

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



Academic Program Description

College of Veterinary Medicine

Baghdad University

(2025/2026)

University: Baghdad.

College/Institute: Veterinary Medicine.

Academic Program Name: (Bachelor) Veterinary Medicine.

Study System: Course System / Bologna

Final Degree Name: Bachelor of Veterinary Medicine and Surgery.

Date of filling the file: 1/2/2025

Academic Program Description Form

University Name: University of Baghdad.....

Faculty/Institute: College of Veterinary Medicine.....

Scientific Department: 9.....

Academic or Professional Program Name: .. Bachelor of Veterinary ..Medicine.

Final Certificate Name: .. Bachelor of Veterinary Medicine and Surgery.....

Academic System: ...semesters.....

Description Preparation Date: 10/9/2025

File Completion Date:

Signature: *S. Alshae*

Scientific Associate Name: *Orroba Mohammed Saeed Ibrahim*

Date: *8-9-2025*

The file is checked by:

Director of the Quality Assurance and University Performance Division

Name: *Amer Hakeem Chyad*

Date: *8/9/2025*

Signature: *Amer Hakeem*

Hameed A. AL
Approval of the Dean



Introduction:

The educational program is a coordinated and organized package of courses that includes procedures and experiences organized as study units. Its primary purpose is to build and refine graduates' skills, making them qualified to meet labor market requirements. 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 that students are expected to acquire based on the program's academic objectives. The importance of this description lies in being the cornerstone for obtaining programmatic accreditation. It is written by teaching staff under the supervision of scientific committees in academic departments.

This second edition of the guide includes a description of the academic program after updating the items and paragraphs of the previous guide in light of recent developments and changes in the Iraqi educational system. It includes a description of the academic program in its traditional form (annual, semester system), as well as adopting the academic program description circulated by the Directorate of Studies letter T M3/2906 on 3/5/2023 regarding programs that adopt the Bologna path as their basis of operation.

In this regard, we must emphasize the importance of writing academic program and course descriptions to ensure the proper conduct of the educational process.

Academic Program Description:

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

Course Description: It provides a brief summary of the most important characteristics of the course and the expected learning outcomes to be achieved by the student, demonstrating whether he/she has made the best use of available learning opportunities. It is derived from the program description.

Program Vision: An aspirational picture of the future of the academic program to be advanced, inspiring, motivating, realistic, and applicable.

1- Educational Institution	University of Baghdad / College of Veterinary Medicine
2-Scientific Department / Center	College of Veterinary Medicine
3-Name of Academic Program	Bachelor of Veterinary Medicine
4-Final Degree Name	Bachelor of Veterinary Medicine and Surgery
5-Study System	Course System / Bologna Path

6-Adopted Accreditation Program	Mandatory
7- External Influences	None
8-Date of Description Preparation	1/2/2025
9- Academic Program Objectives	<p>1-Keeping pace with developments and progress in the field of veterinary medicine and surgery by updating undergraduate and postgraduate curricula according to international standards and in line with labor market requirements.</p> <p>2- Serving the community by treating disease cases and providing scientific consultations to animal owners and productive animal farms.</p> <p>3- Establishing training courses with other colleges and ministries to maintain scientific bridges between them and the mother college, developing professional</p>

	<p>performance, and strengthening the scientific base.</p> <p>4- Supporting ties of cooperation between the college and beneficiary parties through conducting joint research that addresses problems facing livestock and curriculum development committees.</p> <p>5- Activating international relations and cooperation with reputable counterpart international colleges</p> <p>6-Obtaining academic programmatic accreditation.</p>
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Program Objectives: Statements describing what the academic program intends to achieve over a specific period of time, measurable and observable.

Curriculum Structure: All courses / study materials included in the academic program according to the adopted learning system (semester, annual, Bologna path), whether requirement (Ministry, University, College, and Scientific Department) with the number of study units.

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

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

1- Program Vision:

The College of Veterinary Medicine aspires to become an educational, research, extension, and productive institution, to be prominent and distinguished in the field of education, community service, and systems that ensure the development of livestock in the country by producing high-quality graduates who are aware of the importance of this profession, which governs their work and achieves commitment, responsibility, and leadership towards excellence and innovation in the field of the profession.

2- Program Mission:

We, the College of Veterinary Medicine, strive to prepare and qualify distinguished graduates in the field of veterinary medicine, develop the teaching staff, foster a spirit of scientific research and sustainable development, and integrate theoretical and applied knowledge in the field of veterinary medicine and surgery.

3- Program Objectives:

1- Keeping pace with developments and progress in the field of veterinary medicine and surgery by updating undergraduate and postgraduate curricula according to international standards and in line with labor market requirements.

2- Serving the community by treating disease cases and providing scientific consultations to animal owners and productive animal farms.

3- Establishing training courses with other colleges and ministries to maintain scientific bridges between them and the mother college, developing professional performance, and strengthening the scientific base.

4- Supporting ties of cooperation between the college and beneficiary parties through conducting joint research that addresses problems facing livestock and curriculum development committees.

5- Activating international relations and cooperation with reputable counterpart international colleges.

6 -Obtaining academic programmatic accreditation.

4- Program Accreditation:

The minutes of the seventeenth session of the National Council for Accreditation of Veterinary Medicine College Programs and the powers vested in the Council by Ministerial Order (1193 on 27/10/2022) were approved. It was decided to grant the Bachelor's program of the College of Veterinary Medicine / University of Baghdad conditional accreditation for two years to fulfill the remaining standards according to Ministerial Order No. (6709 on 28/10/2025).

5- External Influences:

None

6-program structure:

Remarks	Percentage	Credit Units	Number of Course	Component
General courses such as Arabic Language, English Language, Computer Skills, Human Rights, and Crimes of the Ba'ath Party - intended to provide academic	7%	10	5	Institutional Requirements
Specialized veterinary courses (Anatomy, Physiology, Pharmacology, Pathology, Surgery', Internal Medicine, Preventive Medicine,	91.7%	270	66	College Requirements

parasitology, Public Health, etc.)				
Not specified, possibly integrated within the college Requirements as the college consists of a single academic specialization.	-	-	-	Departmental Requirements
Practical training in veterinary hospitals, field work, or laboratories. This is a moderate graduation requirement.	1.3%	15	1	Summer Training
o elective or additional program components are specified.				Others

7- Program Description:

Stage	Course code	Course name	Credit hours	
			Theoretical	Practical
First	VET101	General Biology	2 hours	2 hours
First	VET104	Biological Risk Management	2 hours	2 hours
First	VET103	Animal Management	2 hours	3 hours
First	VET107	Animal Breeding and Improvement	2 hours	
First	UOB102	English	2 hours	
First	UOB104	Democracy	2 hours	
First	UOB101	Arabic	2 hours	
First	UOB103	Computer	2 hours	

First	VET108	Poultry Management	1hours	2 hours
First	VET102	Osteology and Myology General Chemistry	2 hours	2 hours
First	VET105		3hours	1 hours
Second	VET205	Animal Nutrition	2 hours	2 hours
Second	UOB1022	English	2 hours	2 hours
Second		General Microbiology	3 hours	2 hours
Second	UOB1032	Computer	2 hours	2 hours
Second	UOB205	Baath Crimes	2 hours	2 hours
Second	VET201	Visceral anatomy	2 hours	2 hours
Second	VET202	Basic histology	2 hours	2 hours

Second	VET208	Systemic histology & embryology	2 hours	2 hours
Second	VET203	General physiology	2 hours	2 hours
Second	VET204	Basic biochemistry	2 hours	2 hours
Clinical Veterinary Practice				4hours
Third	-	Parasitology (First Semester)	3hours	2 hours
Third	-	Nematodes,) Cestodes, (Trematodes	3hours	2 hours
Third		Parasitology (Second Semester)	3hours	3 hours
Third		Protozoa and) (Insects	3hours	2 hours

Third		Pathology	3hours	2 hours
Third		General Microbiology	2 hours	2 hours
Third		Special Microbiology	2 hours	2 hours
Third		Food Hygiene	2 hours	2 hours
Third	3402PHR	Immunology	3 hours)	3 hours
Third	3201TOX	Virology	2 hours	2 hours
Third		Pharmacology	2 hours	2 hours
Third		Toxicology	3 hours	2hours
Fourth		Zoonotic Diseases	2 hours	
Fourth	FDS	Female Fertility and Reproductive Diseases	2 hours	2 hours
Fourth		Internal Medicine		
Fourth	OBS	Obstetrics	2 hours	2 hours

Fourth	SUR	Surgery	2 hours	3 hours
Fourth	CLN	Clinic	Weekly for subject	4 hours
Fourth	INF	Infectious Diseases	2 hours	2 hours
Fourth	CLP	Clinical Pathology	2 hours	2 hours
Fifth	Annual	Poultry Diseases	2 hours	2 hours
Fifth	Annual	Pathological Anatomy	2 hours	1 hours
Fifth	Semester	Poultry Disease Clinics	-	4 hours
Fifth		Surgery	2 hours	2 hours
Fifth		Clinics	-	4 hours
Fifth	MED	Internal Medicine	3 hours	
Fifth	CLN	Clinics		12 hours

Fifth		Professional Ethics	1 hours	
Fifth	Annual	Forensic Medicine	-	1 hours
Fifth	MDS	Male Fertility and Reproductive Diseases	1 hours	2 hours
Fifth	RD	Reproductive Techniques	1 hours	2 hours
Fifth	CLN	Clinics	Weekly	16 hours
Fifth	SUR	Small Animal Surgery	2 hours	3 hours
Fifth	CLN	Clinics	Weekly	16 hours
Fifth	Semester	Fish Diseases	2 hours	2 hours
Fifth		Obstetrics	2 hours	2 hours
Fifth	Annual	Poultry Disease Clinics	4 hours	-

Master		Parasitic Immunology	2 hours	2 hours
Master		Nematodes	3 hours	2 hours
Master		Cestodes	3 hours	2 hours
Master		Trematodes	2 hours	2 hours
Master		Medical Insects	2 hours	2 hours
Master		Protozoa	hours 3	2 hours
Master		Advanced Anatomy	2 hours	3 hours
Master		Advanced Bacteriology	2 hours	4 hours
Master		Advanced Bacteriology	2 hours	2 hours
Master		Advanced Immunology	1 hours	2 hours
Master		Virology	2 hours	2 hours
Master		Advanced Virology	2 hours	2 hours

Master		Advanced Mycology	-	3 hours
Master		Molecular Biology	2 hours	ساعة (2)
Master		Clinical Microbiology	2 hours	3 hours
Master		Anatomical Techniques	2 hours	3 hours
Master		Avian Anatomy	2 hours	3 hours
Master		Advanced Histology	2 hours	3 hours
Master		Histological Techniques	2 hours	3 hours
Master		Advanced Embryology	2 hours	2 hours
Master		Parasitic Epidemiology	2 hours	2 hours

Master		Zoonotic Parasitic Diseases	2 hours	2 hours
Master		Advanced Parasitic Diseases	2 hours	2 hours
Master		Ixodidae (Ticks)	2 hours	2 hours
PHD		Genetic Engineering	2 hours	3 hours
PHD		Comparative Anatomy	2 hours	3 hours
PHD		Avian Anatomy	2 hours	3 hours
PHD		Laboratory Animal Anatomy	2 hours	3 hours
PHD		Neuroanatomy	2 hours	3 hours

PHD		Comparative Histology	2 hours	3 hours
PHD		Comparative Embryology	hours 3	2 hours
Diploma		Histochemistry	1 hours	
		General Microbiology	1 hours	
Diploma		Advanced Immunology 1	1 hours	2 hours
Diploma		Zoonotic Viral Diseases	1 hours	2 hours

8- Expected Learning Outcomes of the Program

Knowledge:

1-Familiarity with basic sciences such as anatomy, physiology, biochemistry, microbiology, and pharmacology, as well as understanding the scientific foundations of animal diseases, including infectious and non-infectious diseases.

3- Recognizing the basics of animal nutrition and its effects on health and production.
4- Understanding modern diagnostic techniques in veterinary medicine such as radiology, ultrasound, laboratory analyses, and surgical procedures.

2- Understanding the principles of epidemiology and veterinary public health.	
Skills:	
<p>1- Conducting various clinical examinations on animals efficiently and using laboratory tools and techniques to diagnose diseases.</p> <p>2- Applying veterinary treatment methods including surgical, pharmaceutical, and preventive measures, and handling veterinary emergencies efficiently.</p>	<p>3- Implementing vaccination and immunization programs for the prevention of animal diseases.</p> <p>4- Evaluating the quality and safety of animal products and contributing to food safety.</p>
Values:	
1- Professional and Ethical Responsibility: Commitment to ethical principles in dealing with animals and ensuring humane and fair veterinary care.	2- Animal Welfare: Respecting animal rights and ensuring their welfare according to veterinary and ethical principles.

<p>3- Community Service: Contributing to improving public health by preventing zoonotic diseases and promoting food safety.</p>	<p>4-Commitment to Quality and Excellence: Continuously striving to provide high-quality veterinary services according to international standards, dedication, teamwork, and collaboration with colleagues and other specialists to achieve the best results in veterinary care. Keeping pace with innovation and development to encourage scientific research and creative thinking in the field of veterinary medicine.</p>
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D - General and Transferable Qualifying Skills (Other skills related to employability and personal development).

Dealing with field and laboratory environmental measuring devices. This course description provides a brief summary of the most important characteristics of the course and the expected learning outcomes to be achieved by the student, demonstrating whether he/she has made the best use of available learning opportunities.

9- Teaching and Learning Strategies

1 -Interactive Learning: Encourages interaction between students and the teacher through discussions, direct questions, daily exams, group projects, read and video lectures.

2- Problem-Based Learning: Diagnosing a real problem from the labor market or student needs, prompting students to think critically and seek solutions based on the academic program offered at the college, scientific discussions between student and teacher.

3- Project-Based Learning: Giving students scientific projects using multiple skills.

Problem-solving method

E-learning method ...

Cooperative learning method ...

Learning through play method ...

Brainstorming method ...

10- Assessment Methods

* Preparing scientific reports on various lecture topics.

* Weekly and monthly exams, semester reports, and end-of-year exam.

* Daily performance and interaction in scientific discussion during lectures between student and teacher.

11- Teaching Staff

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if any)		Number of Teaching Staff	
	General	Specific				
Professor	46				Staff	Lecturer
Assistant professor	65				245	None
Lecturer	86	-				
Assistant lecturer	48					

12- Acceptance Criteria

Admission is subject to the laws and instructions of the centralized ministerial admission for both undergraduate and postgraduate studies.

13. The most important sources of information about the program

College of Veterinary Medicine / University of Baghdad

*** Official Website (Arabic): <https://covm.uobaghdad.edu.iq/>**

***Official Website (English): <https://en.uobaghdad.edu.iq/>**

University of Baghdad

Official Website (Arabic): <https://uobaghdad.edu.iq/>

Official Website (English): <https://en.uobaghdad.edu.iq/>

Ministry of Higher Education and Scientific Research

Official Website: <https://moheer.gov.iq/>

College social media Pages

14- Program Development Plan

1- Using new concepts in the field of economic mathematics and using electronic devices to present information and issues.

مخطط مهارات المنهج/ وحدة بحوث الامراض المشتركة

يرجى وضع اشارة في المربعات المقابلة لمخرجات التعلم الفردية من البرنامج الخاضعة للتقييم

مخرجات التعلم المطلوبة من البرنامج

المهارات العامة والتأهيلية المنقولة (المهارات الأخرى المتعلقة بقابلية التوظيف والتطور الشخصي)	الاهداف الوجدانية والقيمية				الاهداف المهاراتية الخاصة بالبرنامج				الاهداف المعرفية				أساس ي أم اختيار ي	اسم المقرر	رمز المقرر	السنة / المستوى				
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مخطط مهارات المنهج

يرجى وضع اشارة في المربعات المقابلة لمخرجات التعلم الفردية من البرنامج الخاضعة للتقييم

مخرجات التعلم المطلوبة من البرنامج

المهارات العامة والتأهيلية المنقولة (المهارات الأخرى المتعلقة بقابلية التوظيف والتطور الشخصي)				الاهداف الوجدانية والقيمية			الاهداف المهاراتية الخاصة بالبرنامج			الاهداف المعرفية				أساس ي أم اختيار ي	اسم المقرر	رمز المقرر	السنة / المستوى	
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x	x	X	x	x	x	x	x	x	x	x	x	X	X	x	x	أساس ي	صحة غذاء متقدم,كيم ياع الغذاء والتغذية	

Course Description:

This course description provides a brief summary of the most important characteristics of the course and the expected learning outcomes to be achieved by the student, demonstrating whether he/she has made the best use of available learning opportunities.

T	Scientific department	Cours name / code	Available Attendance Forms	Number of Study Hours	Semester/Year
1	Public health	-	Attendance	Bachelor (120 hours)	-
2	Poultry disease	-	- Theoretical and practical attendance lectures	(50 hours basic)	First and Second Semester (2024-2025)
3	Microbiology	Introduction to Microbiology Classification and Growth of bacteria Classification of Viruses	Theoretical and practical attendance lectures	(90 hours for undergraduate studies)	Semester

		Classification of Fungi			
		Introduction to Immunology			
4	Zoonotic Diseases Research Unit	-	Attendance	Master (39) Higher Diploma (33)	Semester
5	Internal medicine	General Veterinary Medicine and Surgery	Full attendance	One course / (26) units / (12) hours theoretical (28) hours practical per week	Two courses per year
				Total / (600) study hours per course over (15) weeks	
6	Parasitology	-	Practical and theoretical attendance lectures only	(90 hours for undergraduate studies)	Semester

7	Physiology, Biochemistry and Pharmacology	BIOCHEMISTRY BCH 402	Attendance	4	Semester
8	Anatomy and Histology	-	Practical and theoretical attendance lectures only	(90 hours for undergraduate studies)	Semester
9	Surgery and Obstetrics	FDS, OBS, MSD, RT, LAS, and SAS	Attendance	30 hours	Fourth stage
				3 units	Fifth stage

Department name	week	Hours	Required Learning Outcomes	Module/Topic Name	Teaching Method	Assessment Method
Microbiology	1-4	12	4-1	Introduction to microbiology	Lecture	Exams
	5-8	12	8-5	Classification and growth of bacteria	Lecture	Exams
	9-15	21	15-9	Classification of viruses	Lecture	Exams
	16-32	24	32-16	Classification of fungi	Lecture	Exams
	24-30	21	30-24	Introduction to immunology	Lecture	Exams
Zoonotic Diseases Research Unit	15 weeks	1 Theoretical	Clinical Bacteriology	Clinical Bacteriology and Zoonotic Bacteriology (Diploma & Master)	Theoretical and practical lectures	Quizzes, exams, assignments

	15 weeks	1 Theoretical	Zoonotic Bacteriology	Zoonotic Bacteriology (Diploma & Master)	Theoretic al and practical lectures	Quizzes, exams, assignments
	15 weeks	1 Theoretical	Clinical Immunology	Clinical Immunology (Diploma & Master)	Theoretic al and practical lectures	Quizzes, exams, assignments
	15 weeks	1 Theoretical	Zoonotic Parasitology	Zoonotic Parasitology (Diploma & Master)	Theoretic al and practical lectures	Quizzes, exams, assignments
	15 weeks	1 Theoretical	Zoonotic Virology	Zoonotic Virology (Diploma & Master)	Theoretic al and practical lectures	Quizzes, exams, assignments
	15 weeks	1 Theoretical	Zoonotic Mycology	Zoonotic Mycology (Diploma & Master)	Theoretic al and practical lectures	Quizzes, exams, assignments
	15 weeks	1 Theoretical	Molecular Biology	Molecular Biology (Diploma & Master)	Theoretic al and practical lectures	Quizzes, exams, assignments

	15 weeks	2Practical	Zoonotic Epidemiology	Zoonotic Epidemiology (Diploma & Master)	Theoretic al and practical lectures	Quizzes, exams, assignme nts
	15 weeks	1 Theoretical	Pathological Anatomy	Pathologica l Anatomy (Diploma & Master)	Theoretic al and practical lectures	Quizzes, exams, assignme nts
Anatomy and histology	1-4	12	4-1	Anatomy1	Lecture	Exams
	5-8	12	8-5	Anatomy2	Lecture	Exams
	9-15	21	15-9	Histology	Lecture	Exams
	16-23	24	23-16	Embryolog y	Lecture	Exams
	24-30	21	30-24	Advance histology	Lecture	Exams
	1-4	12	4-1	Comparati ve histology	Lecture	Exams
	5-8	12	8-5	Comparati ve histology	Lecture	Exams

Parasitology	1-4	12	4-1	Trematoda	Lecture	Exams
	5-8	12	8-5	Cestode	Lecture	Exams
	9-15	21	15-9	Nematoda	Lecture	Exams
	16-23	24	23-16	Protozoa	Lecture	Exams
	24-30	21	30-24	Arthropoda	Lecture	Exams

10 Course Structure:

Department name	week	Hours	Required Learning Outcomes	Module/Topic Name	Teaching Method	Assessment Method
Public Health	1-4	12	Public Health	Management, Nutrition and Poultry	Lectures	Quizzes, exams assignments
	5-8	12	Public Health	Management, Nutrition and Poultry	Lectures	Quizzes, exams assignments
	9-15	21	Public Health	Animal Nutrition	Lectures	Quizzes, exams assignments
	16-23	24	Public Health	Food Hygiene	Lectures	Quizzes, exams assignments
	24-30	21	Public Health	Milk and Meat Hygiene	Lectures	Quizzes, exams

						assignme nts
Fourth class poultry disease						
Poultry Diseases	1-2	4	Lecture	Gambaro disease Newcastle disease avian influenza virial arthritis	Theoretical lecture	Written examination
	3-4	4	Lecture	Mareks disease lym- phoid leucosis Avian Encephalomye litis Infectious stunting syndrome	Theoretical lecture	Written examination
	5-6-7	6	Lecture	Pox disease Adeno virus disease (EDS,HHS,IB H)	Theoretical lecture	Written examination

				CIA		
	8	2	Lecture	SEMESTER EXA M	Theoretical lecture	Written examinati on
	9-10	4	Lecture	Infectious bronchitis ILT DUCK VIRAL HEPITIS	Theoretical lecture	Written examinati on
	11- 12-13	6	Lecture	Mycoplasma disease Fowl cholera disease Infectious coryza disease	Theoretical lecture	Written examinati on
	1	4	Lecture	Poultry house Cleaning and disinfections coryza	Theoretic lecture	Written examinati on

	2	8	Lecture	Anatomy and examination Case history	Practical lecture	Slide examination
	3	8	Lecture	Vaccination program Poultry nutrition	Practical lecture	Slide examination
Slide examination	4	8	Lecture	Newcastle disease Avian influenzas	Practical lecture	Slide examination
	5	8	Lecture	Gambaro disease Viral arthritis	Practical lecture	Slide examination
	6	8	Lecture	Mareks disease lymphoid leucosis	Practical lecture	Slide examination
	7	8	Lecture	Avian Encephalomyelitis	Practical lecture	Slide examination

				Infectious stunting Syndrome		
	8	8	Lecture	Pox disease CIA	Practical lecture	Slide examinati on
	9	8	Lecture	Adeno virus disease (EDS,HHS,IB H)	Practical lecture	Slide examinati on
	10	8	Lecture	SEMESTER EXAM	Practical lecture	Slide examinati on
	11	8	Lecture	Infectious bronchitis ILT DUCK VIRAL HEPITIS	Practical lecture	Slide examinati on
	12	8	Lecture	Mycoplasma disease	Practical lecture	Slide examinati on

	13	8	Lecture	Fowl cholera disease Infectious coryza disease	Practical lecture	Slide examination
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2. Course Structure

2. Course Structure						
Department name	week	Hours	Required Learning Outcomes	Module/Topic Name	Teaching Method	Assessment Method
Surgery and Obstetrics		45 hours total	Surgery / P1 Fourth Stage Theoretical	15. Introduction and classification of surgery 2- Sterilization (physical and chemical and modern fertilization techniques) 3- Shock and fluid therapy Wounds 4- Hemorrhage and hemostasis 5- Abscess, hematoma, and cysts 6- Fistula, sinuses, ulcers, and gangrene	Field, lab, and lectures	Daily and semester

Tumors and burns

7- Radiology: (definition, principle, properties, types, factors affecting X-rays)

8- Contrast radiography

9- Radiation protection and hazards

10- Modern diagnostic methods: (CT scan, MRI, ultrasound, digital radiography, gamma camera)

11- Fractures: (definition, cause, classification,

				treatment, fracture healing, complications		
		30 hours total	Surgery / P1 Fourth Stage Practical	15. Introduction to operating theatre 2- Sterilization 3- Surgical instruments 4- Preoperative preparation 5- Suture materials (suture material and suture patterns) 6- X-rays 7- Fractures	Field, lab, and lectures	Daily and semester
			Surgery / P2 Fourth Stage Theoretical	15. Anesthesia (restraint and terminology) 2- Introduction to anesthesia and	Field and lectures	Daily and semester

				<p>influencing factors</p> <p>3- Pre-anesthesia</p> <p>4- Muscle relaxants</p> <p>5- Local anesthesia</p> <p>6- General anesthesia</p> <p>7- Anesthetic accidents</p> <p>8- Lameness</p> <p>9- Laser surgery</p> <p>10- Endoscopic surgery and laparoscopy</p>		
		30 hours	<p>Surgery / P2 Fourth Stage Practical</p>	<p>15. Local anesthesia</p> <p>2- General anesthesia</p> <p>3- Intra-articular injections</p>	Field and lectures	Daily and semester

				<p>4- Tendon surgery</p> <p>5- Laser and endoscopic surgery</p> <p>6- Dehorning and disbudding</p>		
		30hours	Surgery / P1 Fifth Stage Theoretical	<p>15 . Digestive system (diseases of salivary glands and tongue)</p> <p>2- Dental diseases</p> <p>3- Soft and hard palate diseases</p> <p>4- Pharyngeal diseases</p> <p>5- Esophageal diseases</p> <p>6- Simple stomach diseases</p>	Field and lectures	Daily and semester

				<p>7- Large stomach diseases</p> <p>8- Accessory digestive organ diseases</p> <p>9- Hernia</p> <p>10- Cardiovascular system</p> <p>11- Ear surgery: aural hematoma, ear cropping</p> <p>12- Eye surgery</p> <p>13- Central nervous system</p>		
		30 hours	Surgery / P1 Fifth Stage Practical	<p>15. Digestive system: tooth extraction</p> <p>2- Partial glossectomy</p> <p>3- Esophagectomy</p> <p>4- Gastrectomy</p>	Field and lectures	Daily and semester

				<p>5- Pylorotomy and pyloromyotomy</p> <p>6- Enterectomy</p> <p>7- Enterectomy</p> <p>8- Rumenotomy</p> <p>9- Partial and total splenectomy</p> <p>10- Partial hepatectomy</p> <p>11- Ear surgery</p>		
		30 hours	<p>Surgery / P2 Fifth Stage Theoretical</p>	<p>15 . Respiratory system: injury to nostrils and nasal cavity</p> <p>2- Sinus injury</p> <p>3- Laryngeal and tracheal injury</p> <p>4- Lung injury</p> <p>5- Chest wall injury</p>	<p>Field and lectures</p>	<p>Daily and semester</p>

6- Male reproductive system: penile and preputial injury, preparation for teasing, castration

7- Female reproductive system: ovariectomy, ovariosterectomy, cesarean section, rectovaginal fistula, pneumovagina treatment

8- Urinary system: kidney and ureter injury, bladder injury, urethral injury

				9- Mammary gland: mammary gland injury, teat surgery		
		30 hours	Surgery / P2 Fifth Stage Practical	<p>15 . Respiratory system: trephination</p> <p>2- Laryngectomy</p> <p>3- Tracheotomy</p> <p>4- Rib resection</p> <p>5- Thoracotomy</p> <p>6- Urinary system: nephrectomy and nephrotomy</p> <p>7- Cystectomy and cystostomy</p> <p>8- Urethrectomy and urethroscopy and urethral fistula</p>	Field and lectures	

				<p>9- Male reproductive system: castration</p> <p>10- Penile surgery: circumcision, chordectomy, penile amputation</p> <p>11- Female reproductive system: ovariectomy, ovariosterectomy, cesarean section</p> <p>12- Mastectomy</p> <p>13- Teat fistula</p>		
		30 hours	<p>Obstetrics / Female Fertility Fourth Stage Theoretical</p>	15 . Anatomy of female reproductive organs	Field and lectures	Daily and semester

2- Puberty and maturity

3- Estrous cycle in animals

4- Estrus detection

5- Seasonality and its effect on reproduction

6- Reproductive hormones

7- Temporary and permanent infertility

8- Reproduction in mares

9- Reproduction in buffalo and camels

10- Reproduction in dogs and cats

		30 hours	<p>Obstetrics / Female Fertility Fourth Stage Practical</p>	<p>15. Anatomy of female reproductive organs in animals</p> <p>2- Examination of female reproductive organs in animals</p> <p>3- Measurement of female reproductive organs in animals</p> <p>4- Uses of reproductive hormones</p> <p>5- Vaginal and uterine samples</p> <p>6- Congenital anomalies of female reproductive organs in animals</p> <p>7- Intrauterine therapy</p>	Field and lectures	Daily and semester
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				8- Reproductive performance		
		30 hours	Obstetrics Second Semester / Fourth Stage Theoretical	<p>15. Pregnancy diagnosis from the dam</p> <p>2- Factors affecting pregnancy period (normal and abnormal)</p> <p>3- Fetal membranes and their problems</p> <p>4- Pregnancy problems</p> <p>5- Signs of approaching parturition</p> <p>6- Stages of labor</p> <p>7- Retained fetal membranes</p> <p>8- Puerperal period</p>	Field and lectures	Daily and semester

		30 hours	Obstetrics Second Semester / Fourth Stage Practical	<p>15. Normal fetal position in the birth canal</p> <p>2- Abnormal fetal position in the birth canal</p> <p>3- Correction of abnormal fetal positions</p> <p>4- Causes of dystocia in animals</p> <p>5- Forced extraction</p> <p>6- Fetotomy</p> <p>7- Cesarean section</p> <p>8- Anatomical and histological division of fetal membranes</p>	Field and lectures	Daily and semester
		30 hours	Obstetrics / Male Fertility Fifth	15. Puberty and maturity in males	Field and lectures	Daily and semester

			Stage Theoretical / Sem.1	2- Hormonal control of the male reproductive system 3- Spermatogenesis 4- Semen composition 5- Sperm metabolism 6- Semen collection methods 7- Semen evaluation methods 8- Semen dilution methods 9- Semen storage methods		
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				<p>10- Artificial insemination and sperm transfer</p> <p>11- Infertility in male animals</p>		
		30 hours	<p>Obstetrics / Male Fertility Fifth Stage Practical / Sem.1</p>	<p>15. Anatomy of male reproductive organs</p> <p>2- Breeding soundness</p> <p>3- Semen collection</p> <p>4- Semen evaluation (gross, volume, color)</p> <p>5- Semen evaluation (gross, mass motility, individual motility)</p>	Field and lectures	Daily and semester

				<p>6- Semen evaluation (percentage of dead, live, and abnormal sperm)</p> <p>7- Semen dilution</p> <p>8- Semen storage (liquid)</p> <p>9- Semen storage (frozen)</p> <p>10- Insemination techniques</p> <p>11- Infertility in male animals</p>		
		30 hours	<p>Obstetrics / Reproductive Techniques Fifth Stage Theoretical</p>	<p>15. Ultrasound – general information</p> <p>2- Ultrasound in large animals</p> <p>3- Ultrasound in small animals</p>	Field and lectures	Daily and semester

4- Estrus
synchronization
in cattle

5- Estrus
synchronization
in sheep and
goats

6- Control of
puberty age

7-
Superovulation

8- Embryo
transfer

9- Intrauterine
insemination by
endoscopy

10- Methods of
oocyte collection
and maturation

11- Artificial
insemination

				<p>12- Sex determination of sperm</p> <p>13- Cloning and embryo splitting</p> <p>14- Suppression of reproductive activity</p>		
		30 hours	<p>Obstetrics / Reproductive Techniques Fifth Stage Practical</p>	<p>15. Clinical applications of ultrasound</p> <p>2- Estrus synchronization</p> <p>3- Control of puberty age</p> <p>4- Superovulation</p> <p>5- Embryo transfer</p> <p>6- Intrauterine insemination</p>	Field and lectures	Daily and semester

7- Methods of oocyte collection and maturation

8- Artificial insemination

9- Sex determination of sperm

10- Cloning and embryo splitting

11- Suppression of reproductive activity

Department name	week	Hours	Required Learning Outcomes	Module/Topic Name	Teaching Method	Assessment Method
Physiology, Biochemistry and Pharmacology	15	150	Cholinesterase activity Organophosphate poisoning in rats or mice Effects of xylazine in sheep Diuretics Aspirin toxicity (compared to acetaminophen) Veterinary pharmaceutical preparations Neurobehavioral effects of	First Semester Drugs acting on the cardiovascular system and blood Chemotherapy of microbial diseases Chemotherapy of parasitic diseases Autacoids and anti-inflammatory drugs Endocrine pharmacology and hormones Dermatological pharmacology	Oral examination Assessment Daily evaluation 3- Report writing	Daily exam

			<p>drugs and toxic substances</p> <p>Effects of drugs on the isolated heart</p>	<p>Total for second semester</p> <p>Biometrics</p> <p>Nature and sources of drugs</p> <p>Pharmaceutical preparations and dosage forms</p> <p>Routes of drug administration</p> <p>Differences in drug response (species and individuals)</p> <p>Induction of microsomal enzymes and drug response</p> <p>Drug excretion</p> <p>Prescription writing</p> <p>Dispensing</p>	
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				<p>Drug action on the eye</p> <p>Drug action on isolated guinea pig ileum</p> <p>Drugs and their effects on rabbit intestine</p> <p>Drugs and their effects on rabbit uterus</p> <p>Neuromuscular blockade (in frog)</p> <p>Drug dose calculation</p> <p>Xylazine-ketamine anesthesia in rabbits</p> <p>Dose-response relationships (ED50, LD50, TI)</p>		
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				Anticonvulsants , blood determination		

4. Course Structure						
Department name	week	Hours	Required Learning Outcomes	Module/Topic Name	Teaching Method	Assessment Method
		45 hours per semester	Internal Medicine / MED1 Fourth Stage Theoretical	1. Digestive system diseases 2- Respiratory system diseases 3- Joint and muscle diseases 4- Nervous system diseases 5- Skin and coat diseases	Lectures	Daily and semester
		60 hours per semester	Practice2 / CLIN2 Fourth Stage Practical	Clinical cases in various clinical sites	Field, lectures, and lab	Daily and semester

		60 hours per semester	Clinics / CLIN3 Fifth Stage Practical	Clinical cases in various clinical sites	Field, lectures, and lab	Daily and semester
		45 hours per semester	Internal Medicine / MED2 Fifth Stage Theoretical	1. Metabolic diseases 2- Diseases of mineral and essential element deficiency 3- Toxins and their treatment	Lectures	Daily and semester
		60 hours total	Practice / CLIN1 Third Stage Practical	1. Data collection, history, posture, and	Field, lectures, and lab	Daily and semester

				<p>behavior of the animal</p> <p>2. Clinical examination methods and temperature measurement</p> <p>3. General clinical examination</p> <p>- (Pulse rate and respiratory rate)</p> <p>4. Skin and external covering</p> <p>5. Cardiovascular system</p> <p>6. Digestive system</p> <p>7. First examination</p>		
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				<p>8. Respiratory system</p> <p>9. Lymph nodes</p> <p>10. Udder and milk examination</p> <p>11. Drug administration</p> <p>12. Vaccines and drugs used in veterinary medicine</p> <p>13. Allergy tests</p> <p>14. Routine clinical examination of the animal and examination card</p>		
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				15. Second examination		
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11- Infrastructure

Department	Required Textbooks	Main References (Sources)	Recommended Books and References (Scientific journals, reports)	Electronic References and Internet Sites
Internal and Preventive Medicine	VETERINARY MEDICINE: A TEXTBOOK OF THE DISEASES OF CATTLE, HORSES, SHEEP, PIGS, CATS ELEVENTH EDITION -Clinical EXAMINATIO	Sheep ,goats ,and cervid medicine book	-	Merck veterinary manual-online

	N of farm animals			
Microbiology	Microbiology, Quinn, 2008. 2- Veterinary Microbiology, Quinn, 2008. 3- Veterinary Immunology, Tizard, 2016. 4- Gen Cloning and DNA analysis, Brown, 2016. 5- Fungal Botany Immunology, Kuby, 2018.	1. Clinical Veterinary Microbiology, Quinn, 2008. 2. Veterinary Microbiology, Quinn, 2008. 3. Veterinary Immunology, Tizard, 2016. 4. Gen Cloning and DNA analysis, Brown, 2016. 5. Fungal Botany	-	CDC, Medical Lab

		Immunology, Kuby, 2018.		
Parasitology	Soulsby (1982)	Tylor) (2007	Vet. Parasitol. J, Parasitology Res	CDC. Web.
Poultry Diseases	Pathological Basis of Vet. Diseases 1- 2- Text veterinary Pathology (Smith)	-	Avian pathology, disease	None
Anatomy and Histology	.Dellmann, H. D. 1998. Textbook of Veterinary Histology. 5th Ed. Lippincott, Williams and Wilkins, USA. (HIST) Bacha, W.J. and L. M. Bacha. 2000. Color Atlas of	Applied Veterinary Histology. (3rd Ed). Williams and Wilkins, Baltimore.(HIST) 5. Veterinary Developme	Veterinary Developmental Anatomy- Veterinary Embryology, 2011. (EMB)	Google scholar

	Veterinary Histology, Lippincott William and Wilkins, USA.(HIST)Embryology, 2011. (EMB)	Anatomy- Veterinary Embryology, 2011. (EMB) 6. langman's medical embryology 9th ed. (EMB)		
Surgery and Obstetrics	-	-	-	
Physiology, Biochemistry and Pharmacology	Kanok	Kaidon	Yerazil	Google Scholar
Public Health	MCDonald Book,2019	Vet book, animal management2023	Text book of milk hygiene 2014	Text book of meat hygiene W.Ernst-

				browning2 0166
Zoonotic Diseases	-	-	-	-