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

Academic Program and Course Description Guide

2024

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

Concepts and terminology:

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

Course Description: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

Program Vision: An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

Program Mission: Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

Program Objectives: They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

Curriculum Structure: All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name: Al-Muthanna University
Faculty/Institute: Agriculture college
Scientific Department: Animal Production Department
Academic or Professional Program Name: Bachelor of Agricultural Sciences
Final Certificate Name: Bachelor of Agricultural Sciences
Academic System: Semester
Description Preparation Date: 1-9-2023
File Completion Date: 1-10-2023

Signature:
Head of Department Name:
Dr. Ahmed Resan Mohammed Ali
Date: 28-2-2024

Signature:
Scientific Associate Name:
Prof. Dr. Hanoon Nahi Kadhum
Date: : 29-2-2024

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Dr. Saad Kadhum Jabbar
Date: 3-3-2024
Signature:

Approval of the Dean

1. Program Vision

The vision of the Animal Production Department involves lofty axes, it consists of applying advanced and modern educational systems to prepare a generation of agricultural engineers and researchers capable of solving all problems, related to agricultural and livestock production, Conducting scientific studies and research Which would contribute to raising the scientific and applied level of cadres, specialized in the field of animal production and livestock.

The vision of the Animal Production Department is centered on preparing and qualifying technical cadres in the various fields of animal production, whether poultry birds, large animals (ruminants), or fish, and training them in the latest advanced methods, making them qualified and capable of strengthening the private agricultural and animal sector and related government institutions, whether they are colleges. Agriculture, agricultural directorates in the Ministry of Agriculture and their affiliated departments, veterinary directorates, veterinary hospitals and their affiliated departments, and specialized research institutions and centers.

2. Program Mission

The Department of Animal Production is one of the essential departments in the College of Agriculture, which works diligently and effectively with a clear message focused on encouraging young graduates of middle school and agricultural technical institutes to enter agricultural academic training in the College of Agriculture, especially in Al-Muthanna Governorate, which is considered one of the purely agricultural governorates, to ensure that they obtain job opportunities. Future, which serves the requirements of the labor market as well as developing the reality of sustainable development in Iraq to enhance food security.

3. Program Objectives

1. Preparing agricultural engineers armed with science and knowledge and keeping up with the latest modern and advanced scientific developments in their field of specialization.

2. Contributing to developing the reality of livestock through developing and following the latest scientific methods and methods in the fields of livestock and animal production.

3. Laying the foundation stone for a conscious generation that keeps pace with the origins and traditions of scientific research to be an essential contributor to the reconstruction of this province in particular and the country in general.

4. Developing the status of livestock in the governorate through coordination with the agricultural and veterinary departments there.

5. Giving special importance to raising, improving, developing and multiplying camel herds, as the governorate is famous for raising these animals.

6. Striving to study and develop the reality of fish wealth in the governorate by studying water bodies and the reality of fish wealth in them.

7. Interest in developing the reality of poultry breeding and production (broiler and laying hen production projects) in the governorate through effective cooperation between the scientific products of the department, the College of Agriculture, and the university with the agricultural and veterinary departments in the governorate.

8. The department contributes, through the advisory office, to providing scientific consultation and scientific, technical and veterinary supervision regarding the breeding and feeding of all farm animals.

4. Program Accreditation

There is no programmatic accreditation at the present time, but the department is prepared for programmatic accreditation according to the ABET system.

5. Other external influences

nothing

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	12	17	10.97%	
College Requirements	17	48	30.97%	
Department Requirements	31	90	58.06%	
Summer Training				
Other				

* This can include notes whether the course is basic or optional.

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
The first stage/autumn semester	0C1110	Analytical chemistry	2	3
	0C1301	Soil science principles	2	3
	0C1510	Mathematics	2	0
	0C1210	Plant protection principles	2	3
	001110	Animal production principles	2	3
	0C1310	Area	2	3
	U01010	Computer applications 1	0	3
	U01110	English language1	2	0
	U01001	Human rights and democracy	2	0
The first stage/spring semester	0C2110	Organic chemistry	2	3
	0C2410	Field crops principles	2	3
	0C2310	Statistics principles	2	3
	002110	Poultry principles	2	3
	U02010	Computer applications 1	0	3
	002101	Zoology	2	3

	U02110	Arabic language	2	0
	0C2401	Gardening principles	2	3
	U02110	Safety and biosecurity	2	0
The second stage/autumn semester	0C1520	Biochemistry	2	3
	001102	Health of animal products	2	3
	001120	Fish principles	2	3
	0C1302	Microbiology principles	2	3
	001320	Animal production mechanization	2	3
	U01220	English language2	2	0
	U01020	Computer applications2	0	3
The second stage/spring semester	002420	Genetics	2	3
	0C2402	Fodder crops and pastures	2	3
	002120	Fish rearing and production	2	3
	002102	Dairy science	2	3
	0C2002	Agricultural economics principles	2	0
	0C2002	Agricultural extension principles	2	0
	U02020	Computer applications2	0	3
The third stage/autumn semester	001130	Animal physiology	2	3
	0C1430	Design and analysis of experiments	2	3
	0C1530	Economics of animal production	2	0
	001103	Animal nutrition	2	3
	0C1203	Medical and veterinary insects	2	3
	001203	Ecology and animal behavior	2	0
	001130	Hatching and hatchery management	2	3
	U01130	English language3	2	0
The third stage/spring semester	002130	Feed and feed stuff	2	3
	002130	Poultry physiology	2	3
	002103	Animal breeding	2	3
	002130	Poultry products technology	2	3
	002103	Animal diseases	2	3
	002130	Reproductive physiology	2	3
Fourth stage/autumn semester	001140	Poultry nutrition	2	3
	001140	Poultry breeding	2	3
	001104	Sheep and goat production	2	3
	001140	Meat production	2	3
	001140	Poultry management and production	2	3

	U01140	English language3	2	3
	0C1140	Research project	0	3
	0C1140	Seminars	1	0
Fourth stage/spring semester	002140	Poultry diseases	2	3
	002140	Meat science	2	3
	002104	Cattle production	2	3
	002104	Buffalo production	2	0
	002140	Molecular biology	2	3
	002404	Pasture management	2	3
	U02240	Sustainable development	2	0
	U02540	Professional ethics	2	0
	0C2140	Research project	0	3

8. Expected learning outcomes of the program

Knowledge	
Learning Outcomes 1	Learning Outcomes Statement 1
Skills	
Learning Outcomes 2	Learning Outcomes Statement 2
Learning Outcomes 3	Learning Outcomes Statement 3
Ethics	
Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes 5	Learning Outcomes Statement 5

9. Teaching and Learning Strategies

Teaching and learning strategies and methods adopted in the implementation of the program in general.

10. Evaluation methods

Implemented at all stages of the program in general.

11. Faculty

Faculty Members						
Academic Rank	**Specialization**		**Special Requirements/Skills (if applicable)**		**Number of the teaching staff**	
	General	**Special**			**Staff**	**Lecturer**
Professor	Animal production	Poultry management and technology			1	0
Professor	Animal production	Reproductive physiology			1	0
Professor	Animal production	Poultry management			1	0
Professor	Science	Fish rearing			1	0
Professor	Veterinary	Histology and physiology			1	0
Assistant professor	Animal production	Poultry nutrition			1	0
Assistant professor	Animal production	Fish nutrition			1	0
Assistant professor	Animal production	Animal breeding			1	0
Assistant professor	Animal production	Reproductive physiology			1	0
Assistant professor	Animal production	Fish rearing			1	0
Assistant professor	Computer	Computer			1	0
Lecturer	Animal production	Animal breeding			1	0
Lecturer	Animal production	Poultry technology			1	0
Lecturer	Animal	Fish			1	0

	production					
Lecturer	Animal production	Reproductive physiology			1	0
Assistant lecturer	Animal production	Animal production			1	0

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12. Acceptance Criterion

(**Setting regulations related to enrollment in the college or institute, whether central admission or others**)

13. The most important sources of information about the program

State briefly the sources of information about the program.

14. Program Development Plan

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
The first stage/autumn semester	0C1110	Analytical chemistry	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	0C1301	Soil science principles	Optional	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	0C1510	Mathematics	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	0C1210	Plant protection principles	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	001110	Animal production principles	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	0C1310	Area	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	U01010	Computer applications 1	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	U01110	English language1	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	U01001	Human rights and democracy	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
The first stage/spring semester	0C2110	Organic chemistry	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	0C2410	Field crops principles	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	0C2310	Statistics principles	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	002110	Poultry principles	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔

	U02010	Computer applications 1	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	002101	Zoology	Optional	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	U02110	Arabic language	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	0C2401	Gardening principles	Optional	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	U02110	Safety and biosecurity	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
The second stage/autumn semester	0C1520	Biochemistry	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	001102	Health of animal products	Optional	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	001120	Fish principles	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	0C1302	Microbiology principles	Optional	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	001320	Animal production mechanization	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	U01220	English language2	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	U01020	Computer applications2	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
The second stage/spring semester	002420	Genetics	Optional	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	0C2402	Fodder crops and pastures	Optional	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	002120	Fish rearing and production	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	002102	Dairy science	Optional	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔

	0C2002	Agricultural economics principles	Optional	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	0C2002	Agricultural extension principles	Optional	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	U02020	Computer applications2	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
The third stage/autumn semester	001130	Animal physiology	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	0C1430	Design and analysis of experiments	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	0C1530	Economics of animal production	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	001103	Animal nutrition	Optional	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	0C1203	Medical and veterinary insects	Optional	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	001203	Ecology and animal behavior	Optional	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	001130	Hatching and hatchery management	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	U01130	English language3	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
Fourth stage/autum	002130	Feed and feed stuff	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔

n semester	002130	Poultry physiology	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	002103	Animal breeding	Optional	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	002130	Poultry products technology	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	002103	Animal diseases	Optional	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	002130	Reproductive physiology	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	001140	Poultry nutrition	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	001140	Poultry breeding	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	001104	Sheep and goat production	Optional	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	001140	Meat production	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	001140	Poultry management and production	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	U01140	English language3	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	0C1140	Research project	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	0C1140	Seminars	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔

Fourth stage/spring semester	002140	Poultry diseases	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	002140	Meat science	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	002104	Cattle production	Optional	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	002104	Buffalo production	Optional	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	002140	Molecular biology	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	002404	Pasture management	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	U02240	Sustainable development	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	U02540	Professional ethics	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔
	0C2140	Research project	Basic	✔	✔	✔	✔	✔	✔			✔	✔	✔	✔

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form (First class)

1. Course Name:
Analytical chemistry
2. Course Code:
0C1110
3. Semester / Year:
The first stage/autumn semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr. Jassim Kassim Menati Email: jasimiraqe@mu.edu.iq
8. Course Objectives

Course Objectives	• **Introducing the student to the importance of analytical chemistry** • **Study the foundations related to analytical chemistry** • **Introducing the student to chemical analysis and its branches, and describing quantitative and qualitative chemical analysis**

9. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	A general introduction to chemistry and its types	A lecture	Quiz
2	2	Theoretical lecture	calibration,	A lecture	Quiz

3	2	Theoretical lecture	Equivalence point	A lecture	Quiz
4	2	Theoretical lecture	End point of interaction	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Units used to express concentration	A lecture	Quiz
7	2	Theoretical lecture	pH (acid function)	A lecture	Quiz
8	2	Theoretical lecture	Buffer solutions (buffer solutions)	A lecture	Quiz
9	2	Theoretical lecture	Oxidation titrations	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Directories	A lecture	Quiz
12	2	Theoretical lecture	Types of corrections	A lecture	Quiz
13	2	Theoretical lecture	Sedimentation titrations	A lecture	Quiz
14	2	Theoretical lecture	Reduction titrations	A lecture	Quiz
15	2	Theoretical lecture	Oxidizing agents and their nature	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Analytical chemistry Abdul-Alah Al-Abdo and Ali Sulaim Yossef
Main references (sources)	
Recommended books and references (scientific journals, reports…)	Journal of Organic Chemistry
Electronic References, Websites	https://www.chemistry1science.com/2018/08/2-pdf_44.html

13. Course Name:

Principles of soil science

14. Course Code:

0C1301

15. Semester / Year:

The first stage/ autumn semester
16. Description Preparation Date:
26/2/2024
17.Available Attendance Forms:
Presence
18.Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
19. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr. Raheem Alwan Halool Email: raheemhalol@mu.edu.iq
20. Course Objectives

Course Objectives	• **Introducing the student to the properties of soil** • **Knowing the types of soil clays** • **Classification of soils and lands in Iraq**

21. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

22. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	General definitions and concepts of soil	A lecture	Quiz
2	2	Theoretical lecture	Origin and development of soil	A lecture	Quiz
3	2	Theoretical lecture	Physical properties of soil	A lecture	Quiz
4	2	Theoretical lecture	Physical properties of soil	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Soil water	A lecture	Quiz
7	2	Theoretical lecture	Colloids and soil chemical properties	A lecture	Quiz
8	2	Theoretical lecture	Types of soil clays and their respective	A lecture	Quiz
9	2	Theoretical lecture	characteristics	A lecture	Quiz

			Organic colloids		
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Soil salinity	A lecture	Quiz
12	2	Theoretical lecture	Classification of soils affected by salinity	A lecture	Quiz
13	2	Theoretical lecture	Biological properties of soil	A lecture	Quiz
14	2	Theoretical lecture	Important nutrients in the soil	A lecture	Quiz
15	2	Theoretical lecture	Classification of soils and lands in Iraq	A lecture	Quiz

23. Co2urse Evaluation

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

24. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Soil Science Abdullah Najim Al-Ani
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://mail.almerja.com/reading.php?idm=195342

25. Course Name:
Mathematic
26. Course Code:
0C1510
27. Semester / Year:
The first stage/ autumn semester
28. Description Preparation Date:
26/2/2024
29.Available Attendance Forms:
Presence
30.Number of Credit Hours (Total) / Number of Units (Total)

2 theoretical hours Number of units: 2	
31. Course administrator's name (mention all, if more than one name)	
Name: Prof. Dr. Mohammed Radwan Mahmood Email: raheemhalol@mu.edu.iq	
32. Course Objectives	
Course Objectives	• **Enable the student to become familiar with mathematics in general and its applications in various experiments** • **– Enable the student to know and understand mathematics and perform the steps correctly and correctly in solving mathematical problems** • **– Providing the student with the skills to deal with different sections of mathematics and various uses of mathematical applications** • **–Enabling the student to solve complex problems and various applications in various fields**
33. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

34. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Classes and functions	A lecture	Quiz
2	2	Theoretical lecture	Mathematical deduction and the binomial theorem	A lecture	Quiz
3	2	Theoretical lecture	Partial fractures	A lecture	Quiz
4	2	Theoretical lecture	Matrices and determinants	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Solve the simultaneous equation using matrices	A lecture	Quiz

7	2	Theoretical lecture	Cramer's rule and coordinates	A lecture	Quiz
8	2	Theoretical lecture	Equation of a straight line in different forms	A lecture	Quiz
9	2	Theoretical lecture	Circle	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Parabola	A lecture	Quiz
12	2	Theoretical lecture	Ellipse	A lecture	Quiz
13	2	Theoretical lecture	Hyperbola	A lecture	Quiz
14	2	Theoretical lecture	Derivative and tangent rules Linking	A lecture	Quiz
15	2	Theoretical lecture	mathematics to statistics	A lecture	Quiz

35. Co2urse Evaluation
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

36. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**Calculus, Gilbert Strang**
Main references (sources)	**1- Calculus Early Transcendentals, 12th Edition, Thomas, Pearson Education.** **2– Calculus, Robert T. Smith & Ronald B. Minton, McGraw- Hill**
Recommended books and references (scientific journals, reports…)	11-Intermediate Algebra, Lynn Marecek, Santa Ana Colle 2-Calculus, David Guichard and others
Electronic References, Websites	http://tutorial.math.lamar.edu/

37. Course Name:
Principles of protection
38. Course Code:
0C1210
39. Semester / Year:
The first stage/ autumn semester
40. Description Preparation Date:
26/2/2024
41.Available Attendance Forms:
Presence
42.Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
43. Course administrator's name (mention all, if more than one

name)
Name: Ass. Prof. Dr. Malik Hassan Kareem Email: malikhassan@mu.edu.iq

44. Course Objectives

Course Objectives	• **It aims to familiarize the student with entomology and its related sciences, insects, their benefits and harms.**

45. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

46. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Introduction to entomology	A lecture	Quiz
2	2	Theoretical lecture	Insect feeding methods and auxiliary factors	A lecture	Quiz
3	2	Theoretical lecture	Methods of insect reproduction	A lecture	Quiz
4	2	Theoretical lecture	Methods of insect resistance	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	The economic mastitis and important factors	A lecture	Quiz
7	2	Theoretical lecture	The nature of life and damage of rodents	A lecture	Quiz
8	2	Theoretical lecture	Economic importance of pests	A lecture	Quiz
9	2	Theoretical lecture	Definitions of disease terms	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Plant pathogens	A lecture	Quiz
12	2	Theoretical lecture	Non-parasitic pathogens	A lecture	Quiz
13	2	Theoretical lecture	Stages of disease development	A lecture	Quiz
14	2	Theoretical lecture	Methods of controlling plant	A lecture	Quiz

			diseases		
15	2	Theoretical lecture	Rodent control	A lecture	Quiz

47. Co2urse Evaluation
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

48. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**General entomology** **Ibrahim Qaddouri Al-Qaddo**
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://www.uoanbar.edu.iq/eStoreImages/Bank/926.pdf

49. Course Name:
Principles of animal production
50. Course Code:
001110
51. Semester / Year:
The first stage/ autumn semester
52. Description Preparation Date:
26/2/2024
53.Available Attendance Forms:
Presence
54.Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
55. Course administrator's name (mention all, if more than one name)
Name: Ass. Prof. Dhelal Mohammed Halboos Email: dhelalhalboos@mu.edu.iq
56. Course Objectives

Course Objectives	• **It aims for the student to recognize the**

	economic importance of animal production, as well as the sciences associated with it and the relationship of animal production to plant production.

57. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

58. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Introduction to animal production and its economic importance	A lecture	Quiz
2	2	Theoretical lecture	Factors affecting the production efficiency of farm animals	A lecture	Quiz
3	2	Theoretical lecture	Obstacles facing animal production in Iraq and ways to improve them	A lecture	Quiz
4	2	Theoretical lecture	Dairy cows, beef cows and dual-purpose cows	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Establishing and managing a flock of sheep and goats	A lecture	Quiz
7	2	Theoretical lecture	Buffalo, general characteristics of buffalo	A lecture	Quiz
8	2	Theoretical lecture	Poultry birds, the economic importance of poultry projects	A lecture	Quiz
9	2	Theoretical lecture	Nutrition and fodder	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Health care for poultry birds	A lecture	Quiz
12	2	Theoretical lecture	Genetic improvement in poultry	A lecture	Quiz

13	2	Theoretical lecture	Sheep and goats economic importance	A lecture	Quiz
14	2	Theoretical lecture	Classification and methods used for classification	A lecture	Quiz
15	2	Theoretical lecture	Sheep breeding	A lecture	Quiz

59. Co2urse Evaluation
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

60. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Animal Production Zuhair Al-Jalili
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	Animal Science Journal

61. Course Name:
Area
62. Course Code:
0C1310
63. Semester / Year:
The first stage/ autumn semester
64. Description Preparation Date:
26/2/2024
65.Available Attendance Forms:
Presence
66.Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
67. Course administrator's name (mention all, if more than one name)
Name: Ass. Prof. Dr. Flaih Hamed Kassar Email: flaihkassar@mu.edu.iq
68. Course Objectives

Course Objectives	• **It aims for the student to become familiar with surveying, measurement systems, and drawing scales, introducing the student to surveying systems and how to**

	calculate point levels and height differences.

69. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

70. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Definition of space, types of spaces, survey requirements	A lecture	Quiz
2	2	Theoretical lecture	Measurement systems, measurement units, errors, errors	A lecture	Quiz
3	2	Theoretical lecture	Tape scanning conditions for selecting stations	A lecture	Quiz
4	2	Theoretical lecture	Errors in scanning and ways to address them	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Drawing scale, its types, types and determining factors	A lecture	Quiz
7	2	Theoretical lecture	Areas, regular and irregular shapes	A lecture	Quiz
8	2	Theoretical lecture	Leveling, terminology, types of adjustment, level device	A lecture	Quiz
9	2	Theoretical lecture	Leveling, terminology, types of adjustment, level device	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Types of settlement: the phenomena of balling and breaking	A lecture	Quiz
12	2	Theoretical lecture	Calculating point levels and distance scales	A lecture	Quiz
13	2	Theoretical lecture	Find the height of the excavation and the depth of the backfill	A lecture	Quiz

14	2	Theoretical lecture	Topographic maps	A lecture	Quiz
15	2	Theoretical lecture	Contour lines method and definition	A lecture	Quiz

71. Co2urse Evaluation
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

72. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	The flat space between theory and applicati engineer Ahmed Khalil
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	

73. Course Name:
Computer applications1
74. Course Code:
U01010
75. Semester / Year:
The first stage/ autumn semester
76. Description Preparation Date:
26/2/2024
77.Available Attendance Forms:
Presence
78.Number of Credit Hours (Total) / Number of Units (Total)
3 practical hours. Number of units: 1
79. Course administrator's name (mention all, if more than one name)
Name: Ass. Prof. Sameer Saud Dakhil Email: samirsaud@mu.edu.iq
80. Course Objectives

Course Objectives	• **1- Identify the concept of operating systems in computers.** • **2- Learn about applications and software.** • **3- How to use the computer and manage applications**

81. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification

	2 Lecture method 3Student groups 4Practical lessons in laboratories

82. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Identify the computer and its components	A lecture	Quiz
2	2	Theoretical lecture	Physical components of a computer	A lecture	Quiz
3	2	Theoretical lecture	Computer software components	A lecture	Quiz
4	2	Theoretical lecture	Practical applications	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Programs and applications	A lecture	Quiz
7	2	Theoretical lecture	win7 operating system	A lecture	Quiz
8	2	Theoretical lecture	The main interface of the operating system	A lecture	Quiz
9	2	Theoretical lecture	Files and folders	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Creating abbreviations and managing the library	A lecture	Quiz
12	2	Theoretical lecture	Practical applications	A lecture	Quiz
13	2	Theoretical lecture	Smart tools and their settings	A lecture	Quiz
14	2	Theoretical lecture	Computer control panel	A lecture	Quiz
15	2	Theoretical lecture	Practical applications	A lecture	Quiz

83. Co2urse Evaluation

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

84. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Computer and its office applications
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	

85.	Course Name:
	English language1
86.	Course Code:
	U01110
87.	Semester / Year:
	The first stage/ autumn semester
88.	Description Preparation Date:
	26/2/2024
89.	Available Attendance Forms:
	Presence
90.	Number of Credit Hours (Total) / Number of Units (Total)
	2 practical hours. Number of units: 2
91.	Course administrator's name (mention all, if more than one name)
	Name: Dr. Ahmed Resan Mohammed Ali Email: ahmedresan@mu.edu.iq
92.	Course Objectives
Course Objectives	• **Teaching the student the basics of the English language**
93.	Teaching and Learning Strategies
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

94. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Basics of the English language	A lecture	Quiz
2	2	Theoretical lecture	Pronouns	A lecture	Quiz

3	2	Theoretical lecture	Pronouns	A lecture	Quiz
4	2	Theoretical lecture	auxiliary verbs	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Verb rules	A lecture	Quiz
7	2	Theoretical lecture	Verb rules	A lecture	Quiz
8	2	Theoretical lecture	Noun rules	A lecture	Quiz
9	2	Theoretical lecture	Noun rules	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Adjective rules	A lecture	Quiz
12	2	Theoretical lecture	Adjective rules	A lecture	Quiz
13	2	Theoretical lecture	auxiliary verbs	A lecture	Quiz
14	2	Theoretical lecture	auxiliary verbs	A lecture	Quiz
15	2	Theoretical lecture	auxiliary verbs	A lecture	Quiz

95. Co2urse Evaluation

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

96. Learning and Teaching Resources

Required textbooks (curricular boc if any)	Writing Academic English, Level 1 by Alice Oshima
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://www.ef.com/wwar/blog/language/dystopian-books-to-learn-english/

97. Course Name:
Rights and democracy
98. Course Code:
U01001
99. Semester / Year:
The first stage/ autumn semester
100. Description Preparation Date:
26/2/2024
101. Available Attendance Forms:
Presence
102. Number of Credit Hours (Total) / Number of Units (Total)
2 practical hours. Number of units: 2
103. Course administrator's name (mention all, if more than one name)
Name: Dr. Omar Arhaim Jadoa Email: omarjadoa@mu.edu.iq
104. Course Objectives

Course Objectives	• **Teaching the student about human rights as well as the relationship of human rights to other variables**

105. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

106. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Definition of human rights	A lecture	Quiz
2	2	Theoretical lecture	The emergence and development of human rights	A lecture	Quiz
3	2	Theoretical lecture	A glimpse of human rights in ancient civilizations	A lecture	Quiz
4	2	Theoretical lecture	Human rights in heavenly religions	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam

6	2	Theoretical lecture	Human rights and their relationship to other variables	A lecture	Quiz
7	2	Theoretical lecture	The relationship of rights to law	A lecture	Quiz
8	2	Theoretical lecture	The relationship of rights and duties	A lecture	Quiz
9	2	Theoretical lecture	The most important basic human rights	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	The impact of globalization on rights	A lecture	Quiz
12	2	Theoretical lecture	Cairo Declaration on Human Rights in Islam	A lecture	Quiz
13	2	Theoretical lecture	The most important international declarations and conventions	A lecture	Quiz
14	2	Theoretical lecture	The most important international declarations and conventions	A lecture	Quiz
15	2	Theoretical lecture	Financial and administrative corruption	A lecture	Quiz

107. Co2urse Evaluation

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

108. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Human rights and basic freedoms in Iraq Blend Dealer Shawes
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://www.un.org/ar/about-us/universal-declaration-of-human-rights

109. Course Name:

organic chemistry

110. Course Code:
0C2110
111. Semester / Year:
The first stage/spring semester
112. Description Preparation Date:
26/2/2024
113. Available Attendance Forms:
Presence
114. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
115. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr. Jassim Kassim Menati Email: jasimiraqe@mu.edu.iq
116. Course Objectives

Course Objectives	• **1 Providing students with general informa about organic chemistry** • **2 Introducing students to alkanes** • **3 Introducing students to alkenes** • **4 Explanation of alkynes for students**
117. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

118. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Introduction to organic chemistry	A lecture	Quiz
2	2	Theoretical lecture	Alkanes	A lecture	Quiz
3	2	Theoretical lecture	Alkenes	A lecture	Quiz
4	2	Theoretical lecture	Alkynes	A lecture	Quiz

5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Aliphatic cyclic compounds	A lecture	Quiz
7	2	Theoretical lecture	Formation of the aromatic ring - activity and direction - preparation - interactions	A lecture	Quiz
8	2	Theoretical lecture	Aromatic compounds	A lecture	Quiz
9	2	Theoretical lecture	Amines	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Aliphatic and aromatic halides	A lecture	Quiz
12	2	Theoretical lecture	Alcohols, phenols and ethers	A lecture	Quiz
13	2	Theoretical lecture	Aldehydes and ketones	A lecture	Quiz
14	2	Theoretical lecture	Carboxylic acids	A lecture	Quiz
15	2	Theoretical lecture	Derivatives of carboxylic acids	A lecture	Quiz

119. Co2urse Evaluation

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

120. Learning and Teaching Resources

Required textbooks (curricular books, if any	Organic chemistry Abdul-Alah Al-Abdo and Ali Sulaiman Yoss
Main references (sources)	
Recommended books and references (scientific journals, reports…)	Journal of Organic Chemistry
Electronic References, Websites	https://publications.iupac.org/compendium/index.html

121. Course Name:

Principles of field crops

122. Course Code:

0C2410

123. Semester / Year:

The first stage/spring semester

124. Description Preparation Date:
26/2/2024
125. Available Attendance Forms:
Presence
126. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
127. Course administrator's name (mention all, if more than one name)
Name: Ass. Prof. Dr. Ali Raheem Jabbar Email: Aliraheem2002@mu.edu.iq
128. Course Objectives

Course Objectives	• Teaching students about the most important f crops and how they are affected by other factors

129. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

130. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Field crops: their definition، Its development, its creators	A lecture	Quiz
2	2	Theoretical lecture	Environmental factors in Iraq and in The world and its relationship to crop growth Field, location and surface, climate Soil, water resources	A lecture	Quiz
3	2	Theoretical lecture	Division of field crops according to life cycle	A lecture	Quiz
4	2	Theoretical lecture	Temperature, factors affecting Heat, temperature relationship With crops, crop adaptation To reduce the effect of temperatures and temperature damage	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Light, the importance of light for plants, Adaptation of plants to light, importance Light in seed germination	A lecture	Quiz
7	2	Theoretical	Water, its importance, dividing	A lecture	Quiz

		lecture	plants according to their water needs		
8	2	Theoretical lecture	Soil, its components, salinity, crop adaptation to salinity	A lecture	Quiz
9	2	Theoretical lecture	The effect of life factors on crop productivity	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Agricultural courses	A lecture	Quiz
12	2	Theoretical lecture	Major field crops in Iraq	A lecture	Quiz
13	2	Theoretical lecture	Weeds and ways to combat them	A lecture	Quiz
14	2	Theoretical lecture	Agricultural courses	A lecture	Quiz
15	2	Theoretical lecture	Breeding and improving field crops	A lecture	Quiz

131. Co2urse Evaluation
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

132. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Principles of field crops Majeed Muhsen Al-Ansari
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

133. Course Name:
Principles of statistic
134. Course Code:
0C2310
135. Semester / Year:
The first stage/spring semester
136. Description Preparation Date:
26/2/2024
137. Available Attendance Forms:
Presence
138. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3

139. Course administrator's name (mention all, if more than one name)	
Name: Prof. Dr. Ali Hussain Salman Email: alisalman@mu.edu.iq	
140. Course Objectives	
Course Objectives	• **Teaching students about statistics and how to extract measures of concentration and dispersion**
141. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

142. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Statistics and its development	A lecture	Quiz
2	2	Theoretical lecture	The nature of statistical data and symbols	A lecture	Quiz
3	2	Theoretical lecture	Tabular presentation and graphical representation	A lecture	Quiz
4	2	Theoretical lecture	Measures of concentration from ungrouped data	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Measures of concentration from classified data	A lecture	Quiz
7	2	Theoretical lecture	Measures of dispersion and dissimilarity	A lecture	Quiz
8	2	Theoretical lecture	Probability theory	A lecture	Quiz
9	2	Theoretical lecture	Know the laws of probability	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Continuous probability distributions of normal distribution	A lecture	Quiz
12	2	Theoretical lecture	Hypothesis testing, first part	A lecture	Quiz
13	2	Theoretical lecture	Hypothesis testing, part two	A lecture	Quiz
14	2	Theoretical lecture	Simple and multiple link	A lecture	Quiz
15	2	Theoretical lecture	The concept of regression and measuring the regression	A lecture	Quiz

			coefficient		

143. Co2urse Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc	
144. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Introduction to statistics Khashie Mahmoud Al-Rawi
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://books-library.net/c-Statistics-best-download

145. Course Name:	
Principles of poultry	
146. Course Code:	
002110	
147. Semester / Year:	
The first stage/spring semester	
148. Description Preparation Date:	
26/2/2024	
149. Available Attendance Forms:	
Presence	
150. Number of Credit Hours (Total) / Number of Units (Total)	
2 theoretical hours and 3 practical hours. Number of units: 3	
151. Course administrator's name (mention all, if more than one name)	
Name: Prof. Dr. Jassim Kassim Menati Email: jasimiraqe@mu.edu.iq	
152. Course Objectives	
Course Objectives	• **Introducing the student to poultry, its types, and its economic importance.**
153. Teaching and Learning Strategies	

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

154. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Structure of chicken organs and their vital functions	A lecture	Quiz
2	2	Theoretical lecture	Genetics in birds	A lecture	Quiz
3	2	Theoretical lecture	Hatching and hatchery management	A lecture	Quiz
4	2	Theoretical lecture	Principles of poultry nutrition	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Poultry diseases and parasites	A lecture	Quiz
7	2	Theoretical lecture	Biosecurity	A lecture	Quiz
8	2	Theoretical lecture	The skeletal, muscular, respiratory, urinary, circulatory, digestive and reproductive systems	A lecture	Quiz
9	2	Theoretical lecture	Genetics, sex determination, chromosomes	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Comparison between natural and artificial hatching	A lecture	Quiz
12	2	Theoretical lecture	Nutritional needs, raw materials in nutrition	A lecture	Quiz
13	2	Theoretical lecture	Introduction to diseases, pathogens, and bird resistance to diseases	A lecture	Quiz
14	2	Theoretical lecture	Element deficiency, ways to prevent element deficiency	A lecture	Quiz
15	2	Theoretical lecture	Its types, causes, methods of prevention and treatment	A lecture	Quiz

155. Co2urse Evaluation

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

156. Learning and Teaching Resources

Required textbooks (curricular books any)	Poultry production Hamdy Al-Fayyadh and Jameel Mohammed Saeed
Main references (sources)	From methodological books, help books, the Internet,

	and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://www.contextbookshop.com/books/principles-of-poultry-science

157. Course Name:	
Zoology	
158. Course Code:	
002101	
159. Semester / Year:	
The first stage/spring semester	
160. Description Preparation Date:	
26/2/2024	
161. Available Attendance Forms:	
Presence	
162. Number of Credit Hours (Total) / Number of Units (Total)	
2 theoretical hours and 3 practical hours. Number of units: 3	
163. Course administrator's name (mention all, if more than one name)	
Name: Prof. Dr. Ali Abdullah Al-Zaeri Email: aliabdullah@mu.edu.iq	
164. Course Objectives	
Course Objectives	• **Teaching the student about zoology and its relationship to other sciences.**
165. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

166. Course Structure

Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation method

		Outcomes			
1	2	Theoretical lecture	Zoology and its relationship to other sciences	A lecture	Quiz
2	2	Theoretical lecture	The importance of studying zoology	A lecture	Quiz
3	2	Theoretical lecture	Animal cell, its features and components	A lecture	Quiz
4	2	Theoretical lecture	Cellular division	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Protoplasm and its chemical and physical properties	A lecture	Quiz
7	2	Theoretical lecture	Classification and scientific nomenclature	A lecture	Quiz
8	2	Theoretical lecture	Digestion, assimilation and absorption	A lecture	Quiz
9	2	Theoretical lecture	Elementary Division	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Intestinal coelom division	A lecture	Quiz
12	2	Theoretical lecture	Porosity Division	A lecture	Quiz
13	2	Theoretical lecture	Division of flatworms	A lecture	Quiz
14	2	Theoretical lecture	Phylum Bagworms	A lecture	Quiz
15	2	Theoretical lecture	Division of annelids	A lecture	Quiz

167. Co2urse Evaluation

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

168. Learning and Teaching Resources

Required textbooks (curricular books if any)	Zoology George Haddad
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://angelo.libguides.com/biology/zoology/websites

169.	Course Name:
	Arabic Language
170.	Course Code:
	U02110
171.	Semester / Year:
	The first stage/spring semester
172.	Description Preparation Date:
	26/2/2024
173.	Available Attendance Forms:
	Presence
174.	Number of Credit Hours (Total) / Number of Units (Total)
	2 theoretical hours Number of units: 2
175.	Course administrator's name (mention all, if more than one name)
	Name: Ass. Lecturer Amer Mousa Kadhum Email: amermousak@mu.edu.iq
176.	Course Objectives
Course Objectives	• **Teaching the student grammar and parsing, as well as rhetoric in the Holy Quran.**
177.	Teaching and Learning Strategies
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

178. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Rhetoric in the Holy Quran	A lecture	Quiz
2	2	Theoretical lecture	Interpretation of twenty verses	A lecture	Quiz
3	2	Theoretical lecture	Arabic / Grammar and parsing	A lecture	Quiz
4	2	Theoretical lecture	The subject and the predicate	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam

6	2	Theoretical lecture	Copiers	A lecture	Quiz
7	2	Theoretical lecture	Imperfect verbs	A lecture	Quiz
8	2	Theoretical lecture	Effects	A lecture	Quiz
9	2	Theoretical lecture	preparation	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Hamza and dictates	A lecture	Quiz
12	2	Theoretical lecture	Rules for writing ta'	A lecture	Quiz
13	2	Theoretical lecture	Ages of Arabic literature	A lecture	Quiz
14	2	Theoretical lecture	Old poetry	A lecture	Quiz
15	2	Theoretical lecture	Writing common mistakes	A lecture	Quiz

179. Co2urse Evaluation

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

180. Learning and Teaching Resources

Required textbooks (curricular books if any)	Arabic language Rafid Sabbah
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://www.wuduh1.com/2023/10/books-arabic.html

181. Course Name:
Principles of horticulture
182. Course Code:
0C2401
183. Semester / Year:

The first stage/spring semester					
184. Description Preparation Date:					
26/2/2024					
185. Available Attendance Forms:					
Presence					
186. Number of Credit Hours (Total) / Number of Units (Total)					
2 theoretical hours and 3 practical hours. Number of units: 3					
187. Course administrator's name (mention all, if more than one name)					
Name: Ass. Prof. Dr. Emad Abdul-Kareem Mohammed Redha Email: emadaldahab@mu.edu.iq					
188. Course Objectives					
Course Objectives	• **Teaching students about horticulture, dividing horticultural plants**				
189. Teaching and Learning Strategies					
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories				
190. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2	Theoretical lecture	Horticultural science, history of its development, histology	A lecture	Quiz
2	2	Theoretical lecture	Dividing horticultural plants	A lecture	Quiz
3	2	Theoretical lecture	Suitable environmental factors and their impact	A lecture	Quiz
4	2	Theoretical lecture	Methods of reproduction of horticultural plants	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Nurseries and field cultivation patterns	A lecture	Quiz
7	2	Theoretical lecture	Cultivation under air-conditioned environments	A lecture	Quiz
8	2	Theoretical lecture	Reaping, picking, marketing	A lecture	Quiz
9	2	Theoretical lecture	About breeding and improving horticultural plants	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical	Storage and preservation	A lecture	Quiz

		lecture			
12	2	Theoretical lecture	Examples of fruit trees	A lecture	Quiz
13	2	Theoretical lecture	Examples of vegetable plants	A lecture	Quiz
14	2	Theoretical lecture	Examples of ornamental plants	A lecture	Quiz
15	2	Theoretical lecture	Examples of medicinal and aromatic plants	A lecture	Quiz

191. Co2urse Evaluation
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

192. Learning and Teaching Resources	
Required textbooks (curricular books any)	Horticulture and garden architecture Badran Muhammad Amin
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://fliphtml5.com/learning-center/ar/10-delicate-gardening-magazines-give-you-inspiration-for-gardening-design/

193. Course Name:
Safety and biosecurity
194. Course Code:
0C2401
195. Semester / Year:
The first stage/spring semester
196. Description Preparation Date:
26/2/2024
197. Available Attendance Forms:
Presence
198. Number of Credit Hours (Total) / Number of Units (Total)
1 theoretical hours. Number of units: 1

199. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr. Jassim Kassim Menati Email: jasimiraqe@mu.edu.iq

200. Course Objectives	
Course Objectives	• **Teaching students about safety, biosecurity, biological risks, and risk management methodology, developing a biosafety program**

201. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

202. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	General objectives of occupational safety and health	A lecture	Quiz
2	2	Theoretical lecture	Biosafety, its goals and biosecurity	A lecture	Quiz
3	2	Theoretical lecture	Biological hazards, diseases and biological risk control	A lecture	Quiz
4	2	Theoretical lecture	Methods of controlling biological risks:	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Hazardous and biological waste, treatment and disposal methods and decontamination process	A lecture	Quiz
7	2	Theoretical lecture	Dealing with laboratory waste, fires and their causes	A lecture	Quiz
8	2	Theoretical lecture	Biosecurity and the goal of biosecurity	A lecture	Quiz
9	2	Theoretical lecture	Biosecurity stakeholders, stakeholders at the international level	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Biosafety laboratory principles, safety and biosecurity	A lecture	Quiz
12	2	Theoretical lecture	Risk management methodology, development of a biosafety program	A lecture	Quiz
13	2	Theoretical lecture	Elements of a biosafety program	A lecture	Quiz

14	2	Theoretical lecture	Information security, transfer of biological materials	A lecture	Quiz
15	2	Theoretical lecture	Combating biological risks	A lecture	Quiz

203. Co2urse Evaluation

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

204. Learning and Teaching Resources

Required textbooks (curricular books any)	Occupational health and safety Khaled Ahmed Hazza
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://www.emro.who.int/ar/ihr-events/training-on-laboratory-biorisk-management.html

Course Description Form (Second class)

205.	Course Name:
	Biochemistry
206.	Course Code:
	0C1520
207.	Semester / Year:
	The second stage/autumn semester
208.	Description Preparation Date:
	26/2/2024
209.	Available Attendance Forms:
	Presence
210.	Number of Credit Hours (Total) / Number of Units (Total)
	2 theoretical hours and 3 practical hours. Number of units: 3
211.	Course administrator's name (mention all, if more than one name)
	Name: Prof. Dr. Jassim Kassim Menati Email: jasimiraqe@mu.edu.iq
212.	Course Objectives
Course Objectives	• **Introducing the student to the importance of biochemistry** • **Study of carbohydrates** • **Study of amino acids** • **Study of lipids** • **Study of nucleic acids**
213.	Teaching and Learning Strategies
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

214. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Carbohydrates - their definition - their types	A lecture	Quiz
2	2	Theoretical lecture	Monosaccharides Low	A lecture	Quiz
3	2	Theoretical lecture	polysaccharides	A lecture	Quiz
4	2	Theoretical lecture	Polysaccharides	A lecture	Quiz

5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Amino acids - their divisions - their interactions	A lecture	Quiz
7	2	Theoretical lecture	Proteins - their composition, structure, and divisions	A lecture	Quiz
8	2	Theoretical lecture	Fatty acids - their divisions - their interactions	A lecture	Quiz
9	2	Theoretical lecture	Simple lipids - their structure - their divisions	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Compound and derived lipids - their composition - their divisions	A lecture	Quiz
12	2	Theoretical lecture	Nucleic acids, their importance	A lecture	Quiz
13	2	Theoretical lecture	Its composition and sections	A lecture	Quiz
14	2	Theoretical lecture	Enzymes, their characteristics	A lecture	Quiz
15	2	Theoretical lecture	Factors affecting it	A lecture	Quiz

215. Co2urse Evaluation

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

216. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Biochemistry Ali Al-Dawodi
Main references (sources)	
Recommended books and references (scientific journals, reports…)	Journal of Organic Chemistry
Electronic References, Websites	https://www.chemistry1science.com/2018/08/2-pdf_44.html

217. Course Name:

Health of animal products

218. Course Code:

001102
219. Semester / Year:
The second stage/autumn semester
220. Description Preparation Date:
26/2/2024
221. Available Attendance Forms:
Presence
222. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
223. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr. Ahmed Jawad Al-Yaseri Email: ahmedyaseri@mu.edu.iq
224. Course Objectives

Course Objectives	**1- Identify the concept of animal product hygiene.** **2- Identify the medical importance of various animal products.** **3- The concept of disease in humans and animals resulting from contaminated products.** **4- Identifying the pathological signs of products that are not suitable for consumption.** **5- Identifying the mechanisms of protecting humans from diseases and preventing them.** **6- Identify healthy animal products free of diseases.**

225. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

226. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Concepts of health and illness	A lecture	Quiz
2	2	Theoretical lecture	Definitions about the health of animal products	A lecture	Quiz
3	2	Theoretical lecture	Classification, types and composition of meat	A lecture	Quiz
4	2	Theoretical lecture	Steps to prepare	A lecture	Quiz

			healthy red meat		
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Steps to prepare healthy white meat	A lecture	Quiz
7	2	Theoretical lecture	Hygienic principles of red meat production	A lecture	Quiz
8	2	Theoretical lecture	Ways to get healthy poultry meat	A lecture	Quiz
9	2	Theoretical lecture	Ways to get healthy poultry meat	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Poultry meat inspection	A lecture	Quiz
12	2	Theoretical lecture	Examination of fish meat	A lecture	Quiz
13	2	Theoretical lecture	Examination and production of healthy milk	A lecture	Quiz
14	2	Theoretical lecture	Milk tests	A lecture	Quiz
15	2	Theoretical lecture	Tests and production of healthy eggs	A lecture	Quiz

227. Co2urse Evaluation

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

228. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Animal product hygiene book Dr. Tailor warrior
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	https://www.iaea.org/ar/almawadie/alsihat-alhiwania

1. Course Name:

Fish principles

2. Course Code:

001120

3. Semester / Year:

The second stage/autumn semester

4. Description Preparation Date:

26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name: Ass. Prof. Dr. Mariam Jassim Mohammed Email: mariamjasim@mu.edu.iq

8. Course Objectives

Course Objectives	**Identify the basic principles of fish.** **Identifying fish species in different environments.** **Enabling students to understand the material and methods of fish farming.** **Enable students to know how fish grow and how to estimate their age.** **Enabling students to apply some practical matters related to fish basics inside the laboratory.**

9. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	A brief history of fish	A lecture	Quiz
2	2	Theoretical lecture	Introduction to fish species and families Features of fish	A lecture	Quiz
3	2	Theoretical lecture	Fish shapes and abnormal shapes	A lecture	Quiz
4	2	Theoretical lecture	Scientific classification of fish	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Water – the presence of water in the life of fish	A lecture	Quiz
7	2	Theoretical lecture	The external appearance of the fish	A lecture	Quiz
8	2	Theoretical lecture	Life history of fish	A lecture	Quiz
9	2	Theoretical lecture	Embryology in fish	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam

11	2	Theoretical lecture	Food and nutrition	A lecture	Quiz
12	2	Theoretical lecture	Natural food for fish	A lecture	Quiz
13	2	Theoretical lecture	Age and growth in fish	A lecture	Quiz
14	2	Theoretical lecture	Fertility in fish	A lecture	Quiz
15	2	Theoretical lecture	Fish water pollution	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Principles of fish By Dr. Sufyan Al-Nasiri
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	https://www.asmaknet.com/

1. Course Name:

Principles of microbiology

2. Course Code:

0C1302

3. Semester / Year:

The second stage/autumn semester

4. Description Preparation Date:

26/2/2024

5. Available Attendance Forms:

Presence

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

2 theoretical hours and 3 practical hours. Number of units: 3

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

Name: Prof. Dr. Abdullah Kareem Jabbar
Email: abdullahkareem@mu.edu.iq

8. Course Objectives

Course Objectives	**Learn about microbiology.** **Classification of microorganisms** **The importance of microorganisms.**

9. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	History of microbiology	A lecture	Quiz
2	2	Theoretical lecture	Its location among the rest of the neighborhoods	A lecture	Quiz
3	2	Theoretical lecture	Classification of microorganisms	A lecture	Quiz
4	2	Theoretical lecture	Classification of microorganisms	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	The most important benefits of microorganisms	A lecture	Quiz
7	2	Theoretical lecture	Classification of bacteria according to their forms	A lecture	Quiz
8	2	Theoretical lecture	Study of bacteria positive and negative for Gram stain	A lecture	Quiz
9	2	Theoretical lecture	Study of the structure and components of the bacterial cell wall	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Methods of nutrition in bacteria	A lecture	Quiz
12	2	Theoretical lecture	Methods of growth and reproduction in microorganisms	A lecture	Quiz
13	2	Theoretical lecture	Classification of parasites, the most important types	A lecture	Quiz

14	2	Theoretical lecture	Using physical methods	A lecture	Quiz
15	2	Theoretical lecture	Use methods to control growth	A lecture	Quiz

11. Co2urse Evaluation
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Diagnostic microbiology book Dr. Abdul Nabi Jaweed Al Mamouri
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	https://www.micronet.com/

1. Course Name:
Animal production Mechanism
2. Course Code:
001320
3. Semester / Year:
The second stage/autumn semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name: Ass. Prof. Dr. Jawad Kadhim Al Aridhee Email: jawadaridhee@mu.edu.iq
8. Course Objectives

Course Objectives	**The goal of the education program is to prepare specialized cadres capable of increasing current production through the use of advanced mechanization for the purpose of increasing production by using modern technologies in managing and**

	operating fields, increasing production, reducing manpower, horizontal and vertical expansion, and finding appropriate solutions to problems related to land and water resources, as they are the most important factors in animal production. In addition to the ability of these cadres to work in agricultural departments and agricultural facilities

9. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Methods of operating electric motors - electric fence	A lecture	Quiz
2	2	Theoretical lecture	Psychometric chart	A lecture	Quiz
3	2	Theoretical lecture	Mechanization water supply, Classification of pumps	A lecture	Quiz
4	2	Theoretical lecture	Feed harvesting equipment- Reciprocating mowers, Disk mowers	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Flooding processing equipment	A lecture	Quiz
7	2	Theoretical lecture	Baling equipment	A lecture	Quiz
8	2	Theoretical lecture	Grain Crushing equipment	A lecture	Quiz
9	2	Theoretical lecture	Methods of storing feed	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Methods of transporting feed	A lecture	Quiz
12	2	Theoretical lecture	Mechanical milking equipment & types of milking systems	A lecture	Quiz
13	2	Theoretical lecture	Animal waste disposal equipment	A lecture	Quiz
14	2	Theoretical lecture	Animal slaughtering and meat processing equipment	A lecture	Quiz

15	2	Theoretical lecture	Wool shearing equipment	A lecture	Quiz

11. Co2urse Evaluation
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Basic Farm Machinery .J.M.shippen,C.R.Ellin and C.H.Clover
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	https://www.micronet.com/

1. Course Name:
English language2
2. Course Code:
U01220
3. Semester / Year:
The second stage/autumn semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours. Number of units: 2
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Ahmed Resan Mohammed Ali Email: ahmedresan@mu.edu.iq
8. Course Objectives

Course Objectives	**It aims to teach the student the tools of the English language, such as conjunctions, prepositions, and others**

9. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2	Theoretical lecture	Conjunctions	A lecture	Quiz
2	2	Theoretical lecture	Conjunctions	A lecture	Quiz
3	2	Theoretical lecture	Prepositions	A lecture	Quiz
4	2	Theoretical lecture	Prepositions	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Passive voice	A lecture	Quiz
7	2	Theoretical lecture	Passive voice	A lecture	Quiz
8	2	Theoretical lecture	Negation	A lecture	Quiz
9	2	Theoretical lecture	Negation	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Question composition	A lecture	Quiz
12	2	Theoretical lecture	Question composition	A lecture	Quiz
13	2	Theoretical lecture	Additional rules	A lecture	Quiz
14	2	Theoretical lecture	Additional rules	A lecture	Quiz
15	2	Theoretical lecture	Additional rules	A lecture	Quiz

11. Co2urse Evaluation
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Writing Academic English, Level 2 by Alice Oshima
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	https://www.ef.com/wwar/blog/language/dystopian-books-to-learn-english/

1. Course Name:
Computer applications2
2. Course Code:
U01020
3. Semester / Year:
The second stage/autumn semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
3 theoretical hours. Number of units: 1
7. Course administrator's name (mention all, if more than one name)
Name: Ass. Prof. Sameer Saud Dakhil Email: sameersaud@mu.edu.iq
8. Course Objectives

Course Objectives	**Getting to know office programs, including (Excel). Managing databases using Excel.**

9. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Familiarity with office programs	A lecture	Quiz
2	2	Theoretical lecture	The main interface of Excel	A lecture	Quiz
3	2	Theoretical lecture	Save Excel workbooks, autosave, and save edits	A lecture	Quiz

4	2	Theoretical lecture	Create and manipulate tables in Excel	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Identify the types of data that can be entered into Excel cells	A lecture	Quiz
7	2	Theoretical lecture	Writing equations in Excel	A lecture	Quiz
8	2	Theoretical lecture	Ready-made formulas	A lecture	Quiz
9	2	Theoretical lecture	Types of functions in Excel	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	How to write a function and get results	A lecture	Quiz
12	2	Theoretical lecture	Practical applications	A lecture	Quiz
13	2	Theoretical lecture	Table and text formats	A lecture	Quiz
14	2	Theoretical lecture	Search, replace and alphabetize	A lecture	Quiz
15	2	Theoretical lecture	Practical applications	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Computer and its office applications
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	https://eme.uotechnology.edu.iq/index.php/ar/9-explore/359-2017-12-02-12-35-17

1. Course Name:

Genetics
2. Course Code:
002420
3. Semester / Year:
The second stage/Spring semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name: Ass. Prof. Dr. Hadi Awad Hsooni Email: hadiawad@mu.edu.iq

8. Course Objectives

Course Objectives	**Identify the concept of genetics. Identify Mendel's laws. Identifying dominance, its types, and genetic mutations.**

9. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Mendelian inheritance	A lecture	Quiz
2	2	Theoretical lecture	Mendel's experiments	A lecture	Quiz
3	2	Theoretical lecture	Mendel's first law	A lecture	Quiz
4	2	Theoretical lecture	Mendel's second law	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Phenotype and genotype	A lecture	Quiz
7	2	Theoretical lecture	Sovereignty	A lecture	Quiz
8	2	Theoretical lecture	Types of sovereignty	A lecture	Quiz
9	2	Theoretical lecture	Building DNA	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam

11	2	Theoretical lecture	Genetic code	A lecture	Quiz
12	2	Theoretical lecture	Types of DNA	A lecture	Quiz
13	2	Theoretical lecture	DNA work	A lecture	Quiz
14	2	Theoretical lecture	Chromosomes	A lecture	Quiz
15	2	Theoretical lecture	Types of mutations	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Genetics Abbas Hassan Mughir
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	https://nesiller.com/ar/

1. Course Name:

Fodder crops and pastures

2. Course Code:

0C2402

3. Semester / Year:

The second stage/Spring semester

4. Description Preparation Date:

26/2/2024

5. Available Attendance Forms:

Presence

6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name: Ass. Prof. Dr. Mahmood Thamir Abd Email: Mohmoodth999@mu.edu.iq

8. Course Objectives	
Course Objectives	**Learn about field crop science. Know the principles of this plant science** **The importance of this science and identifying the most important plant families…** **Study of fodder crop outputs**

9. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	The importance of livestock and the importance of fodder crops in meeting this need	A lecture	Quiz
2	2	Theoretical lecture	Factors affecting feed production and quality	A lecture	Quiz
3	2	Theoretical lecture	Production of leguminous fodder crops	A lecture	Quiz
4	2	Theoretical lecture	(importance...production...conditions). Clover (same as alfalfa)	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	(hartman, karat, kakooz) same vocabulary	A lecture	Quiz
7	2	Theoretical lecture	Production of cereal crops (yellow corn), the importance of which includes fodder production, is the basis of production	A lecture	Quiz
8	2	Theoretical lecture	Sorghum and Sudanese hashish (same vocabulary	A lecture	Quiz
9	2	Theoretical lecture	Barley, oats, millet(importance/production/feed uses)	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Concentrated feed materials and their importance in nutrition	A lecture	Quiz
12	2	Theoretical	Feed mixtures (definition, importance,	A lecture	Quiz

		lecture	types		
13	2	Theoretical lecture	Drees definition and importance	A lecture	Quiz
14	2	Theoretical lecture	Silage definition and importance	A lecture	Quiz
15	2	Theoretical lecture	Important pastures and their types	A lecture	Quiz

11. Co2urse Evaluation
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Fodder crops/Hamid Kharbit
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	https://nesiller.com/ar/

1. Course Name:
Fish rearing and production
2. Course Code:
002420
3. Semester / Year:
The second stage/Spring semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name: Ass. Prof. Dr. Hadi Awad Hsooni Email: hadiawad@mu.edu.iq

8. Course Objectives

Course Objectives	1- Identify the basic principles of fish. 2- Identifying fish species in different environments. 3- Enabling students to understand the material and methods of fish farming. 4- Enable students to know how fish grow and how to estimate their age. 5- Enabling students to apply some practical matters related to fish basics inside the laboratory

9. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	A brief history of fish Introduction to fish species and families	A lecture	Quiz
2	2	Theoretical lecture	Features of fish	A lecture	Quiz
3	2	Theoretical lecture	Fish shapes and abnormal shapes Scientific	A lecture	Quiz
4	2	Theoretical lecture	classification of fish	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Water – the presence of water in the life of fish	A lecture	Quiz
7	2	Theoretical lecture	The external appearance of the fish	A lecture	Quiz
8	2	Theoretical lecture	Life history of fish	A lecture	Quiz
9	2	Theoretical lecture	Embryology in fish	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Food and nutrition	A lecture	Quiz
12	2	Theoretical lecture	Natural food for fish	A lecture	Quiz
13	2	Theoretical lecture	Age and growth in fish	A lecture	Quiz
14	2	Theoretical lecture	Fertility in fish	A lecture	Quiz
15	2	Theoretical lecture	Fish water pollution	A lecture	Quiz

11. Co2urse Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as

daily preparation, daily oral, monthly, or written exams, reports .... etc	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Principles of Fish by Dr. Sufyan Al-Nasiri 2000
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	https://nesiller.com/ar/

1. Course Name:	
Dairy science	
2. Course Code:	
002120	
3. Semester / Year:	
The second stage/Spring semester	
4. Description Preparation Date:	
26/2/2024	
5. Available Attendance Forms:	
Presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 theoretical hours and 3 practical hours. Number of units: 3	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Lecturer Basim Fouad Shakir Email: basimshakir@mu.edu.iq	
8. Course Objectives	
Course Objectives	Knowledge of the analytical method and its use in understanding the basic components of milk. •Study and analyze the major and minor components of milk •The effect of thermal treatments on milk and its components • The effect of each of the components on the manufacturing processes of milk derivatives

9. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Definition of milk and its nutritional components	A lecture	Quiz
2	2	Theoretical lecture	Milk ingredients	A lecture	Quiz
3	2	Theoretical lecture	Milk proteins	A lecture	Quiz
4	2	Theoretical lecture	Milk fat	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Milk sugar	A lecture	Quiz
7	2	Theoretical lecture	Health requirements	A lecture	Quiz
8	2	Theoretical lecture	Must be available in Dairy factories	A lecture	Quiz
9	2	Theoretical lecture	Milk enzymes mammary gland	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Microbiology in Milk and dairy products	A lecture	Quiz
12	2	Theoretical lecture	Cheese	A lecture	Quiz
13	2	Theoretical lecture	Yogurt	A lecture	Quiz
14	2	Theoretical lecture	Butter	A lecture	Quiz
15	2	Theoretical lecture	Treatment of milk in Dairy factories	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Dairy principles / Dr. Jasem Mohammed
Main references (sources)	Scientific journals and articles
Recommended books and references (scientific journals, reports…)	Specialized books in the field of dairy scie and its products, General dairy principles
Electronic References, Websites	Electronic scientific websites specialized studying Milk and its processing

1. Course Name:
Principles of agricultural economics
2. Course Code:
0C2002
3. Semester / Year:
The second stage/Spring semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours. Number of units: 2
7. Course administrator's name (mention all, if more than one name)
Name: Ass. Prof. Dr. Haider Hameed Blaw Email: haiderblaw@mu.edu.iq
8. Course Objectives

Course Objectives	Knowledge of economics and the role of agricultural activity in the national economy, agricultural marketing and financing as well as agricultural policy

9. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	A general introduction to agricultural	A lecture	Quiz

			economics		
2	2	Theoretical lecture	Agriculture and its characteristics	A lecture	Quiz
3	2	Theoretical lecture	The role of agricultural activity in the national economy	A lecture	Quiz
4	2	Theoretical lecture	Economics of agricultural production	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Agricultural marketing	A lecture	Quiz
7	2	Theoretical lecture	Agricultural prices	A lecture	Quiz
8	2	Theoretical lecture	Farm management	A lecture	Quiz
9	2	Theoretical lecture	Agricultural cooperation	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Agricultural finance	A lecture	Quiz
12	2	Theoretical lecture	Agricultural policy	A lecture	Quiz
13	2	Theoretical lecture	Agricultural planning	A lecture	Quiz
14	2	Theoretical lecture	Agricultural development	A lecture	Quiz
15	2	Theoretical lecture	Agricultural costs	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Introduction to agricultural economics Abdul Sahib Alwan
Main references (sources)	Scientific journals and articles
Recommended books and references (scientific journals, reports…)	Specialized books in the field of agricultural economics principles
Electronic References, Websites	Electronic scientific websites specialized studying

1. Course Name:
Principles of agricultural extension
2. Course Code:
0C2002
3. Semester / Year:
The second stage/Spring semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours. Number of units: 2
7. Course administrator's name (mention all, if more than one name)
Name: Ass. Prof. Dr. Haider Hameed Blaw Email: haiderblaw@mu.edu.iq
8. Course Objectives

Course Objectives	Knowledge of agricultural extension, functions of extension administrative organization, extension methods and field clarification

9. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Definition of guidance and mentioning its principles	A lecture	Quiz
2	2	Theoretical lecture	Objectives of agricultural extension	A lecture	Quiz
3	2	Theoretical lecture	Functions of the administrative organization of agricultural extension	A lecture	Quiz
4	2	Theoretical lecture	Agricultural extension organization in Iraq	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam

6	2	Theoretical lecture	Communication as a social, educational and guidance process	A lecture	Quiz
7	2	Theoretical lecture	Agricultural extension methods	A lecture	Quiz
8	2	Theoretical lecture	General rules for using heuristic methods	A lecture	Quiz
9	2	Theoretical lecture	Types of individual counseling methods	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Group counseling methods	A lecture	Quiz
12	2	Theoretical lecture	Field clarification and its types	A lecture	Quiz
13	2	Theoretical lecture	Advantages and disadvantages of field clarification types	A lecture	Quiz
14	2	Theoretical lecture	Field day and its benefits	A lecture	Quiz
15	2	Theoretical lecture	Mass communication methods	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Agricultural extension science Abdullah Al-Samarrai and Adnan Hussein Al-Jadri
Main references (sources)	Scientific journals and articles
Recommended books and references (scientific journals, reports…)	Specialized books in the field of agricultural extension principles
Electronic References, Websites	Electronic scientific websites specialized studying

Course Description Form (Third class)

229. Course Name:
Animal Physiology
230. Course Code:
001130
231. Semester / Year:
The third stage/autumn semester
232. Description Preparation Date:
26/2/2024
233. Available Attendance Forms:
Presence
234. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
235. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr. Ahmed Jawad Al-Yaseri Email: ahmedyaseri@mu.edu.iq
236. Course Objectives

Course Objectives	• **1- Identify the concept of animal physiology.** • **2- Recognizing the importance of physiology and its relationship to the health and safety of agricultural animals.** • **3- The concept of thermal equilibrium and its relationship to performance of functions.** • **4- Identify the functions of the body's organs and systems.** • **5- Identifying the mechanisms of protecting agricultural animals from heat stress and dysfunction.** • **6- Identify the physiology of the bodily systems.**

237. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

238. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Concepts of animal physiology	A lecture	Quiz
2	2	Theoretical lecture	Thermal effect and	A lecture	Quiz

			performance of functions		
3	2	Theoretical lecture	Cell physiology	A lecture	Quiz
4	2	Theoretical lecture	Tissue physiology	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Blood physiology	A lecture	Quiz
7	2	Theoretical lecture	Physiology of the skeletal system	A lecture	Quiz
8	2	Theoretical lecture	Physiology of the nervous system	A lecture	Quiz
9	2	Theoretical lecture	Muscular system physiology	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Physiology of the cardiovascular system	A lecture	Quiz
12	2	Theoretical lecture	Physiology of the circulatory and lymphatic system	A lecture	Quiz
13	2	Theoretical lecture	Respiratory system physiology	A lecture	Quiz
14	2	Theoretical lecture	Digestive system physiology	A lecture	Quiz
15	2	Theoretical lecture	Physiology of the genitourinary system	A lecture	Quiz

239. Co2urse Evaluation
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

240. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Animal physiology Dr. Dhia Hassan Al-Hassani and Dr. Sadiq Al-Hiti
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

241. Course Name:
Design and analysis of agricultural experiments
242. Course Code:

0C1430
243. Semester / Year:
The third stage/autumn semester
244. Description Preparation Date:
26/2/2024
245. Available Attendance Forms:
Presence
246. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
247. Course administrator's name (mention all, if more than one name)
Name: Ass. Prof. Dr. Hadi Awad Hsooni Email: hadiawad@mu.edu.iq
248. Course Objectives

Course Objectives	**Informing the student that there are areas that depend on conducting experiments, and these experiments must be designed on scientific foundations** *** When analyzing experiments, it is done according to scientific methods and logical steps** *** Upon obtaining accurate results of the experiment, it leads us to make the appropriate decision** *** Introducing the student to many types of designs, as each experiment has a specific design** *** Introducing the student to how to test the significance of each mathematical model.**

249. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

250. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	A historical overview of statistics, definition of statistics, division of statistics	A lecture	Quiz
2	2	Theoretical lecture	Measures of central tendency, measures of centralization	A lecture	Quiz
3	2	Theoretical lecture	Measures of dispersion	A lecture	Quiz
4	2	Theoretical lecture	Hypothesis testing,	A lecture	Quiz

			statistical errors, hypothesis t-test		
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Chi-square test	A lecture	Quiz
7	2	Theoretical lecture	General concepts and definitions in designing and analyzing experiments,	A lecture	Quiz
8	2	Theoretical lecture	Types of agricultural experiments, complete randomized design	A lecture	Quiz
9	2	Theoretical lecture	lsd test	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Randomized complete block design	A lecture	Quiz
12	2	Theoretical lecture	Duncan's test	A lecture	Quiz
13	2	Theoretical lecture	Latin square design	A lecture	Quiz
14	2	Theoretical lecture	Global experiments	A lecture	Quiz
15	2	Theoretical lecture	Factorial experiments with two factors	A lecture	Quiz

251. Co2urse Evaluation

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

252. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Design and analysis of experiments - Khasha Al-Rawi and Khalaf Allah 2000
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:

Economics of animal production

2. Course Code:

0C1530

3. Semester / Year:

The third stage/autumn semester

4. Description Preparation Date:

26/2/2024

5. Available Attendance Forms:

Presence

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

2 theoretical hours and. Number of units: 2

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

Name: Ass. Prof. Dr. Haider Hamid Blaw
Email: haiderblaw@mu.edu.iq

8. Course Objectives

Course Objectives	**Teaching the student about economics and knowledge of the relationships between resources and agricultural production**

9. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Introductory topics on economics	A lecture	Quiz
2	2	Theoretical lecture	Agricultural Production	A lecture	Quiz
3	2	Theoretical lecture	Relationships between resources and agricultural production	A lecture	Quiz
4	2	Theoretical lecture	Price relationships and testing indicators	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Production relations are in more use	A lecture	Quiz
7	2	Theoretical lecture	Optimum pivotal combination and cost reduction	A lecture	Quiz
8	2	Theoretical lecture	Distribution of resources between production projects	A lecture	Quiz
9	2	Theoretical lecture	Production costs of projects	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Agricultural costs	A lecture	Quiz
12	2	Theoretical lecture	Agricultural cost curves	A lecture	Quiz
13	2	Theoretical lecture	Statistical estimation of	A lecture	Quiz

			agricultural costs		
14	2	Theoretical lecture	Economics of fodder and natural pastures	A lecture	Quiz
15	2	Theoretical lecture	Marketing animal products	A lecture	Quiz

11. Co2urse Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Animal production economics Salem Tawfiq Al-Najafi
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:
Animal nutrition
2. Course Code:
001103
3. Semester / Year:
The third stage/autumn semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr. Abbas Salim Hussain

Email: habbashussain@mu.edu.iq

8. Course Objectives

Course Objectives	**Teaching the student about animal nutrition, the most important food elements are carbohydrates, proteins, vitamins and mineral elements.**

9. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Animal body and food	A lecture	Quiz
2	2	Theoretical lecture	Installation of plants and their products	A lecture	Quiz
3	2	Theoretical lecture	Water and its importance in nutrition	A lecture	Quiz
4	2	Theoretical lecture	Carbohydrates: definition, classification and composition	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Carbohydrates digestion, absorption and assimilation	A lecture	Quiz
7	2	Theoretical lecture	Carbohydrate microbial digestion	A lecture	Quiz
8	2	Theoretical lecture	Fats: definition, classification and composition	A lecture	Quiz
9	2	Theoretical lecture	Fat digestion, absorption and assimilation	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Proteins: their definition, classification, and structure	A lecture	Quiz
12	2	Theoretical lecture	Proteins digestion, absorption and assimilation	A lecture	Quiz
13	2	Theoretical lecture	Modern techniques in estimating animal needs	A lecture	Quiz
14	2	Theoretical lecture	Microbial protein proteins	A lecture	Quiz
15	2	Theoretical lecture	Vitamins and mineral elements and their importance	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Farm animal nutrition and feed industry Mr. Dr. Muhammad Ali Makki Al-Rubaie
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:

Medical and veterinary insects

2. Course Code:

0C1203

3. Semester / Year:

The third stage/autumn semester

4. Description Preparation Date:

26/2/2024

5. Available Attendance Forms:

Presence

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

2 theoretical hours and 3 practical hours. Number of units: 3

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

Name: Prof. Dr. Ahmed Jawad Al-Yaseri
Email: ahmedyaseri@mu.edu.iq

8. Course Objectives

Course Objectives	**Identify the concept of medical and veterinary entomology. Identify the medical importance of various types of insects of medical and veterinary importance. The concept of disease infection of humans and animals resulting from insects. Identifying disease signs and disease course mechanisms. Identifying the mechanisms for protecting agricultural animals and humans from diseases and preventing them. Identify methods of prevention and control**

	of insects.

9. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Concepts of health and illness	A lecture	Quiz
2	2	Theoretical lecture	Definitions of insects and their effects	A lecture	Quiz
3	2	Theoretical lecture	Classification of insects and types of transport	A lecture	Quiz
4	2	Theoretical lecture	Cockroaches	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	bed bugs	A lecture	Quiz
7	2	Theoretical lecture	Fleas	A lecture	Quiz
8	2	Theoretical lecture	Sucking and biting lice	A lecture	Quiz
9	2	Theoretical lecture	Mosquitoes	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Sand flies	A lecture	Quiz
12	2	Theoretical lecture	Houseflies	A lecture	Quiz
13	2	Theoretical lecture	Black flies	A lecture	Quiz
14	2	Theoretical lecture	Horse flies	A lecture	Quiz
15	2	Theoretical lecture	Coding and its types	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Textbook of medical and veterinary entomology Dr. Jalil Abu Al-Hob
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:
Hatching and hatchery management
2. Course Code:
001130
3. Semester / Year:
The third stage/autumn semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr. Ibrahim Fadhil Baidi Email: ibrahimfadhil@mu.edu.iq
8. Course Objectives

Course Objectives	**Introducing the student to hatching, the components of the hatching process, hatching methods, evaluating the quality of the hatched chicks and the economic feasibility of the hatchery factories.**

9. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	History of artificial hatching and its	A lecture	Quiz

			development		
2	2	Theoretical lecture	Male reproductive system	A lecture	Quiz
3	2	Theoretical lecture	The female reproductive system	A lecture	Quiz
4	2	Theoretical lecture	Treatment of hatching eggs	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Ingredients of the hatching process	A lecture	Quiz
7	2	Theoretical lecture	Stages of embryonic developmen	A lecture	Quiz
8	2	Theoretical lecture	Bio-monitoring during the hatching process	A lecture	Quiz
9	2	Theoretical lecture	Spawning methods	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Types of hatcheries	A lecture	Quiz
12	2	Theoretical lecture	Health management of hatcheries	A lecture	Quiz
13	2	Theoretical lecture	Sources of hatching eggs	A lecture	Quiz
14	2	Theoretical lecture	Identifying and evaluating the quality of hatched chicks	A lecture	Quiz
15	2	Theoretical lecture	Economic feasibility of hatchery plants	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Hatching and hatchery management Reda Al-Zajji
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:
English language3
2. Course Code:
001130
3. Semester / Year:
The third stage/autumn semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours. Number of units: 2
7. Course administrator's name (mention all, if more than one name)
Name: Dr Ahmed Resan Mohammed Ali Email: ahmedresan@mu.edu.iq
8. Course Objectives

Course Objectives	**Introducing the student to how to create a question in English and how to conduct dialogues.**

9. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	How to create a question	A lecture	Quiz
2	2	Theoretical lecture	Dialogues when meeting	A lecture	Quiz
3	2	Theoretical lecture	Talking about work and its types	A lecture	Quiz
4	2	Theoretical lecture	How do we spend our free time and vacations?	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Where you live using the phrases There is/There are	A lecture	Quiz
7	2	Theoretical lecture	Cabulary and Pronunciation	A lecture	Quiz
8	2	Theoretical lecture	Meeting people	A lecture	Quiz
9	2	Theoretical lecture	The world of work	A lecture	Quiz

10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Take it easy	A lecture	Quiz
12	2	Theoretical lecture	Where do you live	A lecture	Quiz
13	2	Theoretical lecture	Reading and Speaking	A lecture	Quiz
14	2	Theoretical lecture	Reading and Speaking	A lecture	Quiz
15	2	Theoretical lecture	Reading and Speaking	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Writing Academic English, Level 3 by Alice Oshima
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:
Hatching and hatchery management
2. Course Code:
001130
3. Semester / Year:
The third stage/autumn semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)

2 theoretical hours. Number of units: 2

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

Name: Lecturer Alaa Saleh Jassim
Email: alaasaleh@mu.edu.iq

8. Course Objectives

Course Objectives	**Introducing the student to ecology, the role of the environment in animal life, the behaviors of farm animals and methods of communication between animals.**

9. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	The concept of ecology and its divisions, the importance of animals in the ecosystem	A lecture	Quiz
2	2	Theoretical lecture	The role of the environment in animal life, adaptation and acclimatization of animals, and the stages of environmental adaptation	A lecture	Quiz
3	2	Theoretical lecture	Mechanisms of regulating body temperature, environmental effects on farm animals	A lecture	Quiz
4	2	Theoretical lecture	Animal behavior and behavior, scientific goals for studying animal behavior	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Farm animal behaviour, effect and response theory	A lecture	Quiz
7	2	Theoretical lecture	The relationship of the endocrine and nervous systems to behavior	A lecture	Quiz
8	2	Theoretical lecture	Regulating intelligence and behavior in animals	A lecture	Quiz
9	2	Theoretical lecture	Aggressive behavior and theories explaining it	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Definition of motivation,	A lecture	Quiz

			motive, and incentive		
12	2	Theoretical lecture	Physiology of feeding and drinking motivation and migration motivation	A lecture	Quiz
13	2	Theoretical lecture	Heat loss methods	A lecture	Quiz
14	2	Theoretical lecture	Ways of communication between animals	A lecture	Quiz
15	2	Theoretical lecture	Genetics and its effect on animal behavior	A lecture	Quiz

11. Co2urse Evaluation
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Animal behavior Talal Youssef Boutros and Diaa Khalil Ibrahim
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:
Feed and Feed stuff
2. Course Code:
002130
3. Semester / Year:
The third stage/ Spring semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr. Abbas salim Hussain

Email: abbashussain@mu.edu.iq

8. Course Objectives

Course Objectives	**Identify the concept of animal feed. Identifying coarse and concentrated feed. The concept of digestion. Estimation of digestibility. Digestibility factor tests. Identify methods for collecting feed samples.**

9. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Feed defined	A lecture	Quiz
2	2	Theoretical lecture	System protein old and new	A lecture	Quiz
3	2	Theoretical lecture	Complete raw material	A lecture	Quiz
4	2	Theoretical lecture	Mansur disgusting	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Factor of disgusting	A lecture	Quiz
7	2	Theoretical lecture	examination	A lecture	Quiz
8	2	Theoretical lecture	Metabolism	A lecture	Quiz
9	2	Theoretical lecture	Food energy	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Factors of measure energy	A lecture	Quiz
12	2	Theoretical lecture	Different of energy maintenance	A lecture	Quiz
13	2	Theoretical lecture	heatincreamnt	A lecture	Quiz
14	2	Theoretical lecture	examination	A lecture	Quiz
15	2	Theoretical lecture	Net energy	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Book food and feed Dr. Mohammad Riyadh,2002
Main references (sources)	From methodological books, help books, the Internet, and scientific research

Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:
Poultry Physiology
2. Course Code:
002130
3. Semester / Year:
The third stage/ Spring semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name: Ass. Prof. Dr. Saad Atalah Abdul-Sadda Email: saadats@mu.edu.iq
8. Course Objectives

Course Objectives	**Identify the concept of animal feed. Identifying coarse and concentrated feed. The concept of digestion. Estimation of digestibility. Digestibility factor tests. Identify methods for collecting feed samples.**
9. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Body fluids blood	A lecture	Quiz
2	2	Theoretical lecture	The process of forming red blood cells (RBC).	A lecture	Quiz
3	2	Theoretical lecture	The process of forming white blood cells (WBC).	A lecture	Quiz
4	2	Theoretical lecture	Lymphatic system	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Cardiac circulatory system	A lecture	Quiz
7	2	Theoretical lecture	Respiratory system	A lecture	Quiz
8	2	Theoretical lecture	The process of gas exchange in the lungs	A lecture	Quiz
9	2	Theoretical lecture	Thermoregulation device	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Urinary system	A lecture	Quiz
12	2	Theoretical lecture	The process of filtration of urine in the kidneys	A lecture	Quiz
13	2	Theoretical lecture	Digestive system Female reproductive system	A lecture	Quiz
14	2	Theoretical lecture	Male reproductive system	A lecture	Quiz
15	2	Theoretical lecture	Endocrine	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Poultry physiology Diaa Al-Hassani
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:
Animal breeding
2. Course Code:
002130
3. Semester / Year:
The third stage/ Spring semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name:. Dr. Ahmed Resan Mohammed Ali Email: ahmedreasn@mu.edu.iq
8. Course Objectives

Course Objectives	**Introducing the student to the foundations of animal breeding and improvement, types of selection, and internal and external breeding.**

9. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Foundations of animal breeding and improvement	A lecture	Quiz
2	2	Theoretical lecture	Definition of breed	A lecture	Quiz
3	2	Theoretical lecture	Types of genetic environmental variation	A lecture	Quiz
4	2	Theoretical lecture	Gene frequency and factors affecting it	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Genetic equivalent genetic variation	A lecture	Quiz
7	2	Theoretical lecture	Iterative factor	A lecture	Quiz

8	2	Theoretical lecture	Identical twins and estimation of genetic equivalence	A lecture	Quiz
9	2	Theoretical lecture	Election Types of election	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Single selection repeated views	A lecture	Quiz
12	2	Theoretical lecture	Methods of selection for more than one trait	A lecture	Quiz
13	2	Theoretical lecture	Inbreeding	A lecture	Quiz
14	2	Theoretical lecture	Outbreeding	A lecture	Quiz
15	2	Theoretical lecture	Managing stations using computers	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Animal Breeding Salah Jalal and Hassan Karam
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:

Poultry products technology

2. Course Code:

002130

3. Semester / Year:

The third stage/ Spring semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name:. Prof. Dr. Ibrahim Fadhil Baidi Email: ibrahimfadhil@mu.edu.iq
8. Course Objectives

Course Objectives	**Introducing the student to the importance of the poultry industry and knowing the nutritional value of poultry products, whether eggs or meat.**

9. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Poultry industry in Iraq	A lecture	Quiz
2	2	Theoretical lecture	Nutritional value of eggs	A lecture	Quiz
3	2	Theoretical lecture	Chemistry of eggs and egg products	A lecture	Quiz
4	2	Theoretical lecture	Egg microbiology	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Egg storage and marketing	A lecture	Quiz
7	2	Theoretical lecture	Functional properties of eggs	A lecture	Quiz
8	2	Theoretical lecture	Chemical and nutritional properties	A lecture	Quiz
9	2	Theoretical lecture	Meat preparation operations	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Quality of poultry meat	A lecture	Quiz
12	2	Theoretical lecture	Storing poultry meat	A lecture	Quiz
13	2	Theoretical lecture	Microbiology	A lecture	Quiz
14	2	Theoretical lecture	Cooking methods, flavor and tenderness	A lecture	Quiz
15	2	Theoretical lecture	Sensory tests	A lecture	Quiz

11. Co2urse Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Poultry products technology Hamdy Al-Fayyadh and Saad Abdul-Hussain Naji
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:
Animal disease
2. Course Code:
002103
3. Semester / Year:
The third stage/ Spring semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)

Name:. Prof. Dr. Ibrahim Fadhil Baidi
Email: ibrahimfadhil@mu.edu.iq

8. Course Objectives

Course Objectives	**1- Identify the Principles of Animals Diseases.** **2- Identifying Medical Important of Different Medical Disease .** **3- Diseases Affected By Microbes Harmful Signs in Farm Animals .** **4- Identify the Pathological Signs and Pathogenesis .** **5- Treatments and Prophylaxes of Microbes Diseases .** **6- Identify methods for Insecticides and Disinfection .**

9. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Health and Disease Principles	A lecture	Quiz
2	2	Theoretical lecture	Definition Animals Diseases and Effect	A lecture	Quiz
3	2	Theoretical lecture	Animals Diseases Classification and Etiology	A lecture	Quiz
4	2	Theoretical lecture	Treatments and Vaccine And Vaccination	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Viral Cattle Diseases	A lecture	Quiz
7	2	Theoretical lecture	examination	A lecture	Quiz
8	2	Theoretical lecture	Microbial Cattle Diseases	A lecture	Quiz
9	2	Theoretical lecture	Viral Sheep and Goat Diseases	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Other Sheep and Goat Diseases	A lecture	Quiz
12	2	Theoretical lecture	Zoonotic Diseases	A lecture	Quiz
13	2	Theoretical lecture	Camel Disease	A lecture	Quiz
14	2	Theoretical lecture	examination	A lecture	Quiz
15	2	Theoretical lecture	Digestion Disease	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Animals Diseases Dr. Murtada Abd Al-Atabbi
Main references (sources)	From methodological books, help books, the Internet, and scientific research

Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:					
Physiology of reproduction					
2. Course Code:					
002130					
3. Semester / Year:					
The third stage/ Spring semester					
4. Description Preparation Date:					
26/2/2024					
5. Available Attendance Forms:					
Presence					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2 theoretical hours and 3 practical hours. Number of units: 3					
7. Course administrator's name (mention all, if more than one name)					
Name:. Ass. Prof. Dr. Ghasan Sameer Dehirab Email: ghasansameer@mu.edu.iq					
8. Course Objectives					
Course Objectives	**Learn about reproduction and related hormones, sexual maturity, sperm and egg transfer, fertilization, pregnancy and childbirth.**				
9. Teaching and Learning Strategies					
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories				
10. Course Structure					
Week	**Hours**	**Required Learning**	**Unit or subject name**	**Learning**	**Evaluation**

		Outcomes		method	method
1	2	Theoretical lecture	Reproduction, hormone secretion	A lecture	Quiz
2	2	Theoretical lecture	Hormones related to reproduction	A lecture	Quiz
3	2	Theoretical lecture	The pituitary gland	A lecture	Quiz
4	2	Theoretical lecture	Sex hormones	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Reproductive hormones a non-steroidal	A lecture	Quiz
7	2	Theoretical lecture	Sexual maturity	A lecture	Quiz
8	2	Theoretical lecture	The mechanism of puberty	A lecture	Quiz
9	2	Theoretical lecture	Estrus cycle	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Types of sexual courses	A lecture	Quiz
12	2	Theoretical lecture	Transfer of sperm and ova	A lecture	Quiz
13	2	Theoretical lecture	Fertilization and pregnancy	A lecture	Quiz
14	2	Theoretical lecture	Fertilization and pregnancy	A lecture	Quiz
15	2	Theoretical lecture	Birth	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Physiology of reproduction Mutadha Al-Hakeem
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

Course Description Form (Fourth class)

253. Course Name:
Poultry Nutrition
254. Course Code:
001140
255. Semester / Year:
The fourth stage/autumn semester
256. Description Preparation Date:
26/2/2024
257. Available Attendance Forms:
Presence
258. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
259. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr. Abbas Salim Hussain Email: abbashussian@mu.edu.iq
260. Course Objectives

Course Objectives	**Recognizing the importance of poultry nutrition, the elements of nutrition represented by energy, proteins, minerals, digestion and metabolism.**

261. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

262. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Energy: its sources, division, and factors	A lecture	Quiz
2	2	Theoretical lecture	Proteins, their types and classification	A lecture	Quiz
3	2	Theoretical lecture	Proteins and factors affecting them	A lecture	Quiz
4	2	Theoretical lecture	Vitamins, their classification and factors affecting them	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Minerals are classified as	A lecture	Quiz

			their influence increases		
7	2	Theoretical lecture	Water, its importance, functions and sources	A lecture	Quiz
8	2	Theoretical lecture	Digestion and metabolism	A lecture	Quiz
9	2	Theoretical lecture	Final products of digestion	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Primary feed resources	A lecture	Quiz
12	2	Theoretical lecture	Vitamins, mineral elements and additives	A lecture	Quiz
13	2	Theoretical lecture	Feed concentrates, mixtures and their supplies	A lecture	Quiz
14	2	Theoretical lecture	Feed production and manufacturing	A lecture	Quiz
15	2	Theoretical lecture	Laboratory maintenance and relationship formation	A lecture	Quiz

263. Co2urse Evaluation

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

264. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Poultry nutrition Ali Al-Yassin and Muhammad Hassan Abdel Abbas
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:

Poultry Breeding

2. Course Code:

001140

3. Semester / Year:

The fourth stage/autumn semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Ahmed Resan Mohammed Ali Email: ahmedresan@mu.edu.iq
8. Course Objectives

Course Objectives	**Learn about the development of the science of breeding and improving poultry birds, genetics related to skin color and feather color, population genetics and how to estimate the genetic parameters of the population.**

9. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Development of the science of poultry breeding and improvement	A lecture	Quiz
2	2	Theoretical lecture	General principles of genetics	A lecture	Quiz
3	2	Theoretical lecture	Sex-linked genetics	A lecture	Quiz
4	2	Theoretical lecture	Lethal genes	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Inheritance of skin color and feather traits	A lecture	Quiz
7	2	Theoretical lecture	Inheritance of crest shape and deformed legs	A lecture	Quiz
8	2	Theoretical lecture	Clan inheritance	A lecture	Quiz
9	2	Theoretical lecture	Estimating the genetic parameters of the clan	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Genetic equivalent	A lecture	Quiz

12	2	Theoretical lecture	Genetic association	A lecture	Quiz
13	2	Theoretical lecture	Selection	A lecture	Quiz
14	2	Theoretical lecture	Mating systems	A lecture	Quiz
15	2	Theoretical lecture	Inbreeding	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Poultry Breeding Nahil Mohammed Ali
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:

Sheep and Goat Production

2. Course Code:

001104

3. Semester / Year:

The fourth stage/autumn semester

4. Description Preparation Date:

26/2/2024

5. Available Attendance Forms:

Presence

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

2 theoretical hours and 3 practical hours. Number of units: 3

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

Name: Ass. Prof. Dr. Ghasan Smeer Dehirb
Email: ghasansmeer@mu.edu.iq

8. Course Objectives

Course Objectives	**Recognizing the economic importance of raising sheep and goats, reproduction in sheep and goats, producing wool and hair, and establishing lamb fattening projects.**

9. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	The economic importance of raising sheep and goats	A lecture	Quiz
2	2	Theoretical lecture	Classification of sheep and goats	A lecture	Quiz
3	2	Theoretical lecture	Feeding sheep and goats	A lecture	Quiz
4	2	Theoretical lecture	Reproduction in sheep	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Reproduction in goats	A lecture	Quiz
7	2	Theoretical lecture	Growth and production of red meat	A lecture	Quiz
8	2	Theoretical lecture	Red meat production patterns	A lecture	Quiz
9	2	Theoretical lecture	Wool and hair production	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Milk production	A lecture	Quiz
12	2	Theoretical lecture	Intensive production	A lecture	Quiz
13	2	Theoretical lecture	Breastfeeding and weaning of lambs	A lecture	Quiz
14	2	Theoretical lecture	Use milk substitutes	A lecture	Quiz
15	2	Theoretical lecture	Establishing lamb fattening projects	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Sheep and Goat Production

	Zuhair Fakhri Al-Jalili
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:
Meat Production
2. Course Code:
001104
3. Semester / Year:
The fourth stage/autumn semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Saad Kadhum Jabbar Email: saadkadhum@mu.edu.iq
8. Course Objectives

Course Objectives	**Identify the concept of meat production. Learn how to manage agricultural fields and how to conduct the necessary daily field operations. Identifying the types and concepts of meat production and the differences between the modern and ancient concept of meat production. Discussing the agricultural problems that**

	hinder the development of meat production in the Arab world and Iraq and ways to develop them.

9. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	The concept of meat production (traditional and modern concept)	A lecture	Quiz
2	2	Theoretical lecture	Biological axes of meat production and how to express them	A lecture	Quiz
3	2	Theoretical lecture	The reality of meat production and consumption in Iraq and the Arab world	A lecture	Quiz
4	2	Theoretical lecture	Challenges facing the red meat production sector	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Animal husbandry patterns for red meat production	A lecture	Quiz
7	2	Theoretical lecture	Growth and development of a meat animal and the changes that occur from the fetal stage until maturity	A lecture	Quiz
8	2	Theoretical lecture	Marketing class	A lecture	Quiz
9	2	Theoretical lecture	Factors affecting growth	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Optimal investment for efficient red meat production	A lecture	Quiz
12	2	Theoretical lecture	Composition of carcasses and slaughtering ratio	A lecture	Quiz
13	2	Theoretical lecture	Techniques used to measure the quantity and quality of meat in a live animal	A lecture	Quiz
14	2	Theoretical lecture	Genetic variation for traits required in plans to improve meat production	A lecture	Quiz
15	2	Theoretical lecture	Hormones important in the growth and development of	A lecture	Quiz

			meat protein		

11. Co2urse Evaluation
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Meat Production Majid Basheer Al-Aswad
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:
Poultry Management and Production
2. Course Code:
001104
3. Semester / Year:
The fourth stage/autumn semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr. Jassim Kassim Menati Email: jasimiraqe@mu.edu.iq
8. Course Objectives

Course Objectives	**Recognizing the importance of poultry projects. Identify the types of poultry housing. Learn about the management and production of broiler chickens. Focus on the management and production of laying hens. Obligatory baldness identification. Familiarity with non-traditional education methods.**

9. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups

	4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Poultry science and the concept of poultry project management	A lecture	Quiz
2	2	Theoretical lecture	The importance of poultry projects (egg and meat production projects)	A lecture	Quiz
3	2	Theoretical lecture	The internal organs of the chicken and their functions (digestive, male and female reproductive, and components of the egg)	A lecture	Quiz
4	2	Theoretical lecture	Types of poultry housing and breeding supplies	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Management and production of broilers (types of modern breeds and their specifications, incubation and care of chicks)	A lecture	Quiz
7	2	Theoretical lecture	Management and production of broilers (breeding and care of broilers, rearing systems, feeding broilers and types of diets, marketing broilers, meat preparation processes in slaughterhouses)	A lecture	Quiz
8	2	Theoretical lecture	Management and production of laying hens (types of modern breeds and their specifications, incubation and care of laying hens)	A lecture	Quiz
9	2	Theoretical lecture	Management and production of laying hens (rearing, feeding laying hens during the stages of growth and production, calculations of egg production ratios)	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Forced hair loss (methods and benefits)	A lecture	Quiz
12	2	Theoretical lecture	Management of maternal flocks (broiler mothers and eggs)	A lecture	Quiz
13	2	Theoretical lecture	Management of maternal flocks (mothers of laying hens)	A lecture	Quiz
14	2	Theoretical lecture	Raising turkeys, ducks and geese	A lecture	Quiz
15	2	Theoretical lecture	Managing poultry fields in hot climates	A lecture	Quiz

11. Co2urse Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as

daily preparation, daily oral, monthly, or written exams, reports .... etc	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Poultry Management Suhaib Al-Zubaidi
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:
English language4
2. Course Code:
U01140
3. Semester / Year:
The fourth stage/autumn semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical. Number of units: 2
7. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr. Jassim Kassim Menati Email: jasimiraqe@mu.edu.iq
8. Course Objectives

Course Objectives	**Recognize the importance of some dialogue using the rules of the English language.**
9. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	**Hours**	**Required Learning**	**Unit or subject name**	**Learning method**	**Evaluation method**

		Outcomes			
1	2	Theoretical lecture	Getting to know you	A lecture	Quiz
2	2	Theoretical lecture	The way we live	A lecture	Quiz
3	2	Theoretical lecture	It All Went Wrong	A lecture	Quiz
4	2	Theoretical lecture	Let`s go shopping!	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Let`s go shopping!	A lecture	Quiz
7	2	Theoretical lecture	Tell me! What`s it like?	A lecture	Quiz
8	2	Theoretical lecture	Tell me! What`s it like؟	A lecture	Quiz
9	2	Theoretical lecture	Famous couples	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Famous couples	A lecture	Quiz
12	2	Theoretical lecture	Do`s and don`ts	A lecture	Quiz
13	2	Theoretical lecture	Going places	A lecture	Quiz
14	2	Theoretical lecture	Going places	A lecture	Quiz
15	2	Theoretical lecture	Scared to death	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Writing Academic English, Level 4 by Alice Oshima
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:
Poultry disease
2. Course Code:
002140
3. Semester / Year:
The fourth stage/ Spring semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr. Ahmed Jawad Al-Yaseri Email: ahmedyaseri@mu.edu.iq
8. Course Objectives

Course Objectives	1- Identify the Principles of Poultry Diseases. 2- Identifying Medical Important of Different Medical Disease . 3- Diseases Affected By Microbes Harmful Signs in Poultry. 4- Identify the Pathological Signs and Pathogenesis . 5- Treatments and Prophylaxes of Microbes Diseases . 6- Identify methods for Insecticides and Disinfection.

9. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Health and Disease Principles	A lecture	Quiz
2	2	Theoretical lecture	Definition Animals Diseases and Effect	A lecture	Quiz
3	2	Theoretical	Animals Diseases Classification	A lecture	Quiz

		lecture	and Etiology		
4	2	Theoretical lecture	Treatments and Vaccine And Vaccination	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Probiotics In Poultry	A lecture	Quiz
7	2	Theoretical lecture	examination	A lecture	Quiz
8	2	Theoretical lecture	Viral Poultry Diseases	A lecture	Quiz
9	2	Theoretical lecture	Bacterial Poultry Diseases	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Parasitical Poultry Diseases	A lecture	Quiz
12	2	Theoretical lecture	Richittsia and Mycoplasma Poultry Diseases	A lecture	Quiz
13	2	Theoretical lecture	E. Coli Poultry Diseases	A lecture	Quiz
14	2	Theoretical lecture	examination	A lecture	Quiz
15	2	Theoretical lecture	Intoxication Poultry Diseases	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Poultry disease Fouad Al-Shaikhli
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:

Meat Science

2. Course Code:
002140
3. Semester / Year:
The fourth stage/ Spring semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr. Ahmed Jawad Al-Yaseri Email: ahmedyaseri@mu.edu.iq
8. Course Objectives

Course Objectives	**Identify the concept of meat science. Identify the components and general composition of meat. Chemical composition of meat. What is hardening, its causes, characteristics, and its effect on the characteristics of meat. Identify the palatability of meat and the factors affecting the palatability of meat. Identifying the factors affecting throwing spasm and methods for examining the natural characteristics of meat.**

9. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	The concept of meat production (traditional and modern concept)	A lecture	Quiz
2	2	Theoretical lecture	Biological axes of meat production and how to express them	A lecture	Quiz
3	2	Theoretical lecture	The reality of meat production and consumption in Iraq and the Arab world	A lecture	Quiz
4	2	Theoretical lecture	Challenges facing the red meat production sector	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Animal husbandry patterns for red meat production	A lecture	Quiz
7	2	Theoretical lecture	Growth and development of a meat animal and the changes that occur from the fetal stage until maturity	A lecture	Quiz

8	2	Theoretical lecture	Marketing class	A lecture	Quiz
9	2	Theoretical lecture	Factors affecting growth	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Optimal investment for efficient red meat production	A lecture	Quiz
12	2	Theoretical lecture	Composition of carcasses and slaughtering ratio	A lecture	Quiz
13	2	Theoretical lecture	Techniques used to measure the quantity and quality of meat in a live animal	A lecture	Quiz
14	2	Theoretical lecture	Genetic variation for traits required in plans to improve meat production	A lecture	Quiz
15	2	Theoretical lecture	Hormones important in the growth and development of meat protein	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Meat Science Majid Basheer Al-Aswad
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:

Cattle Production

2. Course Code:

002104

3. Semester / Year:

The fourth stage/ Spring semester

4. Description Preparation Date:

26/2/2024

5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name: Lecturer Alaa Saleh Jassim Email: alaasaleh@mu.edu.iq
8. Course Objectives

Course Objectives	**Learn about the importance of livestock, the modern development of livestock in the world, evaluation of dairy cows, and the spread of dairy farms.**

9. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	The economic importance of animal products	A lecture	Quiz
2	2	Theoretical lecture	The importance of raising livestock	A lecture	Quiz
3	2	Theoretical lecture	The modern development of livestock in the world	A lecture	Quiz
4	2	Theoretical lecture	Factors that led to a decrease in milk production	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Evaluation of dairy cows	A lecture	Quiz
7	2	Theoretical lecture	Spread of milk production farm	A lecture	Quiz
8	2	Theoretical lecture	Reproduction in livestock	A lecture	Quiz
9	2	Theoretical lecture	Genetic factors affecting production	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Environmental factors affecting production	A lecture	Quiz
12	2	Theoretical lecture	Development of mammary glands in cattle	A lecture	Quiz
13	2	Theoretical lecture	Hormonal control of the development of the mammary glands	A lecture	Quiz
14	2	Theoretical	Milk formation process	A lecture	Quiz

		lecture			
15	2	Theoretical lecture	Hormonal control of milk production	A lecture	Quiz

11. Co2urse Evaluation
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Cattle Production Natiq Khaloosi
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:
Buffalo production
2. Course Code:
002104
3. Semester / Year:
The fourth stage/ Spring semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours. Number of units: 2
7. Course administrator's name (mention all, if more than one name)
Name: Ass. Prof. Dr. Ghassan Samir Dehirb Email: ghasansmeer@mu.edu.iq
8. Course Objectives

Course Objectives	**Identifying the Iraqi buffalo, the characteristics of the buffalo, buffalo diets, and buffalo reproduction.**

9. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	A brief overview of the Iraqi buffalo	A lecture	Quiz
2	2	Theoretical lecture	General features of buffalo	A lecture	Quiz
3	2	Theoretical lecture	Buffalo nutrition	A lecture	Quiz
4	2	Theoretical lecture	Buffalo reproductive	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Buffalo breeding and its impact on the development of the agricultural economy	A lecture	Quiz
7	2	Theoretical lecture	Buffalo breeding and its impact on the development of the agricultural economy	A lecture	Quiz
8	2	Theoretical lecture	Some diseases of buffalo wheels and calves and their care	A lecture	Quiz
9	2	Theoretical lecture	Some diseases of buffalo wheels and calves and their care	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Factors affecting the amount of buffalo milk production	A lecture	Quiz
12	2	Theoretical lecture	Factors affecting the amount of buffalo milk production	A lecture	Quiz
13	2	Theoretical lecture	Caring for newly born calves	A lecture	Quiz
14	2	Theoretical lecture	Caring for newly born calves	A lecture	Quiz
15	2	Theoretical lecture	Buffalo fattening project	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Buffalo Production Hassan Abdullah

Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:	
Molecular biology	
2. Course Code:	
002140	
3. Semester / Year:	
The fourth stage/ Spring semester	
4. Description Preparation Date:	
26/2/2024	
5. Available Attendance Forms:	
Presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 theoretical hours and 3 practical hours. Number of units: 3	
7. Course administrator's name (mention all, if more than one name)	
Name: Ass. Prof. Dr. Hadi Awad Hsooni Email: hadiawad@mu.edu.iq	
8. Course Objectives	
Course Objectives	**Identify the concept of molecular life science. Identifying the genetic material. The concept of the gene. Genetic material in eukaryotes. Identifying genetic material in non-eukaryotic organisms. How to manufacture protein.**
9. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Nucleic acids and their structure	A lecture	Quiz
2	2	Theoretical lecture	How to store genetic information	A lecture	Quiz
3	2	Theoretical lecture	How DNA is replicated	A lecture	Quiz
4	2	Theoretical lecture	What is meant by A Privation number of chromosome	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Methods of isolating and separating genes	A lecture	Quiz
7	2	Theoretical lecture	Sex determination technologies	A lecture	Quiz
8	2	Theoretical lecture	First month exam	A lecture	Quiz
9	2	Theoretical lecture	Conjugation phenomenon	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Gene expression	A lecture	Quiz
12	2	Theoretical lecture	Genetic markers	A lecture	Quiz
13	2	Theoretical lecture	Operaon	A lecture	Quiz
14	2	Theoretical lecture	Repair of DNA	A lecture	Quiz
15	2	Theoretical lecture	Microstalite	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Molecular Biology Book – Aisha Divan–2022
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:
Pasture management
2. Course Code:
002140
3. Semester / Year:
The fourth stage/ Spring semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours and 3 practical hours. Number of units: 3
7. Course administrator's name (mention all, if more than one name)
Name: Ass. Prof. Dr. Haider Abdul-Hussain Muhsen Email: haidermohsen@mu.edu.iq
8. Course Objectives

Course Objectives	**Learn about natural resource development, pasture science, types and sections of pastures, and the grazing system.**

9. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	Natural resources development	A lecture	Quiz
2	2	Theoretical lecture	Pasture science	A lecture	Quiz
3	2	Theoretical lecture	Rules and foundations of pasture management	A lecture	Quiz

4	2	Theoretical lecture	Types and sections of pastures	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Grazing at the right time	A lecture	Quiz
7	2	Theoretical lecture	Grazing systems	A lecture	Quiz
8	2	Theoretical lecture	Modifying pastoral vegetation	A lecture	Quiz
9	2	Theoretical lecture	Behavior of animals in grazing	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Distribution of animals	A lecture	Quiz
12	2	Theoretical lecture	Exploitation of pastures	A lecture	Quiz
13	2	Theoretical lecture	Pastoral load	A lecture	Quiz
14	2	Theoretical lecture	Pasture herd driving system	A lecture	Quiz
15	2	Theoretical lecture	Natural resources development	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Natural pasture management Ramadan Al-Tikriti and Ramzi Mohammed
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:

Sustainable development
2. Course Code:
U02540
3. Semester / Year:
The fourth stage/ Spring semester
4. Description Preparation Date:
26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours. Number of units: 2
7. Course administrator's name (mention all, if more than one name)
Name: Ass. Prof. Dr. Mariam Jassim Mohammed Email: Mariamjasim@mu.edu.iq
8. Course Objectives

Course Objectives	**Learn about sustainable development and its relationship to the environment in Iraq.**

9. Teaching and Learning Strategies	
Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	The concept of sustainable development and its importance	A lecture	Quiz
2	2	Theoretical lecture	Quality of life	A lecture	Quiz
3	2	Theoretical lecture	Coexistence, tolerance and human empowerment	A lecture	Quiz
4	2	Theoretical lecture	Welfare and social security	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Economic development in Iraq	A lecture	Quiz
7	2	Theoretical lecture	Saving, spending and financial planning	A lecture	Quiz
8	2	Theoretical lecture	Entrepreneurial projects	A lecture	Quiz

9	2	Theoretical lecture	Sustainable production and consumption	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Product life cycle, research, innovation and knowledge economy	A lecture	Quiz
12	2	Theoretical lecture	Sustainable environment	A lecture	Quiz
13	2	Theoretical lecture	Water is a national wealth	A lecture	Quiz
14	2	Theoretical lecture	Environmental adaptation	A lecture	Quiz
15	2	Theoretical lecture	Protecting the environment and nature in Iraq	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Sustainable development Ahmed Adil Abdul-Atheem
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/

1. Course Name:

Professional ethics

2. Course Code:

U02540

3. Semester / Year:

The fourth stage/ Spring semester

4. Description Preparation Date:

26/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours. Number of units: 2
7. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr. Ali Abdullah Al-Zaeri Email: aliabdullah@mu.edu.iq
8. Course Objectives

Course Objectives	**Identify the concept of professional ethics and distinguish between professional ethics and professional conduct rules.**

9. Teaching and Learning Strategies

Strategy	1 Explanation and clarification 2 Lecture method 3Student groups 4Practical lessons in laboratories

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Theoretical lecture	The concept of professional ethics	A lecture	Quiz
2	2	Theoretical lecture	Sources of professional ethics	A lecture	Quiz
3	2	Theoretical lecture	General components of professional ethics	A lecture	Quiz
4	2	Theoretical lecture	General components of professional ethics	A lecture	Quiz
5	2	Exam	Exam	Exam	Exam
6	2	Theoretical lecture	Means of establishing professional ethics	A lecture	Quiz
7	2	Theoretical lecture	Means of establishing professional ethics	A lecture	Quiz
8	2	Theoretical lecture	Challenges and their impact on professional ethics	A lecture	Quiz
9	2	Theoretical lecture	Challenges and their impact on professional ethics	A lecture	Quiz
10	2	Exam	Exam	Exam	Exam
11	2	Theoretical lecture	Social Responsibility (Its concept, types, elements and components)	A lecture	Quiz
12	2	Theoretical lecture	Social Responsibility (Its concept, types, elements and components)	A lecture	Quiz

13	2	Theoretical lecture	The basic foundations of professional ethics	A lecture	Quiz
14	2	Theoretical lecture	The basic foundations of professional ethics	A lecture	Quiz
15	2	Theoretical lecture	The basic foundations of professional ethics	A lecture	Quiz

11. Co2urse Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Professional ethics Mohammed Abdul-Ghanni
Main references (sources)	From methodological books, help books, the Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Scientific journals in basic specializations
Electronic References, Websites	https://agr.mu.edu.iq/