoretical lectures Practical lectures Laboratory	Theoretical quiz Practical quiz

			experiments	Scientific Reports
The second	(2) hours theoretical (3) hours practical	Steps of Feed stuff formation	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Factors affecting the nutritional value of feed materials	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Improving the nutritional value of low-quality feed materials	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	The first exam	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Feed classification/concentrated /coarse	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Food additives	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours	Feed	Theoretical	Theoretical

	theoretical (3) hours practical	manufacturing/silage manufacturing/threshing manufacturing	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Evaluation of feed materials	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	The second exam	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Nutritional requirements/protein requirements	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Energy requirements/ requirements for mineral elements and vitamins	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	The needs of dairy cows/ the needs of beef cows	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Sheep needs / goat needs	Theoretical lectures Practical lectures Laboratory	Theoretical quiz Practical quiz

			experiments	Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Business needs / wool production needs	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

673- Educational institution:	Collage of Agriculture-Wasit University
674- Scientific department / Center:	Animal production
675- Course name:	Animal diseases
676- Course code:	ANDI 321
677-Number of academic units:	3.5
678- Available forms of attendance:	Presence
679- Semester / year:	The third year - the spring semester
680- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
681- Date of preparation of this description:	12 / 2 / 2024
682- Name of the course administrator:	Ahmed Sadek Shael
683- Course objectives	The aim of the student is to familiarize himself with the science of Animal Pathology, identify the blindness of pathological signs and the mechanics of the course of diseases, the mechanisms of protecting agricultural animals and humans from diseases and preventing them.
684- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.

685- Evaluation methods:		Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.		
686- Infrastructure:		The required prescribed books: The Book of Animal Pathology, Dr. Morteza Atabi The main references (sources) are: books Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.		
687- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
688- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Introduction to Animal Pathology	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Animal diseases and resources of the economy	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Classification of diseases by their biological etiology	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Raw materials	Theoretical lectures Practical lectures Laboratory	Theoretical quiz Practical quiz

			experiments	Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Forms of the disease	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Etiology of the disease	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	How to stop the disease /defensive means	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Immunity	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Pathological relationships	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	The most important bacterial field diseases	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The	(2) hours	The most important	Theoretical	Theoretical

eleveth	theoretical (3) hours practical	viral field diseases	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	The most important external parasitic diseases	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Hematogenous parasitic diseases	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Internal parasitic diseases	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Actinomycosis mushroom disease	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

689- Educational institution:	Collage of Agriculture-Wasit University
690- Scientific department / Center:	Animal production
691- Course name:	Animal breeding
692- Course code:	ANBR 322
693-Number of academic units:	3.5

694- Available forms of attendance:	Presence			
695- Semester / year:	The third year - the spring semester			
696- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week			
697- Date of preparation of this description:	12 / 2 / 2024			
698- Name of the course administrator:	Dr. Ghassan Mohammed Hassan			
699- Course objectives	The aim of the student is to get acquainted with the basics of animal husbandry and improvement, types of selection, internal and external education			
700- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.			
701- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.			
702- Infrastructure:	The required prescribed books □ The Book of animal breeding and improvement, Dr. Salah Jalal, Dr. Hassan Karam Main references (sources): genetics books Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.			
703- Evaluation of the course:	Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam			
704- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours	The foundations of animal breeding and improvement	Theoretical lectures Practical lectures	Theoretical quiz Practical

	practical		Laboratory experiments	quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	A brief history of the development of the science of animal husbandry and improvement	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	What is the science of animal breeding and improvement	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Definition of the breed	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Environment and heredity-similarity and contrast-the effect of a common environment – the effect of a common genetic source	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Types of variability-environmental, genetic	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Quantitative and qualitative qualities and differences between them	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz quiz Scientific

				Reports
The eighth	(2) hours theoretical (3) hours practical	Gene replication – factors affecting it	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Genetic variability – division of genetic variability	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	The genetic equivalent	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	The iterative coefficient	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Methods for estimating the genetic equivalent – the frequency coefficient	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Identical twins and the estimation of their genetic equivalent	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical	Why appreciate the genetic equivalent	Theoretical lectures	Theoretical quiz

	(3) hours practical		Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Genetic and phenotypic Association	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

705- Educational institution:	Collage of Agriculture-Wasit University
706- Scientific department / Center:	Animal production
707- Course name:	Animal physiology
708- Course code:	REPH 323
709-Number of academic units:	3.5
710- Available forms of attendance:	Presence
711- Semester / year:	The third year - the spring semester
712- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
713- Date of preparation of this description:	12 / 2 / 2024
714- Name of the course administrator:	Dr. Mohammed Abdul Amir Rashid
715- Course objectives	The aim is for the student to learn about reproduction and related hormones, sexual maturity, sperm and egg transmission, fertilization, pregnancy and childbirth
716- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.
717- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of

		Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.		
718- Infrastructure:		The required prescribed books are: the book of reproductive physiology and artificial insemination Dr. Muhammad Ali Ishaq The main references (sources) are: books Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.		
719- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
720- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	The male reproductive system	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Its anatomy , functions, organization and process of formation of spermatozoa	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	The female reproductive system	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Its anatomy, functions, organization and process of oogenesis".	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours	Reproductive regulating hormones	Theoretical lectures Practical lectures	Theoretical quiz Practical quiz

	practical		Laboratory experiments	Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Endocrine glands, hypothalamus, pituitary gland, pineal gland ...Etc."	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Puberty and sexual maturity	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Reproductive cycle	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Gamete production and transport	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Fertilization and pregnancy	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Pregnancy and childbirth	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Artificial insemination (introduction, semen collection and artificial insemination techniques)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical	Practical anatomy of the male reproductive	Theoretical lectures	Theoretical quiz

	(3) hours practical	system + the process of spermatogenesis	Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Practical anatomy of the female reproductive system + the process of oogenesis	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Artificial insemination in sheep and goats and the process of pregnancy screening	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

721- Educational institution:	Collage of Agriculture-Wasit University
722- Scientific department / Center:	Animal production
723- Course name:	English language (3)
724- Course code:	ENGL 301
725-Number of academic units:	2
726- Available forms of attendance:	Presence
727- Semester / year:	The third year - the autumn semester
728- Number of academic hours (total):	(2) hours theoretical = (2) hours per week
729- Date of preparation of this description:	12 / 2 / 2024
730- Name of the course administrator:	Wnnas shyal yapper
731- Course objectives	The ability to learn English at the second level is characterized by its vocabulary, writing and reading style
732- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation).
733- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions.

		Take the monthly exams. Just take the final exam.		
734- Infrastructure:		Required course books: English language textbook Writing Academic English, Level 3 by Alice Oshima Main references (sources): source books of the language Books and references that are recommended (scientific journals, reports). Search for electronic references, Internet sites.		
735- Evaluation of the course:		Theoretical exam (50 points) =(50 points) + (50 points) final exam		
736- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical	English preposition	Theoretical lectures	Theoretical quiz
The second	(2) hours theoretical	Passive voice	Theoretical lectures	Theoretical quiz
The third	(2) hours theoretical	Negative	Theoretical lectures	Theoretical quiz
The fourth	(2) hours theoretical	If clause (conditional) sentences	Theoretical lectures	Theoretical quiz
The fifth	(2) hours theoretical	Kinds of sentences	Theoretical lectures	Theoretical quiz
The sixth	(2) hours theoretical	A- Simple tense	Theoretical lectures	Theoretical quiz
The Seventh	(2) hours theoretical	B-compound tense	Theoretical lectures	Theoretical quiz
The eighth	(2) hours theoretical	c- complex tense	Theoretical lectures	Theoretical quiz
The ninth	(2) hours theoretical	The use of so 'and neither'	Theoretical lectures	Theoretical quiz
The tenth	(2) hours theoretical	Singular	Theoretical lectures	Theoretical quiz
The eleventh	(2) hours theoretical	plural	Theoretical lectures	Theoretical quiz
The twelfth	(2) hours theoretical	How to answer causations	Theoretical lectures	Theoretical quiz
The thirteenth	(2) hours theoretical	Number + Roman Numerals	Theoretical lectures	Theoretical quiz

The Fourteenth	(2) hours theoretical	Every day sentences	Theoretical lectures	Theoretical quiz
The fifteenth	(2) hours theoretical	The verb to be	Theoretical lectures	Theoretical quiz

737- Educational institution:	Collage of Agriculture-Wasit University
738- Scientific department / Center:	Animal production
739- Course name:	Poultry nutrition
740- Course code:	PONU 411
741-Number of academic units:	3.5
742- Available forms of attendance:	Presence
743- Semester / year:	The fourth year - the autumn semester
744- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
745- Date of preparation of this description:	12 / 2 / 2024
746- Name of the course administrator:	Dr. Mohammad Ali Makki Jassim
747- Course objectives	It is necessary for the student to learn about the importance of poultry nutrition, nutrition elements represented by energy, proteins, minerals, digestion and metabolism
748- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.
749- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. How to take the final exam.
750- Infrastructure:	Required prescribed books □ poultry nutrition book by Dr.

		Ali al-Yasin, Dr. Mohammed Hassan Abdul Abbas The main references (sources) are: books Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.		
751- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
752- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Energy .Its sources its division .Influencing factors	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Proteins –their types and classification, the effect of their increase and decrease	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Proteins and factors influencing their utilization	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Vitamins –their classification and factors influencing their needs	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Minerals classified by the effect of their increase and decrease	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	The importance of water, its functions, sources and quality	Theoretical lectures Practical lectures Laboratory	Theoretical quiz Practical quiz Scientific

			experiments	Reports
The Seventh	(2) hours theoretical (3) hours practical	First monthly exam	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Digestion and metabolism-digestive system-its functions	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Final products of digestion –factors affecting digestion	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Primary feed materials, their sources and types	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	vitamins, mineral elements and feed additives	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Feed concentrates, mixtures and feed accessories	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Production and manufacturing of feed, feed laboratory, its importance and divisions	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours	Laboratory maintenance relational formation, synthesis and quality	Theoretical lectures Practical lectures	Theoretical quiz Practical quiz

	practical	control	Laboratory experiments	Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Protein concentrates and their specifications	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

753- Educational institution:	Collage of Agriculture-Wasit University
754- Scientific department / Center:	Animal production
755- Course name:	Poultry breeding
756- Course code:	POBR 412
757-Number of academic units:	3.5
758- Available forms of attendance:	Presence
759- Semester / year:	The fourth year - the autumn semester
760- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
761- Date of preparation of this description:	12 / 2 / 2024
762- Name of the course administrator:	Dr. Ghassan Mohammed Hassan
763- Course objectives	The aim of the student is to get acquainted with the development of the general breeding and improvement of domestic birds, in-depth genetics of the frozen moon and the color of feathers, the inheritance of Clans and how to estimate the genetic features of the clan
764- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.
765- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of

		Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.		
766- Infrastructure:		Required textbooks: poultry breeding and improvement book by Dr. Nahel Muhammad Ali Main references (sources): genetics books Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.		
767- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
768- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	The development of the science of breeding and improvement of poultry – the composition of breeds – the origin and classification of poultry	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Genus Gullus and wild species . Theories of the origins of domesticated chickens . The composition of breeds . Classification of chickens, their sections, features of each section and examples of it.	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	General principles in heredity-the degree of dominance of the gene - gene interaction - modifications of the Mende lineage of one and two pairs of genes	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical	Sex-related genetics : sex chromosomes and their	Theoretical lectures	Theoretical quiz

	(3) hours practical	systems-sex determination-sex-related traits (striped feathers – slow feathering – silver and gold feathers-dwarf chickens-albinos) (singing : sex chromosomes are doubled(	Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Deadly genes	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Its definition . Divide them according to the degree of their mother and examples of each section and its heredity. How to get rid of them	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Heredity: skin color – plumage qualities – egg color. Inheritance of plumage colors(white, red, black).Color determinations are the distribution of color on the bird's body and determinations of the distribution of color on the feather and its heredity. Deformations and deformations of feathers . Inheritance of feather growth	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Heredity : custom shape, deformed legs and spur	Theoretical lectures Practical lectures	Theoretical quiz Practical quiz Scientific

			Laboratory experiments	Reports
The ninth	(2) hours theoretical (3) hours practical	Inheritance of Clans : gene duplication and factors affecting it– the rate and variation in the clan - the genetic value of the genotype – the genetic components of the variation	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Estimation of Hereditary features of the clan :	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	First: the genetic equivalent: its definition - its importance and uses - methods of estimation	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Second: genetic, environmental and phenotypic Association: definition - importance and uses - methods of estimation	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Election: its definition- election for one attribute – election for several attributes-factors affecting the efficiency of the election	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Mating systems :	Theoretical lectures Practical lectures Laboratory	Theoretical quiz Practical quiz Scientific Reports

			experiments	
The fifteenth	(2) hours theoretical (3) hours practical	First: mating of relatives: estimating the kinship coefficient-estimating the coefficient of internal education-types of internal education-the harms of internal education-types of internal education	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

769- Educational institution:	Collage of Agriculture-Wasit University
770- Scientific department / Center:	Animal production
771- Course name:	Cattle production
772- Course code:	DCPR 413
773-Number of academic units:	3.5
774- Available forms of attendance:	Presence
775- Semester / year:	The fourth year - the autumn semester
776- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
777- Date of preparation of this description:	12 / 2 / 2024
778- Name of the course administrator:	Dr. Ali Ayad Hussein
779- Course objectives	The student should learn about the importance of cattle, their breeds, types of Housing and all the necessary operations for them, as well as the operations of automated milk and the anatomy of the mammary gland
780- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.
781- Evaluation methods:	Take quick daily exams.

		The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.		
782- Infrastructure:		The required prescribed books □ The Book of milk cattle production by Dr. The spokesman of al-Qudsi, Jalal Elijah Main references (sources): dynastic books Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.		
783- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
784- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	The economic importance of animal products	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	The importance of cattle breeding	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	The modern development of livestock in the world	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Factors that led to the decline in livestock production in Iraq	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours	Evaluation of dairy cows	Theoretical lectures Practical lectures	Theoretical quiz Practical quiz

	practical		Laboratory experiments	Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	The spread of the milk production farm	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Reproduction in cattle	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Genetic factors affecting milk production	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Environmental factors affecting milk production	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	The development of the mammary gland in cattle	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Hormonal control of the development of the mammary gland	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	The process of milk formation	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical	Hormonal control of milk production	Theoretical lectures	Theoretical quiz

	(3) hours practical		Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Field operations conducted in the fields of dairy cattle	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Breeds of milk cattle	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

785- Educational institution:	Collage of Agriculture-Wasit University
786- Scientific department / Center:	Animal production
787- Course name:	Meat production
788- Course code:	MEPR 414
789-Number of academic units:	3.5
790- Available forms of attendance:	Presence
791- Semester / year:	The fourth year - the autumn semester
792- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
793- Date of preparation of this description:	12 / 2 / 2024
794- Name of the course administrator:	Dr. Ali Ayad Hussein
795- Course objectives	The aim is to familiarize the student with the concepts of red meat production and the differences between them and to identify the problems and obstacles faced by the red meat production sector, the growth and development of meat cattle breeds.
796- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational

		video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.		
797- Evaluation methods:		Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.		
798- Infrastructure:		The required prescribed books □ The Book of meat production Dr. Majid Bashir al-Aswad The main references (sources): books of meat production Dr. Mohareb Tahir Abdul Hamid Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.		
799- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
800- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	The concept of meat production (traditional and modern concept)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Biological axes of meat production and how it is expressed	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	The reality of meat production and consumption in Iraq, the Arab world and the world	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours	Challenges and constraints facing the red meat production	Theoretical lectures Practical lectures	Theoretical quiz Practical quiz

	practical	sector	Laboratory experiments	Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Methods of animal husbandry for the production of red meat	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Growth and development of meat animals and changes in the shape and structure of the body from the embryonic year to maturity	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Types of meat cattle breeds	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Factors affecting growth	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Optimal investment for the efficiency of red meat production	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	The composition of carcasses, the percentage of purification and factors affecting them	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Factors affecting the growth and development of a meat animal	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

The twelfth	(2) hours theoretical (3) hours practical	Techniques used in the transportation and marketing of animals and carcasses	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Marketing category	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Genetic variation of traits needed in meat production improvement plans	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Meat industry	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

801- Educational institution:	Collage of Agriculture-Wasit University
802- Scientific department / Center:	Animal production
803- Course name:	Poultry management and production
804- Course code:	MEPR 414
805-Number of academic units:	3.5
806- Available forms of attendance:	Presence
807- Semester / year:	The fourth year - the autumn semester
808- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
809- Date of preparation of this description:	12 / 2 / 2024
810- Name of the course administrator:	Dr. Mohammad Ali Makki Jassim

811- Course objectives		The student should learn how to manage poultry projects, identify the types of housing suitable for the atmosphere of Iraq for the production of broiler meat and laying hens		
812- Teaching and learning methods:		The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.		
813- Evaluation methods:		Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.		
814- Infrastructure:		Required required books: poultry management book Dr. Suhaib said Alwan Main references (sources): poultry production books Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.		
815- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
816- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Poultry Science and the concept of poultry project management .	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Importance of poultry projects (egg and meat production projects)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours	Internal organs of the chicken and their functions, (male and	Theoretical lectures Practical lectures	Theoretical quiz Practical quiz

	practical	female digestive and reproductive, egg components)	Laboratory experiments	Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Types of poultry housing and breeding supplies	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Management and production of broilers (types of modern breeds and their specifications , incubation and care of chicks, breeding and care of broilers, breeding systems	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Feeding broilers and types of leeches, marketing broilers, meat preparation operations in slaughterhouses)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	meat preparation operations in slaughterhouses (Management and production of laying hens) types of modern breeds and their specifications incubation and care of laying hens, breeding systems	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Feeding laying hens during the growth and production years, calculations of egg production ratios)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

The ninth	(2) hours theoretical (3) hours practical	Compulsory trimming (its methods and benefits) .	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Management of mothers ' herds (broiler and egg mothers)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Breeding turkeys, ducks and geese .	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Manage poultry fields in hot weather.	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Management of feed plants and feed preparation .	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Types of poultry houses	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Suitable environmental conditions for poultry farming (ventilation, heat, humidity, lighting, bedding)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

817- Educational institution:	Collage of Agriculture-Wasit University
818- Scientific department / Center:	Animal production
819- Course name:	Pasture management
820- Course code:	PAMA 416
821-Number of academic units:	3.5
822- Available forms of attendance:	Presence
823- Semester / year:	The fourth year - the autumn semester
824- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
825- Date of preparation of this description:	12 / 2 / 2024
826- Name of the course administrator:	Dr Hakim Sultan Abdul
827- Course objectives	The aim of the student is to get acquainted with the development of Natural Resources, pastures, identify the types of pastures and methods of grazing suitable for each type of animals according to grazing systems
828- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.
829- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.
830- Infrastructure:	The required prescribed books □ The Book of natural pasture management Dr. Ramadan Ahmed lutfif Al-Tikriti Main references (sources): animal herding books Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.

831- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
832- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	The importance of natural pastures, their spread and their relationship with other sciences	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Types of Natural Pastures - the qualities of a good pasture	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Natural, life, environmental and soil factors affecting pastures	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Pastoral plants and their relationship to soil and water maintenance-the importance of water and soil-erosion processes	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Effects of vegetation cover-desertification-causes and remedies-stabilization of sand dunes	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Organization of grazing-components of plant cover in pasture lands-after grazing on Productivity of pastoral plants-the effect of grazing on the growth of roots and soil	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The	(2) hours	The intensity of grazing-	Theoretical	Theoretical

Seventh	theoretical (3) hours practical	the impact of grazing on the reproduction and survival of pastoral plants-the impact of grazing on the vegetation composition of clothing	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Grazing systems - advantages and characteristics	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Exploitation of natural pastures-exploitation criterion-determination of feed exploitation-animal tonnage	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	The state of natural pastures -judging the state of the pasture	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Classification of pasture conditions-the direction of the course of the case	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Grazing areas in Iraq – grazing in the plain of the Mesopotamian Valley	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Grazing in the Iraqi valleys-grazing in the plains and mountains of Iraqi Kurdistan	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours	Harmful and poisonous plants in pasture lands	Theoretical lectures Practical lectures	Theoretical quiz Practical quiz

	practical		Laboratory experiments	Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Nature reserves, interest in them and the reasons for their creation	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

833- Educational institution:	Collage of Agriculture-Wasit University
834- Scientific department / Center:	Animal production
835- Course name:	Poultry diseases
836- Course code:	PODI 418
837-Number of academic units:	3.5
838- Available forms of attendance:	Presence
839- Semester / year:	The fourth year - the spring semester
840- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
841- Date of preparation of this description:	12 / 2 / 2024
842- Name of the course administrator:	Ahmed Sadek Shael
843- Course objectives	The aim is for the student to learn about the most important diseases affecting poultry birds, what are the clinical signs of them, types of diseases, methods of treatment, and ways to prevent them
844- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.
845- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams.

		Conducting practical examinations. Just take the final exam.		
846- Infrastructure:		Required prescribed books □ poultry diseases book Dr. Fouad al-sheikhli Main references (sources): books on animal diseases Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.		
847- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
848- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Disease, etiological factors and clinical signs	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Infectious diseases in chickens	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Yolk sac inflammation /and blemish disease	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Chicken typhoid /chicken paratyphoid	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Infectious coryza / poultry cholera	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours	The following	Theoretical	Theoretical

	theoretical (3) hours practical	cases.different coli	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Monthly exam	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Coliform granulomas in chickens	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Inflammation of the oviduct /inflammation of the synovial membrane	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Floral birds /febrile hepatitis	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Newcastle bird disease	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Inflammation of the larynx and trachea	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Kombu / bird pox	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

The Fourteenth	(2) hours theoretical (3) hours practical	Mark / coccidia of birds	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Control of infectious diseases and entry points of the virus into the bird's body	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

849- Educational institution:	Collage of Agriculture-Wasit University
850- Scientific department / Center:	Animal production
851- Course name:	Molecular biology
852- Course code:	MOMI 419
853-Number of academic units:	3.5
854- Available forms of attendance:	Presence
855- Semester / year:	The fourth year - the spring semester
856- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
857- Date of preparation of this description:	12 / 2 / 2024
858- Name of the course administrator:	Dr. Ghassan Mohammed Hassan
859- Course objectives	It is necessary for the student to get acquainted with the genetic material, the concept of a gene, how to synthesize a protein, the genetic material of Eukaryotic and non-eukaryotic organisms
860- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations

		and interaction with field or laboratory aspects.		
861- Evaluation methods:		Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.		
862- Infrastructure:		The required course books are: the book of Molecular Biology Dr. Ayesha Devan Main references (sources): books of biotechnologies Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.		
863- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
864- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	Animal cell – functions of cell components	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	The concept of Molecular Biology – types of molecules in the cell	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Molecular structure of DNA	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	The double helix structure of DNA according to Watson and Crick	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours	The approved method	Theoretical	Theoretical

	theoretical (3) hours practical	for studying cells and tissues	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Methods of observing the behavior of cells and tissues - how the light interference microscope is used to obtain information regarding the concentration of substances in the cell	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	How genetic information stored in DNA can travel between cell parts and determine function	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	The process of protein formation in the cell	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Regulation of genetic events within the cell	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Gene expression (Gene expression)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Genetics-reproduction and translation	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical	Separation of DNA from the rest of the cell	Theoretical lectures	Theoretical quiz

	(3) hours practical	components	Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	DNA postures (DNA-Conformation)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Estimating the purity of nucleic acids spectroscopically	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	DNA synthesis (DNA-Synthesis)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

865- Educational institution:	Collage of Agriculture-Wasit University
866- Scientific department / Center:	Animal production
867- Course name:	Sheep and goat production
868- Course code:	MOMI 419
869-Number of academic units:	3.5
870- Available forms of attendance:	Presence
871- Semester / year:	The fourth year - the spring semester
872- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
873- Date of preparation of this description:	12 / 2 / 2024
874- Name of the course administrator:	Dr. Mohammed Abdallah Khamees
875- Course objectives	The aim is for the student to learn about the economic importance of sheep and goat breeding, breeding in sheep

		and goats, wool and hair production and the establishment of lamb fattening projects		
876- Teaching and learning methods:		The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.		
877- Evaluation methods:		Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.		
878- Infrastructure:		The required prescribed books are available: sheep and goat production book by Dr. Zuhair Fakhri Al-Jalili Main references (sources): sheep and goat breeding books Basra University Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.		
879- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
880- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	The economic importance of sheep and goat breeding	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Classification of sheep and goats	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours	Feeding sheep and goats	Theoretical lectures Practical lectures	Theoretical quiz Practical quiz

	practical		Laboratory experiments	Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Reproduction in sheep and goats (part one)	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Providing nutritional needs	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Growth and production of red meat	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Red meat production patterns	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Wool and hair production	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Milk production	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Intensive production	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical	Feeding and weaning lambs	Theoretical lectures	Theoretical quiz

	(3) hours practical		Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	The use of milk substitutes in feeding lambs	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Establishment of lamb fattening projects	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Fattening lambs	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Introduction to sheep and goat production	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

881- Educational institution:	Collage of Agriculture-Wasit University
882- Scientific department / Center:	Animal production
883- Course name:	Meat science
884- Course code:	MESC 421
885-Number of academic units:	3.5
886- Available forms of attendance:	Presence
887- Semester / year:	The fourth year - the spring semester
888- Number of academic hours (total):	(2) hours theoretical + (3) hours practical = (5) hours per week
889- Date of preparation of	12 / 2 / 2024

this description:				
890- Name of the course administrator:		Dr. Ali Ayad Hussein		
891- Course objectives		The aim is to familiarize the student with the components and general composition of meat , the physical and chemical properties of meat, identify the phenomena that accompany the slaughter process, factors affecting the rate of meat consumption		
892- Teaching and learning methods:		The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.		
893- Evaluation methods:		Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.		
894- Infrastructure:		The following books are required: the book of meat science by Dr. Mohareb Tahir Abdul Hamid Main references (sources): meat science books by Dr. Majid Bashir al-Aswad Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.		
885- Evaluation of the course:		Theoretical exam (30 points) + practical exam (20 points) = (50 points) + (50 points) final exam		
896- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical (3) hours practical	General definitional terms: meat, meat science, meat industry, meat processing, meat quality	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The second	(2) hours theoretical	Types of meat and nutritional value of	Theoretical lectures	Theoretical quiz

	(3) hours practical	meat	Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Chemical composition of meat	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	The general and exact composition of meat, muscles and their types	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Muscle cell proteins . Types of muscle fibers	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	The mechanics of muscle contraction ,the processes of contraction and diastole	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Chemical and biochemical changes in the muscle after death and factors affecting it	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	The process of turning muscle into meat	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours theoretical (3) hours practical	Types of throwing stiffness and factors affecting it	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The tenth	(2) hours	Characteristics of fresh	Theoretical	Theoretical

	theoretical (3) hours practical	meat: water retention, softness, color, texture . Nutritional value	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Meat storage methods: cryopreservation and freeze storage	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Thermal manufacturing : drying, irradiation	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Packaging and types of used packaging materials	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Contamination of meat and its sources	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Sources of meat types and nutritional value of meat	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

897- Educational institution:	Collage of Agriculture-Wasit University
898- Scientific department / Center:	Animal production
899- Course name:	Buffalo production
900- Course code:	BUPR 422
901-Number of academic units:	2

902- Available forms of attendance:		Presence		
903- Semester / year:		The fourth year - the spring semester		
904- Number of academic hours (total):		(2) hours theoretical = (2) hours per week		
905- Date of preparation of this description:		12 / 2 / 2024		
906- Name of the course administrator:		Dr. Ali Ayad Hussein		
907- Course objectives		The main task is for the student to get acquainted with the Buffalo, its breeds, its phenotypic qualities, what are the features of its upbringing, the obstacles it faces, the economic importance of its products, and its housing.		
908- Teaching and learning methods:		The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation). The application of practical lectures through observations and interaction with field or laboratory aspects.		
909- Evaluation methods:		Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Conducting practical examinations. Just take the final exam.		
910- Infrastructure:		The required books: the Buffalo production book by Dr. Hassan Abdallah Main references (sources): milk cattle production books by Dr. Al-Qudsi's spokesman Books and references that are recommended (scientific journals, reports.(Find electronic references, Internet sites.		
911- Evaluation of the course:		Theoretical exam (50 points) = (50 points) + (50 points) final exam		
912- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical	Origin and history of Buffalo	Theoretical lectures	Theoretical quiz

	(3) hours practical		Practical lectures Laboratory experiments	Practical quiz Scientific Reports
The second	(2) hours theoretical (3) hours practical	Buffalo numbers in Iraq and the world	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The third	(2) hours theoretical (3) hours practical	Classification of buffaloes in the animal kingdom	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fourth	(2) hours theoretical (3) hours practical	Genetic differences between Asian and African buffaloes	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifth	(2) hours theoretical (3) hours practical	Breeds of wild buffalo	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The sixth	(2) hours theoretical (3) hours practical	Breeds of domesticated Buffaloes in the world	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Seventh	(2) hours theoretical (3) hours practical	Reproduction in Buffalo females	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eighth	(2) hours theoretical (3) hours practical	Causes of low reproductive efficiency in Buffaloes	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The ninth	(2) hours	Nutrition and diet of	Theoretical	Theoretical

	theoretical (3) hours practical	Buffalo	lectures Practical lectures Laboratory experiments	quiz Practical quiz Scientific Reports
The tenth	(2) hours theoretical (3) hours practical	Causes of low reproductive efficiency in Buffaloes	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The eleventh	(2) hours theoretical (3) hours practical	Methods of checking pregnancy in Buffalo	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The twelfth	(2) hours theoretical (3) hours practical	Characteristics of the digestive system of Buffalo	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The thirteenth	(2) hours theoretical (3) hours practical	Milk production in Buffalo	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The Fourteenth	(2) hours theoretical (3) hours practical	Differences in milk components in different breeds	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports
The fifteenth	(2) hours theoretical (3) hours practical	Meat production in Buffalo	Theoretical lectures Practical lectures Laboratory experiments	Theoretical quiz Practical quiz Scientific Reports

913- Educational institution:	Collage of Agriculture-Wasit University
914- Scientific department / Center:	Animal production

915- Course name:	English language (4)			
916- Course code:	ENGL 401			
917-Number of academic units:	٢			
918- Available forms of attendance:	2			
919- Semester / year:	Presence			
920- Number of academic hours (total):	The fourth year - the spring semester			
921- Date of preparation of this description:	(2) hours theoretical = (2) hours per week			
922- Name of the course administrator:	Wnnas shayal yapper			
923- Course objectives	The ability to learn English at the second level is characterized by its vocabulary, writing and reading style			
924- Teaching and learning methods:	The purpose of providing theoretical lectures to deliver information to students through the following means: (blackboard, data projector, interactive lecture, educational video presentation).			
925- Evaluation methods:	Take quick daily exams. The evaluation of students through the submission of Scientific Reports and oral questions. Take the monthly exams. Just take the final exam.			
926- Infrastructure:	Required course books: English language textbook □ Writing Academic English, Level 4 by Alice Oshima Main references (sources): source books of the language Books and references that are recommended (scientific journals, reports). Find electronic references, Internet sites.			
927- Evaluation of the course:	Theoretical exam (50 points) = (50 points) + (50 points) final exam			
928- Course structure:				
Week	Hours	Name of the unit or subject	Method of Education	Evaluation method
The first	(2) hours theoretical	Getting to know you	Theoretical lectures	Theoretical quiz
The second	(2) hours theoretical	The way we live	Theoretical lectures	Theoretical quiz

The third	(2) hours theoretical	It All Went Wrong	Theoretical lectures	Theoretical quiz
The fourth	(2) hours theoretical	If clause (conditional) sentences	Theoretical lectures	Theoretical quiz
The fifth	(2) hours theoretical	Tell me! What`s it like?	Theoretical lectures	Theoretical quiz
The sixth	(2) hours theoretical	A- Simple tense	Theoretical lectures	Theoretical quiz
The Seventh	(2) hours theoretical	B-compound tense	Theoretical lectures	Theoretical quiz
The eighth	(2) hours theoretical	c- complex tense	Theoretical lectures	Theoretical quiz
The ninth	(2) hours theoretical	The use of so 'and neither'	Theoretical lectures	Theoretical quiz
The tenth	(2) hours theoretical	Famous couples	Theoretical lectures	Theoretical quiz
The eleventh	(2) hours theoretical	Do`s and don`ts	Theoretical lectures	Theoretical quiz
The twelfth	(2) hours theoretical	How to answer causations	Theoretical lectures	Theoretical quiz
The thirteenth	(2) hours theoretical	Going places	Theoretical lectures	Theoretical quiz
The Fourteenth	(2) hours theoretical	Every day sentences	Theoretical lectures	Theoretical quiz
The fifteenth	(2) hours theoretical	Scared to death	Theoretical lectures	Theoretical quiz