Description of Academic Program

University name: University of Al-Muthannah

College/Institute: College of Veterinary medicine

Academic Department: College of one department

Name of academic or professional program: Bachelor'sVeterinary medicine and surgery

Final Degree Name: Bachelor degree in surgery and Veterinary medicine

Academic system: Two semesters annually

Description preparation date: 4/5/2025

Date of filling out the file: **4**/5/2025

Signature :

Dean Scientific Assistant: **Prof. Dr. Muhammad Majbas Muhammad**

04/05/2025

This file was proof read by the Director of Quality Assurance and University Performance Division: **Prof. Dr. Khaled Hadi Kazim** **04/05/2025**

أ.م. د محمد كريم حمد

Dean Approval

Republic of Iraq
Ministry of Higher Education and Scientific Research
Quality Assurance and Accreditation department
Accreditation Division

Academic Program Description

2024-2025

Introduction:

The educational program is a coordinated and organized package of courses that include procedures and experiences organized into study modules. The primary purpose of the program is to build and refine graduates' skills, making them qualified to meet the requirements of the labor market. It is reviewed and evaluated annually through internal or external audit procedures and programs, such as the External Examiner Program.

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

This guide, in its second edition, includes a description of the academic program after updating the vocabulary and paragraphs of the previous guide in light of the new developments and changes in the educational system in Iraq, which included a description of the academic program in its traditional form (semesters) in addition to adopting the description of the academic program circulated pursuant to the letter of the Department of Studies TM3/2906 dated 03/05/2023 with regard to programs that adopt the Bologna process as the basis for their work.

In this context, we emphasize the importance of writing descriptions of academic programs and courses to ensure the smooth running of the educational process.

Concepts and terms:

Academic Program Description: The academic program description provides a concise summary of the program's vision, mission, and objectives, including a precise description of the targeted learning outcomes according to specific learning strategies.

Course Description: Provides a concise summary of the course's key features and the learning outcomes expected of the student, demonstrating whether the student has made the most of the available learning opportunities. It is derived from the program description.

Program vision: An ambitious vision for the future of the academic program to be advanced, inspiring, motivating, realistic, and applicable.

Program message: It briefly explains the objectives and the activities that required for achieving them, and also identifies the paths and directions of the program's development.

Program objectives: These 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 (semester, annual, Bologna track), whether required by (ministry, university, college, or scientific department), along with the number of academic units.

Learning outcomes: A consistent set of knowledge, skills, and values are acquired by the student after successfully completing the academic program. The learning outcomes for each course must be defined in a manner that achieves the program's objectives.

Teaching and learning strategies: They are the strategies used by faculty members to develop student teaching and learning. They are plans followed to achieve learning

objectives. They describe all classroom and extracurricular activities to achieve the program's learning outcomes.

1. **Program vision**
Our college aspires to be a pioneering institution in advancing higher education outcomes and scientific research that align with the needs of the labor market. We aim to become a leading scientific institution, preparing highly specialized professionals dedicated to promoting animal health and safeguarding livestock as a national resource and a fundamental pillar of the economy. We are committed to excellence, creativity, and practical application in veterinary medicine according to international standards, and to achieving leadership in veterinary education and scientific research to ensure animal health, enhance livestock production, and contribute to a cleaner environment.

2. **Program message**
The mission of the college is to provide high-quality education and training in veterinary medicine through a comprehensive program that integrates basic, clinical, and applied sciences across all academic stages. The college is dedicated to preparing competent graduates who hold a Bachelor's degree in Veterinary Medicine and Surgery, equipped with the knowledge and skills to promote animal health and protect livestock. The college also offers postgraduate programs leading to Master's and Doctorate degrees in various scientific disciplines, fostering advanced research and innovation. It is committed to continuously developing and updating academic curricula, enhancing theoretical and practical teaching, and providing access to the latest scientific resources and modern laboratory facilities. Through these efforts, the college aims to graduate highly qualified professionals who contribute to the advancement of veterinary education, research, and community service in Al-Muthanna Governorate and throughout Iraq.

3. **Program objectives**
1. Graduate veterinary professionals equipped with the scientific knowledge and skills necessary for the prevention and development of animal wealth. 2. Provide scientific consultations to animal breeders, poultry farm owners, and fish farming practitioners.

3. Offer veterinary services to the local community through the scientific departments of the college.
4. Establish veterinary consultation clinics and conduct field visits for students to livestock projects within the governorate and to major projects across Iraq, thereby opening new horizons for advancing the reality of veterinary medicine in Al-Muthanna Governorate and throughout Iraq.
5. Develop specialized programs for the control and prevention of communicable diseases through vaccination programs.
6. Control epidemic diseases originating from outside the country.
7. Protect public health by eliminating disease-carrying vectors and inspecting food and meat products produced locally or imported from abroad.
8. Protect humans and the environment from more than 120 zoonotic diseases transmitted from animals to humans, including several fatal epidemics.

4. Program accreditation

Is the program accredited? By which authority?
Yes – it is accredited by the Ministry of Higher Education and Scientific Research, represented by the Department of Supervision and Scientific Evaluation.
The college is currently awaiting the evaluation visit from the National Council for the Accreditation of Veterinary Colleges.

5. Other external influences

Veterinary Hospital, Laboratories, and Animal Field
The college includes a **veterinary teaching hospital**, **modern scientific laboratories**, and an **animal field**, all designed to enhance the practical and clinical training of students. These facilities provide hands-on experience in diagnosing, treating, and preventing animal diseases, as well as conducting scientific research and field studies that contribute to the development of veterinary medicine and livestock health.

6. Program structure

Program structure	Number of courses	Study unit	percentage	comments *
Institutional requirements				
College requirements	72	214	98.6	

Department requirements				
Summer training	**1**	**3**	**1.4**	
Other				

7. Program Description

A- First year				
First semester				
No	**Course name**	**Course code**	**Credit hours**	
			Theoretical	**practical**
1	**General Biology**	**VET101**	**2**	**2**
2	**skeletal anatomy**	**VET102**	**3**	**3**
3	**Animal management**	**VET103**	**3**	**2**
4	**Democracy and human rights**	**UOM104**	**2**	–
5	**English language**	**UOM102**	**2**	–
6	**Bio risk Management**	**VET104**	**1**	–
7		**Total**	**13**	**7**
Second semester				
7	**Animal husbandry**	**VET107**	**2**	–
8	**Arabic language**	**UOM101**	**2**	–
9	**Muscular anatomy**	**VET106**	**3**	**3**
10	**Computer**	**UOM103**	**2**	**2**
11	**General Chemistry**	**VET101**	**2**	**2**

12	Poultry management	VET108	1	2
		Total	12	9

A- Second year				
First semester				
No	Course name	Course code	Credit hours	
			Theoretical	practical
1	Veterinary anatomy	Anat1st	2	2
2	Histology	Hist1st	2	3
3	Physiology	Phy1st	4	2
4	Biochemistry	Bioc1st	3	2
5	animal nutrition	AN1st	2	2
6	Genetics	Gen1st	2	–
7	computer	Com1st	2	2
		Total	17	13
Second semester				
8	Veterinary anatomy	Anat 2nd	2	2
9	Histology	Hist 2nd	2	3
10	Physiology	Phy 2nd	4	2
11	Biochemistry	Bioc 2nd	3	2
12	Animal nutrition	AN 2nd	2	2

13	Embryology	Emb 2nd	1	–
14	Statistics	Stat 2nd	2	2
		Total	16	13

A- Third year				
First semester				
No	Course name	Course code	Credit hours	
			Theoretical	practical
1	Parasitology – I	Para 1st	3	2
2	Pharmacology – I	Pharm 1st	3	2
3	Microbiology – I	Micro 1st	3	2
4	Immunology	Immun1st	2	2
5	General Pathology	Path 1st	3	3
6	Toxicology	Toxo 1st	2	–
		Total	16	11
Second semester				
8	Parasitology – Part II	Para 2nd	3	2
9	Pharmacology – II	Pharm 2nd	3	2
10	Special Microbiology – II	Micro 2nd	3	2
11	Virology	Vir 2nd	2	2
12	General Pathology	Path 2nd	3	3

13	Veterinary Clinics	VC 2nd	–	2
		Total	14	13

A- Forth year				
First semester				
No	Course name	Course code	Credit hours	
			Theoretical	practical
1	Morbid Anatomy I	Ma	1	2
2	Female fertility and Venerereal diseases	FF	2	2
3	Veterinary Clinics I	VC	–	4
4	Poultry diseases / I	Pd	2	2
5	Surgery / Part I	Sur	3	2
6	Infectious (bacterial) diseases	ID	2	–
7	clinical Pathology (Clinical hematology and clinical chemistry)	CPA	2	2
8	Internal Medicine (General Cases and Digestive system diseases)	IMD	3	–
9	Epidemiology	EP	1	–
		Total	16	14
Second semester				
9	Morbid Anatomy – Part II	Ma	1	2

10	Veterinary Obstetrics	VO	2	2
11	Veterinary Clinics Part II	VC	–	4
12	Poultry diseases / Part II	PD	2	2
13	Surgery / Part II	Sur	2	2
14	Infectious diseases	ID	2	–
15	Clinical Pathology (clinical microbiology and parasitology	CPA	2	2
16	Internal medicine (respiratory, nervous and skin diseases	IMD	2	–
17	Zoonotic diseases	ZD	1	–
		Total	14	14

A- Fifth year

First semester

No	Course name	Course code	Credit hours	
			Theoretical	practical
1	Fish diseases	Fd	1	2
2	Male fertility and Vernereal diseases	MF	1	2
3	Veterinary Clinics – I	VC	–	14
4	Internal Medicine / Metabolic Diseases and nutritional deficiency	IMD	3	–
5	Meats hygiene	Fh	2	2
6	Veterinary Surgery I	Sur	2	2

7	Research projects	Rm	2	–
		Total	11	22
Second semester				
8	Reproductive techniques	RT	1	2
9	Veterinary Clinics / Part II	VC	–	14
10	Veterinary Professional behavior	MA	1	2
11	Internal medicine (cardiology) Nervous, urinary and poisoning diseases	IMD	3	–
12	Milk Hygeine	Obst	2	2
13	forensic medicine	FM	1	2
14	Veterinary Surgery – II	Sur	2	2
15	Summer Veterinary Application (Internship)	SVA	2	2
16	Research projects	RP	2	0
		Total	14	26

7. Expected learning outcomes of the program

Knowledge

A. Cognitive Objectives

1. Develop the student's scientific knowledge and understanding.
2. Enhance communication between students and research centers.
3. Increase scientific capabilities by familiarizing students with veterinary medical problems.
4. Promote the development of scientific research skills.
5. Enable students to acquire practical skills useful for their future careers.

B. Program-Specific Skills Objectives

1. Equip students with essential veterinary skills.
2. Enable students to demonstrate competence in the field and in animal treatment.
3. Prepare students to perform all relevant diagnostic tests and examinations for animals.

C. Affective and Values-Based Objectives

1. Instill in students the importance of veterinary medicine.
2. Raise awareness of the effective role of veterinary practice.
3. Strengthen understanding of the relationship between veterinary medicine and the labor market.
4. Foster strong connections between students and animal breeders.

Skills

D. Professional and Personal Development Objectives

1. Enable students to understand and apply professional ethics.
2. Encourage students to consistently work on improving their knowledge and skills.
3. Promote engagement with continuing education and lifelong learning.
4. Equip students with diverse experiences to work effectively across multiple fields

values

E. Practical, Ethical, and Community-Oriented Objectives

1. Enable students to apply theoretical veterinary knowledge in practical settings.
2. Foster a sense of national responsibility to improve both the quantity and quality of animal production.
3. Instill the concept of community service and teach the best ways to interact with rural populations and animal breeders.
4. Develop professional ethics in veterinary students by promoting correct professional behavior.

5. Enhance students' understanding of the importance of veterinary medicine.
6. Raise awareness of the effective role of veterinary practice.
7. Strengthen understanding of the relationship between veterinary medicine and the labor market.
8. Promote strong connections between students and animal breeders.
9. Enable students to identify and understand animal diseases in detail.
10. Teach students to recognize key signs and symptoms of diseases.
11. Develop the ability to correlate clinical changes for accurate diagnosis.
12. Reinforce ethical professional conduct through repeated emphasis on proper veterinary behavior.

8. Teaching and learning strategies

- Theoretical and practical lectures
- Clinical training
- Courses and workshops
- Conferences
- Field-based teaching
- Laboratory-based teaching
- Exposure to the labor market
- Participation in public and private projects

9. Assessment methods

Theoretical Examination:

- Multiple Choice Questions (MCQs)
- Short Essay Questions

Practical Examination:

- Objective Structured Clinical Examination (OSCE)
- Objective Structured Practical Examination (OSPE)

Other Assessment Methods:

- Student seminars and reports
- Daily quizzes and assessments
- Written or practical reports

10- **Faculty members**

Academic Titles		Specialization	
		general	Specific
5	Professor	Veterinary medicine and surgery	Internal medicine
			Molecular biology and biotechnology
			Anatomy and Histology
			Surgery and Theriogenology
		Agriculture	Plant Biotechnology
11	Assistant Professor	Veterinary medicine and surgery	Parasitology
			Pharmacology
			Pathology 2
			Anatomy and Histology 2

			Surgery and Theriogenology
			Public health 3
		Sciences	**Biochemistry**
			Immunology
3	**Teacher**	**Veterinary medicine and surgery**	**Physiology**
		Sciences	**Microbiology**
		Administration and Economics	**Management**
8	**Assist. Teacher**	**Veterinary medicine and surgery**	**Poultry**
			Surgery and Theriogenology
			Medicine
		Sciences	**Microbiology**
			Computing
		Agriculture	**Plant Physiology**
		Administration and Economics	**accounting**

Professional development

Orientation of new faculty members

- Understanding the responsibilities required of them in their roles at the college and building relationships with their colleagues.
- Developing the skills and knowledge necessary to become effective instructors.
- Becoming familiar with the resources and support available to them.

The orientation program is considered a valuable resource for new faculty members, as it provides them with the information and support they need to succeed in their new roles

Professional development for faculty members

- Continuing education across all disciplines and scientific fields.
- Attending conferences related to veterinary medicine.
- Participating in workshops and seminars.

- Engaging in voluntary work at specialized institutions to gain experience and skills.
- Attending specialized training programs.

10. Acceptance criteria

1. Completion of the preparatory stage (scientific stream).
2. A minimum admission grade of 70% is required.
3. A personal interview must be conducted before finalizing the admission process.

It is worth noting that these procedures are followed in both Arab and foreign countries, where the minimum admission grade is typically no less than 90%.

11. Main Sources of Information about the Program

- The Ministry of Higher Education and Scientific Research / Curricula of Veterinary Medicine Colleges in Iraqi Universities.

- Comparable colleges in Arab and international universities

12. Program Development Plan

Developing the curriculum to align with the specific characteristics of the governorate in terms of animal production, with a focus on poultry farming, and introducing a new course on fish farming. Additionally, enhancing the animal field to meet the requirements of the study program.

Participating in specialized scientific conferences and keeping up to date with specialized international books and journals

Course Description

This academic program description provides a concise overview of the program's key features and the expected learning outcomes that students are required to achieve, demonstrating the extent to which they have made optimal use of the available learning opportunities. It should be clearly aligned with the overall program description.

Branch of Public Health

1. **Educational Institution:** College of Veterinary Medicine
2. **Academic Department / Center:** Branch of Veterinary Public Health
3. **Course Titles / Codes:**
   Animal Management, Poultry Management, Computer, Democracy and Human Rights, English Language, Arabic Language, Animal Nutrition, Genetics, Statistics, Veterinary Public Health, Veterinary Professional Conduct
   (ANM, POM, COM-1, MPH, HUM, ENG, ARA, ANA, GEN, STA, GVM, PVP)
4. **Mode of Delivery:** Theoretical / Practical
5. **Semester / Academic Year:** Annual / Semester-based
6. **Total Credit Hours:** 120, 15, 30, 60, 60, 90, 45, 120, 60, 30, 15, 120
7. **Course Objectives:**
   1. To equip students with theoretical and practical knowledge on animal care and the application of modern methods in farm management.
   2. To provide students with foundational supporting sciences, including computer applications, statistics, genetics, and nutrition.
   3. To deliver theoretical and practical training on the management of poultry farms, feed manufacturing plants, slaughterhouses, and livestock breeding stations.

Course outcomes, learning, teaching and assessment methods

A. Cognitive Objectives

1. To teach students how to establish animal farms that meet modern standards and how to manage them effectively.

2. To educate students on improving the genetic composition of animals through the principle of crossbreeding, in order to preserve desirable local traits and select and develop high-producing animals.
3. To provide knowledge on controlling zoonotic diseases (diseases transmissible between humans and animals) and producing safe, disease-free food for human consumption through mastery of food hygiene and milk hygiene practices.
4. To introduce methods for improving animal and poultry nutrition and enhancing feed conversion efficiency.
5. To teach students how to establish and manage poultry farms according to international standards.

B. Skill-Based Objectives

1. To develop students' skills in applying scientific methods related to the establishment and management of animal and poultry farms.
2. To train students in the formulation and production of high-quality feed mixtures.
3. To equip students with skills in meat inspection and in preparing professional reports within slaughterhouses.

Teaching and Learning Methods

Lectures are delivered both theoretically and practically using multimedia presentations, PowerPoint slides, microscopes, and laboratory experiments. Students are trained to examine milk and meat samples bacteriologically and chemically using various laboratory instruments and equipment. In addition, they are taught to analyze feed samples, inspect animal farms, handle and restrain animals safely, and administer medications effectively.

Methods of Assessment

- Unannounced daily quizzes
- Monthly examinations
- Midterm and final examinations

C. Affective and Value-Based Objectives

1. To enable students to apply theoretical veterinary knowledge in practical contexts.
2. To foster a sense of national responsibility among students to enhance both the quantity and quality of animal production.
3. To instill in students the concept of community service and the appropriate ways of interacting with farmers and livestock breeders.
4. To develop professional ethics among veterinary students through adherence to proper professional conduct.

Teaching and Learning Methods

Practical lectures and training sessions are conducted within the animal field to provide students with hands-on experience.

Methods of Assessment

- Daily, monthly, and semester examinations

D. General and Transferable Skills (Other Skills Related to Employability and Personal Development) To develop students' skills and abilities in managing animal farms effectively.

Studying Materials	Time	Type/Hrs	Evaluation
Animal management	**weekly**	**2 theoretical + 2 practical**	**Quiz , oral, report, exam**
Poultry management	**weekly**	**1 Theoretical + 2 Practical**	**Quiz , oral, report, exam**
computer	**weekly**	**1 Theoretical + 2 Practical**	**Quiz , oral, report, exam**
Veterinary Public Health	**weekly**	**2 theoretical + 2 practical**	**Quiz , oral, report, exam**
Democracy and human rights	**weekly**	**2 Theoretical**	**Quiz , oral, report, exam**
English language	**weekly**	**1Theoretical**	**Quiz , oral, report, exam**
Arabic language	**weekly**	**1Theoretical**	**Quiz , oral, report, exam**
animal feed	**weekly**	**2 theoretical + 2 practical**	**Quiz , oral, report, exam**
Genetics	**weekly**	**2 theoretical + 2 practical**	**Quiz , oral, report, exam**
computer	**weekly**	**2 theoretical + 2 practical**	**Quiz , oral, report, exam**
Veterinary Professional Conduct	**weekly**	**1Theoretical**	**Quiz , oral, report, exam**

8. Infrastructure

Category	Description
Prescribed Textbooks	Officially approved curricular textbooks
Main References	Supporting sources for each course
Recommended Books and References (Scientific Journals, Reports, etc.)	Core journals in veterinary and scientific specializations
Scientific References and Online Resources	The E-Learning Platform of Al-Muthanna University

9. Course Development Plan

Developing the curriculum to align with the specific characteristics of the governorate in terms of animal production, with a particular focus on poultry farming. A new course on fish farming will be introduced, and the animal field will be further enhanced to meet the academic and practical requirements of the study program.

Branch of Pathology, Poultry and Fish Diseases

Course Description

1. **Educational Institution:** College of Veterinary Medicine
2. **Academic Department / Center:** Department of Pathology, Poultry and Fish Diseases
3. **Course Titles / Codes:**
   General Pathology, Special Pathology, Pathological Anatomy and Forensic Medicine
   (PAT, SPA, LPS)
4. **Mode of Attendance:** Theoretical / Practical
5. **Semester / Academic Year:** Annual / Semester-based
6. **Total Credit Hours:** 60, 60, 45, 45
7. **Course Objectives:**
    1. To provide students with theoretical and practical knowledge about general diseases and diseases of poultry and fish.
    2. To enhance students' competence in the field of pathology, including poultry and fish diseases.
    3. To explain the major diseases affecting poultry and fish, along with methods of diagnosis and treatment.
    4. To describe the main postmortem changes observed in animals and to identify the causes of death.

Learning Outcomes, Teaching, and Assessment Methods

A. Cognitive Objectives

1. Understanding the concept and scope of pathology.
2. Identifying the condition of the animal after the appearance of disease signs.
3. Understanding the progression and course of diseases.
4. Recognizing postmortem changes in animals.
5. Understanding histopathological events and clinical signs and correlating them with disease-related changes.
6. Identifying the most important diseases affecting poultry and fish.

B. Skill-Based Objectives

1. To distinguish between healthy and diseased tissues.
2. To enhance students' understanding of histological changes that occur following disease or injury.
3. To improve students' ability to identify the histopathological structure of various body organs.
4. To develop students' knowledge of animal dissection techniques.

Teaching and Learning Methods:
Students are taught the fundamentals of pathology, poultry, fish diseases, in addition to laboratory techniques for examining histological and histopathological slides and performing animal dissections.

Methods of Assessment:

- Unannounced daily quizzes
- Monthly examinations
- Midterm and final examinations

C. Affective and Value-Based Objectives

1. To enable students to recognize diseases in detail.
2. To identify the main signs and pathological changes associated with diseases.
3. To integrate and interpret various pathological changes to reach accurate diagnoses.
4. To develop professional ethics among veterinary students through adherence to appropriate professional conduct.

Teaching and Learning Methods:
Practical sessions and laboratory-based training, including the microscopic examination of prepared slides.

Methods of Assessment:

- Daily, monthly, and semester examinations

D. General and Transferable Skills

(Other Skills Related to Employability and Personal Development)

1. Ability to diagnose diseases accurately.
2. Understanding differential diagnosis among various diseases.
3. Recognizing zoonotic diseases (shared between humans and animals).
4. Understanding the impact of animal diseases on public health.

Studying Materials	Time	Type/Hrs	Evaluation
General Pathology I	**weekly**	**3 theoretical 3 practical**	**Quiz , oral, report, exam**
General Pathology II	**weekly**	**3 Theoretical 3 Practical**	**Quiz , oral, report, exam**
Poultry Diseases	**weekly**	**2 Theoretical 2 Practical**	**Quiz , oral, report, exam**
Fish Diseases	**weekly**	**1theoretical 2 practical**	**Quiz , oral, report, exam**
Pathological anatomy and forensic medicine	**weekly**	**1 Theoretical 2 practical**	**Quiz , oral, report, exam**

E. Infrastructure

Category	Description
Prescribed Textbooks	Officially approved curricular textbooks
Main References	Supporting resources for each course
Recommended Books and References (Scientific Journals, Reports, etc.)	Core journals in veterinary and scientific disciplines
Scientific References and Online Resources	Al-Muthanna University E-Learning Platform

F. Course Development Plan

1. Increase visits to private and governmental projects to enhance students' practical exposure and professional skills.
2. Encourage students to visit the university and college libraries and to review available academic resources.
3. Make full use of summer training programs and the university's veterinary hospital to strengthen applied learning.
4. Promote the quality of research and graduation projects to advance scientific inquiry and innovation.

Branch of Microbiology and Veterinary Parasitology

Course Description

1. **Educational Institution:** College of Veterinary Medicine
2. **Academic Department / Center:** Branch of Microbiology and Veterinary Parasitology
3. **Course Titles / Codes:**
   Microbiology, Virology, Immunology
   (MIC, SMI, VIR, IMU)
4. **Mode of Attendance:** Theoretical / Practical
5. **Semester / Academic Year:** Annual / Semester-based
6. **Total Credit Hours:** 60, 60, 75, 90
7. **Course Objectives:**
   1. To train students to identify microorganisms and apply modern molecular techniques for their detection and diagnosis.
   2. To study the immune system and understand the various types of immunity.
   3. To classify bacteria, viruses, and fungi.

Learning Outcomes, Teaching, and Assessment Methods

A. Cognitive Objectives

1. To understand the fundamental concepts of microbiology.
2. To acquire knowledge and comprehension of immunology.
3. To understand the principles of virology and mycology.

B. Skill-Based Objectives

1. To equip students with skills in sterilization and bacterial culturing techniques.
2. To develop students' understanding of methods for preserving pathological and food samples.

Teaching and Learning Methods:
Students learn the fundamentals of microbiology and integrate theoretical knowledge with practical applications.

Methods of Assessment:

- Unannounced daily quizzes
- Monthly examinations
- Midterm and final examinations

C. Affective and Value-Based Objectives

1. To develop analytical skills that enable students to understand the functions of the immune system.
2. To gain knowledge of sterilization and disinfection techniques.

Teaching and Learning Methods:
Laboratory-based training on detecting microorganisms and applying preventive measures to avoid infection.

Methods of Assessment: Daily, monthly, and semester examinations

D. General and Transferable Skills

(Other Skills Related to Employability and Personal Development)
To develop the ability to integrate knowledge of microbiology with immunology.

Studying Materials	Time	Type	Evaluation
Microbiology I	**weekly**	**3 theoretical 2 practical**	**Quiz , oral, report, exam**
Microbiology II	**weekly**	**3 theoretical 2 practical**	**Quiz , oral, report, exam**
Parasitology I	**weekly**	**3 theoretical 2 practical**	**Quiz , oral, report, exam**
Parasitology II	**weekly**	**3 theoretical 2 practical**	**Quiz , oral, report, exam**
General Biology I	**weekly**	**3 Theoretical 2 Practical**	**Quiz , oral, report, exam**
Immunity	**weekly**	**2 Theoretical 2 Practical**	**Quiz , oral, report, exam**
Virus	**weekly**	**2 theoretical 2 practical**	**Quiz , oral, report, exam**

D. Infrastructure

Category	Description
Required Textbooks	Officially approved curricular textbooks
Main References	Supporting resources for each course
Recommended Books and References (Scientific Journals, Reports, etc.)	Core journals in veterinary and related scientific disciplines
Scientific References and Online Resources	Al-Muthanna University E-Learning Platform

E. Curriculum Development Plan

To enhance the course content by adding new terminology and vocabulary related to the field, not exceeding 10% of the total curriculum.

Branch of Physiology, Pharmacology, and Biochemistry

Course Description

1. **Educational Institution:** College of Veterinary Medicine
2. **Scientific Department / Center:** Branch of Physiology, Pharmacology, and Biochemistry
3. **Course Titles / Codes:**
   General Chemistry, Physiology, Biochemistry, Drugs and Toxins, Parasitology
   (GCH, PHY, BIO, PHA, PAR)
4. **Mode of Attendance:** Theoretical / Practical
5. **Semester / Academic Year:** Annual / Quarterly
6. **Total Credit Hours:** 75, 30, 75, 90, 75, 75
7. **Course Objectives:**
   1. To understand the functions of cells and the physiological roles of systems and organs.
   2. To comprehend the biochemical processes occurring within the body.
   3. To identify medications, their composition, benefits, and potential harms to the body.
   4. To understand and manage toxins.
   5. To gain knowledge of parasitic diseases and methods for their diagnosis and prevention.

Learning Outcomes, Teaching, and Assessment Methods

A. Cognitive Objectives

1. Understand the functions of the body's organs and systems.
2. Comprehend fundamental chemistry and biochemistry.
3. Identify and classify toxins.
4. Learn methods for diagnosing and treating parasitic diseases.

B. Skill-Based Objectives

1. Develop skills to understand the physiological functions of the body.
2. Acquire skills to understand cellular metabolism and interactions within the body.
3. Gain knowledge of medications and toxins.
4. Learn methods for diagnosing and culturing parasite eggs.
5. Understand the relationship between parasitic infections and diseases in humans and animals.

Teaching and Learning Methods:
Combination of theoretical lectures and practical sessions.

Assessment Methods:

- Unannounced daily quizzes
- Monthly examinations
- Midterm and final examinations

C. Affective and Value-Based Objectives

1. Enable students to understand the overall functions of the body.
2. Help students form a comprehensive understanding of body physiology.
3. Enable students to make informed decisions regarding the use of veterinary medicines.

Teaching and Learning Methods:
Use of videos, diagrams, figures, and models to enhance understanding of physiological and biochemical processes.

Assessment Methods:

- Daily, monthly, and semester examinations

D. General and Transferable Skills

1. Enhance students' ability to understand physiological and biochemical processes and methods for drug and toxin production.
2. Develop skills for diagnosing parasitic diseases.

Studying Materials	Time	Type/Hrs	Evaluation
General Chemistry	weekly	2 theoretical 2 practical	Quiz , oral, report, exam
Physiology I	weekly	4 theoretical 2 practical	Quiz , oral, report, exam
Physiology II	weekly	4 theoretical 2 practical	Quiz , oral, report, exam
Biochemistry I	weekly	3 theoretical 2 practical	Quiz , oral, report, exam
Biochemistry II	weekly	3 Theoretical 2 Practical	Quiz , oral, report, exam
Pharmacology I	weekly	3 Theoretical 2 Practical	Quiz , oral, report, exam
Pharmacology II	weekly	3 theoretical 2 practical	Quiz , oral, report, exam

Toxicology	**weekly**	**2 theoretical**	**Quiz , oral, report, exam**

E. Infrastructure

Category	Description
Required Textbooks	Officially approved curriculum books
Main References	Supporting resources for each course
Recommended Books and References (Scientific Journals, Reports, etc.)	Core journals in veterinary and related scientific disciplines
Scientific References and Online Resources	Al-Muthanna University E-Learning Platform

F. Curriculum Development Plan

Enhance the course content by adding new terminology and vocabulary relevant to the field, without exceeding 10% of the total curriculum.

Branch of Internal and Preventive Medicine

Course Description

1. **Educational Institution:** College of Veterinary Medicine
2. **Scientific Department / Center:** Branch of Internal and Preventive Medicine
3. **Course Titles / Codes:**
   Internal Medicine, Infectious Diseases, epidemiology, Pathological Diagnoses, zoonotic Diseases, Veterinary clinic, Summer Veterinary Application
   (IMD, ID, EP, CPA, ZD, VC, SVA)
4. **Mode of Attendance:** Theoretical / Practical
5. **Semester / Academic Year:** Annual / Quarterly
6. **Total Credit Hours:** 90, 30, 30, 90, 90, 90
7. **Course Objectives:**
   1. To identify diseases affecting animals, including methods of diagnosis, differentiation, prevention, and treatment.
   2. To identify diseases common to both humans and animals.
   3. To gain knowledge of laboratory diagnostic methods.

Learning Outcomes, Teaching, and Assessment Methods

A. Cognitive Objectives

1. Enable students to recognize diseases that affect animals.
2. Understand diagnostic and treatment procedures.
3. Acquire knowledge of zoonotic diseases (common to humans and animals).
4. Enable students to conduct clinical and laboratory diagnoses.

B. Skill-Based Objectives

1. Develop students' diagnostic skills.
2. Develop animal examination and handling skills.
3. Provide students with knowledge and practical skills in laboratory diagnostics.

Teaching and Learning Methods:
Combination of theoretical lectures, practical sessions, and hands-on training in the veterinary hospital.

Assessment Methods:

- Unannounced daily quizzes
- Monthly examinations
- Midterm and final examinations

C. Affective and Value-Based Objectives

1. Enable students to perform proper animal examinations.
2. Familiarize students with animal diagnosis and treatment procedures.
3. Enable students to prescribe and administer appropriate treatments.

Teaching and Learning Methods:
Clinical examination of animals, recording clinical signs, collecting samples for laboratory analysis, correlating clinical signs with diagnostic results, determining the correct diagnosis, and administering suitable treatments.

Assessment Methods:

- Daily, monthly, and semester examinations

D. General and Transferable Skills to Enhance students' competencies in clinical and laboratory diagnostics.

Studying Materials	Time	Type/Hrs	Evaluation
Internal Medicine I	weekly	3 theoretical	Quiz , oral, report, exam
Internal Medicine II	weekly	3 theoretical	Quiz , oral, report, exam
Infectious and epidemic diseases I	weekly	2 theoretical	Quiz , oral, report, exam
Infectious and epidemic diseases II	weekly	2 theoretical	Quiz , oral, report, exam
Epidemiology	weekly	2 Theoretical 2 Practical	Quiz , oral, report, exam

Zoonotic diseases	**weekly**	**2 theoretical**	**Quiz , oral, report, exam**
Clinic I	**weekly**	**14 practical**	**Quiz , oral, report, exam**
Clinic II	**weekly**	**14 practical**	**Quiz , oral, report, exam**
Clinical pathology	**weekly**	**2 Theoretical 2 Practical**	**Quiz , oral, report, exam**
Clinical pathology	**weekly**	**2 Theoretical 2 Practical**	**Quiz , oral, report, exam**

E. Infrastructure

Category	Description
Required Textbooks	Officially approved curriculum books
Main References	Supporting resources for each course
Recommended Books and References (Scientific Journals, Reports, etc.)	Core journals in veterinary and scientific disciplines
Scientific References and Online Resources	Al-Muthanna University E-Learning Platform

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F. Curriculum Development Plan

Enhance the course content by adding new terminology and vocabulary relevant to the field, ensuring that additions do not exceed 10% of the total curriculum.

Branch of Surgery and Obstetrics

Course Description

1. **Educational Institution:** College of Veterinary Medicine
2. **Scientific Department / Center:** Branch of Surgery and Obstetrics
3. **Course Titles / Codes:**
   Veterinary Surgery, Fertility and venereal Diseases, Veterinary Obstetrics, male fertility and venereal Diseases, Reproductive Techniques
   (SUR, FF, VO, MF, RT)
4. **Mode of Attendance:** Theoretical / Practical
5. **Semester / Academic Year:** Annual / Semester-based
6. **Total Credit Hours:** 90, 60, 60, 60
7. **Course Objectives:**
   1. To understand the fundamentals of surgery and surgical procedures in animals.
   2. To learn the anatomy of the reproductive system, differential anatomy, and major diseases of the female reproductive system.
   3. To understand diseases of the male reproductive system and artificial insemination techniques.
   4. To become familiar with the latest developments in in vitro fertilization and assisted reproductive technologies.

Learning Outcomes, Teaching, and Assessment Methods

A. Cognitive Objectives

1. Enable students to understand reproductive diseases and their treatment methods.
2. Understand surgical cases and appropriate management procedures.
3. Acquire knowledge of basic anesthesia in animals.
4. Train students in artificial insemination techniques.
5. Understand methods for collecting, examining, evaluating, and storing semen.
6. Learn how to manage dystocia and pregnancy complications.
7. Gain knowledge of modern techniques to treat infertility and subfertility.

B. Skill-Based Objectives

1. Develop skills in anesthesia and performing minor and major surgical procedures.
2. Acquire practical skills in performing obstetric maneuvers.
3. Gain proficiency in semen collection, examination, and evaluation.

Teaching and Learning Methods:
Combination of theoretical lectures, practical sessions, and hands-on training in the veterinary hospital.

Assessment Methods:

- Unannounced daily quizzes
- Monthly examinations
- Midterm and final examinations

C. Affective and Value-Based Objectives

1. Enable students to understand surgical procedures and use diagnostic tools such as X-rays and endoscopes.
2. Familiarize students with management of dystocia cases.
3. Teach students the fundamentals of pregnancy testing using different methods.

Teaching and Learning Methods:

1. Field training in the veterinary hospital on incoming surgical and obstetric cases and appropriate management.
2. Rectal palpation to examine pregnancy in large animals.

Assessment Methods:

- Daily, monthly, and semester examinations

D. General and Transferable Skills

Enhance students' abilities to perform surgical and obstetric procedures and to diagnose pregnancy in various animal species.

Studying Materials	Time	Type/Hrs	Evaluation
Reproduction technologies	**weekly**	**1 Theoretical 2 Practical**	**Quiz , oral, report, exam**
Surgary I	**weekly**	**2 Theoretical 2 Practical**	**Quiz , oral, report, exam**
Surgary II	**weekly**	**2 Theoretical 2 Practical**	**Quiz , oral, report, exam**
Male fertility	**weekly**	**1 Theoretical 2 Practical**	**Quiz , oral, report, exam**
female fertility	**weekly**	**2 Theoretical 2 Practical**	**Quiz , oral, report, exam**
Obstructive	**weekly**	**2 Theoretical 2 Practical**	**Quiz , oral, report, exam**

E. Infrastructure

- **Required Textbooks:** Officially approved curriculum books
- **Supporting Resources for Each Course:** Supplementary references and teaching materials relevant to the course
- **Recommended Journals:** Core journals in veterinary and scientific disciplines
- **Online Resources:** Al-Muthanna University E-Learning Platform

F. Curriculum Development Plan

1. Establish a surgical operating room equipped with modern instruments to enhance accurate diagnosis, surgical procedures, and the management of difficult labor cases.
2. Establish a laboratory for artificial insemination and assisted reproductive technologies.
3. Establish a veterinary ultrasound unit for diagnostic and reproductive purposes.

Brach of Anatomy, Histology, and Embryology

Course Description

1. **Educational Institution:** College of Veterinary Medicine
2. **Scientific Department / Center:** Brach of Anatomy, Histology, and Embryology
3. **Course Titles / Codes:**
   Anatomy, Histology, Embryology
   (ANA, HIS, EMB)
4. **Mode of Attendance:** Theoretical / Practical
5. **Semester / Academic Year:** Annual / Quarterly
6. **Total Credit Hours:** 150, 150, 15
7. **Course Objectives:**
    1. To understand the fundamentals of anatomy, including the structure of body organs and systems, as well as the blood and nervous systems.
    2. To learn the histological composition of the body's organs.
    3. To gain knowledge of embryology and the role of tissue sections in studying fetal development.

Learning Outcomes, Teaching, and Assessment Methods

A. Cognitive Objectives

1. Enable students to learn proper methods of animal euthanasia, dissection, and preservation of cadavers and tissue samples.
2. Understand histology and techniques for preparing tissue sections.
3. Acquire knowledge of embryology and methods for determining fetal age.

B. Skill-Based Objectives

1. Develop skills in correct dissection, comparative dissection, and preservation of cadavers.
2. Acquire practical skills in tissue sectioning.
3. Gain proficiency in studying fetal development and determining fetal age.

Teaching and Learning Methods:
Combination of theoretical lectures, practical laboratory sessions, and hands-on experience in the veterinary hospital.

Assessment Methods:

- Unannounced daily quizzes
- Monthly examinations
- Midterm and final examinations

C. Affective and Value-Based Objectives

1. Enable students to distinguish healthy organs from abnormal ones during dissection.
2. Develop awareness of the importance of histological sectioning for detecting tissue changes.

Teaching and Learning Methods:

1. Training on anatomy, comparative anatomy, and identifying distinguishing features of organs across different animal species.

Assessment Methods:

- Daily, monthly, and semester examinations

D. General and Transferable Skills

- Enhance students' understanding of anatomy, histology, and embryology and their application in other veterinary sciences.

Studying Materials	Time	Type/ Hrs	Evaluation
Anatomy I	weekly	2 theoretical 3 practical	Quiz , oral, report, exam
Anatomy II	weekly	2 theoretical 3 practical	Quiz , oral, report, exam
Histology	weekly	2 theoretical 3 practical	Quiz , oral, report, exam
Embryology	weekly	1 theoretical	Quiz , oral, report, exam

E. Infrastructure

- **Required Textbooks:** Officially approved curriculum books
- **Main References:** Supporting resources for each course
- **Recommended Books and References (Scientific Journals, Reports, etc.):** Core journals in veterinary and scientific disciplines
- **Scientific References and Online Resources:** Al-Muthanna University E-Learning Platform

D. Curriculum Development Plan

Introduce new courses that align with recent developments in anatomy, histology, and embryology, ensuring additions comply with the prescribed percentage of the total curriculum.

Curriculum Skills Map																			
Please tick the boxes corresponding to the individual learning outcomes of the programme being assessed.																			
Required learning outcomes of the program																			
General and transferable skills (other skills related to employability and personal development)				Emotional and value-based goals				Program skill objectives				Cognitive objectives				essential Or Optional	Course code	Course name	Year/Level
D4	D3	D2	D1	Part 4	Part 3	Part 2	Part 1	B4	B3	B2	B1	A4	A3	A2	A1				
		/			/			/				/				essential	VET101	General Biology	First grade/ Course I
		/			/			/				/				essential	VET102	skeletal anatomy	
		/			/			/				/				essential	VET103	Animal management	
		/			/			/						/		essential	UOM104	Democracy and human rights	
		/			/			/						/		essential	UOM102	English language	
		/			/			/						/		essential	VET104	Bio risk Management	
		/			/			/				/				essential	VET101	General Biology	
		/			/			/				/				essential	VET107	Animal husbandry	First grade/
		/			/							/				essential	UOM101	Arabic lunguage	

		/			/			/				/				essential	VET106	Muscular anatomy	Course II
		/			/			/				/				essential	UOM103	computer	
		/				/		/					/			essential	VET101	General Chemistry	
		/				/		/					/			essential	VET108	Poultry management	
	/			/				/				/				essential	Anatomy	Anat1st	The second stage Course I
	/			/				/				/				essential	Histology	Hist1st	
	/			/				/				/				essential	Physiology	Phy1st	
	/			/				/				/				essential	Biochemistry	Bioc1st	
	/			/				/				/				essential	Animal nutrition	AN1st	
	/			/				/				/				essential	Genetic	Gen1st	
	/				/			/				/				essential	Anatomy	Anat 2nd	The second stage Course 2
		/			/			/				/				essential	Histology	Hist 2nd	
/					/			/				/				essential	Physiology	Phy 2nd	
/					/			/				/				essential	Biochemistry	Bioc 2nd	
		/			/			/				/				essential	Animal nutrition	AN 2nd	

		/			/			/				/				essential	Embryology	Emb 2nd	
			/				/			/			/			essential	Statistics	Stat 2nd	
/				/				/				/				essential	Pathology	Path 1st	Stage 3 Course I
/				/				/				/				essential	Pharmacology	Pharm 1st	
/				/				/				/				essential	Parasitology	Para 1st	
	/			/				/				/				essential	Microbiology	Micro 1st	
	/			/				/				/				essential	Immunology	Immun 1st	
/				/				/				/				essential	Pathology	Path 2nd	Stage 3 Course 2
/				/				/				/				essential	Pharmacology	Pharm 2nd	
/				/				/				/				essential	Parasitology	Para 2nd	
/				/				/				/				essential	Microbiology	Micro 2nd	
/				/				/				/				essential	Toxicology	Toxo 2nd	
/				/				/				/				essential	Clinic	Clin 2nd	
/				/				/				/				essential	Clinic	Clin	Stage Four Course I
/				/				/				/				essential	Medicine	Med	

/				/				/				/				essential	Infectious diseases & epidemiology	Infec& Epid	
/				/				/				/				essential	Theriogenology	Therio	
/				/				/				/				essential	Poultry diseases	PD	
/				/				/				/				essential	Surgery	Surg	
/				/				/				/				essential	Clinical pathology	CP	
/				/				/				/				essential	Zoonotic diseases (2nd semester)	ZD	
/				/				/				/				essential	Morbid anatomy	MA	Stage Four Course 2
/				/				/				/				essential	Clinic	Clin	
/				/				/				/				essential	Medicine	Med	
/				/				/				/				essential	Infectious diseases & Epidemiology	Infec& Epid	
/				/				/				/				essential	Theriogenology	Therio	
/				/				/				/				essential	Poultry diseases	PD	
/				/				/				/				essential	Surgery	Surg	
/				/				/				/				essential	Clinical pathology	CP	
/				/				/				/				essential	Zoonotic diseases	ZD	
/				/				/				/				essential	Morbid anatomy	MA	
/				/				/				/				essential	Clinic	Clin	Stage Five Course I
/				/				/				/				essential	Medicine	Med	
/				/				/				/				essential	Surgery	Surg	

/				/				/				/				essential	Veterinary public health	VPH	
/				/				/				/				essential	Obstetrics	Obst	
/				/				/				/				essential	Research project	RP	
/				/				/				/				essential	Fish diseases	FD	
/				/				/				/				essential	Veterinary ethics	VE	
	/				/					/		/				essential	Summer Clinic	Clin	
/				/				/				/				essential	Clinic	Clin	Stage Five Course 2
/				/				/				/				essential	Medicine	Med	
/				/				/				/				essential	Surgery	Surg	
/				/				/				/				essential	Veterinary public health	VPH	
/				/				/				/				essential	Obstetrics	Obst	
/				/				/				/				essential	Research project	RP	
/				/				/				/				essential	Fish diseases	FD	
/				/				/				/				essential	Veterinary ethics	VE	