University of Mosul

College of Veterinary Medicine

Academic Program Description

University Name: University of Mosul

Faculty/Institute: College of Veterinary Medicine

Academic Program Name: Bachelor in Veterinary Medicine and Surgery

Final Certificate Name: Bachelor in Veterinary Medicine and Surgery

Academic System: Semesters

Description Preparation Date: 1/9/2023

File Completion Date: 1/9/2023

Signature:
Head of Department Name:
Prof. Dr. Dhafer Mohammad Aziz
Date: 1/9/2023

Signature:
Scientific Associate Name:
Prof. Dr. Raad Abdul Ghani Bashir
Date: 1/9/2023

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Prof. Dr. Ammar Mahmood Ahmed
Date: 1/9/2023
Signature:

Approval of the Dean
Prof. Dr. Dhafer Mohammad Aziz

1. Program Vision

Excellence and creativity in the field of veterinary sciences in accordance with international standards and leadership in veterinary education and scientific research to ensure animal health and livestock development with a healthy environment.

2. Program Mission

Preparing graduates of veterinarians and scientific staff specialized in medical sciences and veterinary surgery to contribute to the prevention of diseases of animals, the diagnosis and treatment of diseases, the preservation and development of livestock, as well as the fight against common diseases and environmental pollution.

3. Program Objectives

1. Teaching the students various medical sciences and veterinary surgery during five consecutive years.
2. Providing clinical services by faculty professors and with the participation of students in the diagnosis and treatment of animal diseases.
3. Providing advice to animal owners, livestock projects and poultry farming on the best ways to manage, develop and improve animal projects.
4. Maintaining human health by controlling common diseases that are transmitted from animals to humans.
5. Holding continuing education courses in various specialties of veterinary medicine for veterinarians to increase and develop their scientific and clinical information to serve the community.
6. Conducting scientific research in various fields of veterinary medicine and working to solve the problems facing livestock in the country.
7. Developing and graduating a qualified scientific cadre for teaching and scientific research in various veterinary specialties.
8. Improving the environment by controlling environmental pollution, which reflects positively on human health.

4. Program Accreditation

No

5. Other external influences

There is no external sponsor.

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	**5**	**10**	**7 %**	**Basic**
College Requirements	**66**	**270**	**91.7 %**	**Basic**
Department Requirements	**-**			
Summer Training	**1**	**15**	**1.3 %**	**Basic**
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
First Year First Semester	VEA1101	Anatomy - 1	2	3
	VEH1103	Animal Management - 1	2	2
	VEA1102	Biology - 1	2	2
	VED1004	Computer Science - 1	1	2
	VEH1001	Democracy and Human Rights	2	-
	VEP1003	English Language	1	-
	VEP1104	General Chemistry - 1	2	2
	VEM1106	Biorisks Management	1	-
First Year Second Semester	VEA1106	Anatomy - 2	2	3
	VEH1107	Animal Management - 2	2	2
	VED1106	Biology - 2	2	2
	VED1005	Computer Science - 2	1	2
	VEP1109	General Chemistry - 2	2	2
	VEH1108	Poultry Management	1	2
	VEP1002	Arabic Language	1	-
Second Year First Semester	VEA2101	Anatomy - 1	2	2
	VEH2105	Animal Nutrition - 1	2	2
	VEP2104	Biochemistry - 1	3	2
	VEA2102	Histology - 1	2	3
	VEP2103	Physiology - 1	4	2
	VEH2106	Genetics	2	-
Second Year Second Semester	VEA2107	Anatomy - 2	2	2
	VEH2111	Animal Nutrition - 2	2	2
	VEP2110	Biochemistry - 2	3	2
	VEA2108	Histology - 2	2	3
	VEP2109	Physiology - 2	4	2
	VEH2113	Statistics	2	2
	VEA2112	Embryology	2	-
Third Year First Semester	VEM3104	General Microbiology	3	2
	VED3100	General Pathology	3	3
	VEM3102	Helminthology	3	2
	VEM3115	Immunology	2	2
	VEP3101	Pharmacology - 1	3	2
	VEH3116	Toxicology	2	-

Third Year Second Semester	VEM3122	Protozoa and Arthropod	3	2
	VEM3124	Special Microbiology	3	2
	VED3120	Systemic Pathology	3	3
	VEP3121	Pharmacology - 2	3	2
	VEM3126	Virology	2	2
	VEC3127	Veterinary Clinic	-	2
Fourth Year First Semester	VED4119	Clinical Pathology - 1	1	2
	VED4113	Female Fertility	2	2
	VED4117	Infectious Diseases - 1	3	-
	VED4110	Internal Medicine - 1	3	-
	VED4111	Morbid Anatomy - 1	1	2
	VED4114	Poultry Diseases - 1	2	2
	VED4115	Surgery - 1	3	2
	VEC4112	Veterinary Clinic - 1	-	4
Fourth Year Second Semester	VED4127	Clinical Pathology - 2	1	2
	VED4126	Infectious Diseases - 2	3	-
	VED4128	Internal Medicine - 2	3	-
	VED4121	Morbid Anatomy - 2	1	2
	VED4124	Poultry Diseases - 2	2	2
	VED4125	Surgery - 2	3	2
	VEC4123	Veterinary Clinic - 2	-	4
	VED4122	Veterinary Obstetrics	2	2
	VED4107	Zoonotic Diseases	2	-
Fifth Year First Semester	VED5110	Fish Diseases	2	2
	VED5113	Internal Medicine - 1	3	-
	VEC5111	Male Fertility	1	2
	VEH5114	Meat Hygiene	2	2
	VEC5115	Surgery - 1	2	2
	VEC5112	Veterinary Clinic - 1	-	14
Fifth Year Second Semester	VED5120	Internal Medicine - 2	3	-
	VEH5121	Milk Hygiene	2	2
	VEC5117	Reproductive Biotechnology	1	2
	VEC5123	Surgery - 2	2	2
	VEC5118	Veterinary Clinic - 2	-	12
	VEC5119	Veterinary Ethics	1	-
	VED5122	Veterinary Forensic Medicine	1	-
	VEC5125	Research Projects	1	1
	VEC5109	Summer Clinic	-	15

8. Expected learning outcomes of the program	
Knowledge	
A1. Knowledge of the basic anatomy of animals.	
A2. Knowledge of animal production, animal husbandry.	
A3. Knowledge of animal diseases and their causes.	
A4. Knowledge of animal treatment and preventing diseases.	
Skills	
B1. Find out the methods of administration of the medication in various animals; orally and intramuscular, subcutaneous or intravenous injection.	
B2. Knowledge of surgical operation techniques.	
B3. Examining the dead animals, conducting a pathological autopsy and taking	
B4. Knowledge of pregnancy diagnosis and obstetrics in farm animals.	
Ethics	
C1. Deal sincerely with animal breeders, professional colleagues and competent authorities.	
C2. Work professionally with respect to the professional and legal responsibilities of the veterinarian and understand and apply the laws on the ethics of the veterinary profession.	
C3. Not to be affected by economic and emotional pressures when making decisions.	
C4. Provide emergency care for all kinds of animals.	

9. Teaching and Learning Strategies

- Theoretical lectures.
- Practical work in laboratory.
- Practical classes utilizing live animals.
- Practice in the University Veterinary Clinic.

10. Evaluation methods

- Written Examination.
- Practical Examination.
- Objective Structured Practical Veterinary examination (OSPVE).

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor	Vet. Med. Surgery	Vet. Microbiology			4	
	Vet. Med. Surgery	Vet. Pharmacology			4	
	Vet. Med. Surgery	Vet. Pathology			3	
	Vet. Med. Surgery	Vet. Obstetrics			2	
	Vet. Med. Surgery	Vet. Surgery			2	
	Vet. Med. Surgery	Vet. Public Health			3	
	Vet. Med. Surgery	Vet. Medicine			3	
	Vet. Med. Surgery	Vet. Parasitology			4	
	Vet. Med. Surgery	Vet. Physiology			2	
	Vet. Med. Surgery	Vet. Biochemistry			1	
	Sciences	Microbiology			1	
	Agriculture	Animal Breeding			1	
Assistant Professor	Vet. Med. Surgery	Vet. Microbiology			5	
	Vet. Med. Surgery	Vet. Anatomy			4	
	Vet. Med. Surgery	Vet. Pharmacology			2	
	Vet. Med. Surgery	Vet. Toxicology			2	
	Vet. Med. Surgery	Vet. Pathology			5	
	Vet. Med. Surgery	Vet. Obstetrics			5	
	Vet. Med. Surgery	Vet. Surgery			8	
	Vet. Med. Surgery	Vet. Public Health			3	
	Vet. Med. Surgery	Vet. Medicine			8	
	Vet. Med. Surgery	Vet. Parasitology			4	
	Vet. Med. Surgery	Vet. Physiology			5	
	Vet. Med. Surgery	Vet. Biochemistry			1	
	Sciences	Microbiology			1	
	Sciences	Parasitology			1	
	Sciences	Biochemistry			1	
Lecturer	Vet. Med. Surgery	Vet. Microbiology			3	
	Vet. Med. Surgery	Vet. Anatomy			2	
	Vet. Med. Surgery	Vet. Pharmacology			7	
	Vet. Med. Surgery	Poultry Diseases			4	
	Vet. Med. Surgery	Vet. Clinical Pathol.			4	
	Vet. Med. Surgery	Vet. Immunology			1	
	Vet. Med. Surgery	Vet. Pathology			5	
	Vet. Med. Surgery	Vet. Obstetrics			1	
	Vet. Med. Surgery	Vet. Surgery			3	
	Vet. Med. Surgery	Vet. Public Health			2	
	Vet. Med. Surgery	Vet. Medicine			1	
	Vet. Med. Surgery	Vet. Parasitology			1	
	Vet. Med. Surgery	Vet. Physiology			5	

	Vet. Med. Surgery	Vet. Biochemistry			3	
	Sciences	Genetic			1	
	Sciences	Chemistry			1	
	Agriculture	Animal Nutrition			1	
	Agriculture	Animal Physiology			1	
Assistant Lecturer	Vet. Med. Surgery	Vet. Microbiology			1	
	Vet. Med. Surgery	Vet. Anatomy			3	
	Vet. Med. Surgery	Vet. Pharmacology			1	
	Vet. Med. Surgery	Vet. Pathology			3	
	Vet. Med. Surgery	Vet. Surgery			1	
	Vet. Med. Surgery	Vet. Public Health			1	
	Vet. Med. Surgery	Vet. Medicine			1	
	Vet. Med. Surgery	Vet. Parasitology			3	
	Vet. Med. Surgery	Vet. Clinical Pathol.			2	
	Sciences	Chemistry			1	
	Agriculture	Animal Nutrition			1	

Professional Development

Mentoring new faculty members

New faculty members must do the following:
1. Completing teaching methods courses and passing related exams.
2. Passing the teaching suitability test.

Professional development of faculty members

Faculty members are developed through the following:
1. Training courses in the field of computers and its applications.
2. Training courses in the field of English.
3. Specialized training courses in the faculty member's field of specialization.

12. Acceptance Criterion

Students are admitted to college through central admission

13. The most important sources of information about the program

1. Instructions for approving curricula issued by the Ministry of Higher Education and Scientific Research.
2. Curriculum requirements approved by program accreditation committees for colleges of veterinary medicine

14. Program Development Plan

1. Forming a higher committee to match the approved curricula with the approved curricula in scientific universities.
2. Choose reputable universities and view the curricula approved therein.
3. Approving the recommendations issued by the Supreme Committee for Curriculum Conformity.

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**
First Year First Semester	VEA1101	Anatomy - 1	Basic	X											
	VEH1103	Animal Management - 1	Basic		X			X				X			
	VEA1102	Biology - 1	Basic			X				X			X		
	VED1004	Computer Science - 1	Basic		X					X					
	VEH1001	Democracy and Human Rights	Basic												X
	VEP1003	English Language	Basic		X				X						
	VEP1104	General Chemistry - 1	Basic					X							
	VEM1106	Biorisks Management	Basic			X				X			X		
First Year Second Semester	VEA1106	Anatomy - 2	Basic	X											
	VEH1107	Animal Management - 2	Basic		X			X				X			
	VED1106	Biology - 2	Basic			X				X			X		
	VED1005	Computer Science - 2	Basic		X					X					
	VEP1109	General Chemistry - 2	Basic					X							
	VEH1108	Poultry Management	Basic		X			X				X			
	VEP1002	Arabic Language	Basic												X
Second Year First Semester	VEA2101	Anatomy - 1	Basic	X											
	VEH2105	Animal Nutrition - 1	Basic		X			X							
	VEP2104	Biochemistry - 1	Basic					X		X					
	VEA2102	Histology - 1	Basic	X											
	VEP2103	Physiology - 1	Basic		X			X		X					
	VEH2106	Genetics	Basic			X		X							
Second Year Second Semester	VEA2107	Anatomy - 2	Basic	X											
	VEH2111	Animal Nutrition - 2	Basic		X			X							
	VEP2110	Biochemistry - 2	Basic					X		X					
	VEA2108	Histology - 2	Basic	X											
	VEP2109	Physiology - 2	Basic		X			X		X					
	VEH2113	Statistics	Basic		X					X					
	VEA2112	Embryology	Basic	X											

Third Year First Semester	VEM3104	General Microbiology	Basic			X	X			X			X		
	VED3100	General Pathology	Basic	X		X				X					
	VEM3102	Helminthology	Basic			X	X			X			X		
	VEM3115	Immunology	Basic			X	X			X			X		
	VEP3101	Pharmacology - 1	Basic				X	X							X
	VEH3116	Toxicology	Basic				X	X							X
Third Year Second Semester	VEM3122	Protozoa and Arthropod	Basic			X	X			X			X		
	VEM3124	Special Microbiology	Basic			X	X			X			X		
	VED3120	Systemic Pathology	Basic	X		X				X					
	VEP3121	Pharmacology - 2	Basic				X	X							X
	VEM3126	Virology	Basic			X	X			X			X		
	VEC3127	Veterinary Clinic	Basic		X				X			X			
Fourth Year First Semester	VED4119	Clinical Pathology - 1	Basic		X				X				X		
	VED4113	Female Fertility	Basic	X	X	X	X	X			X	X	X	X	X
	VED4117	Infectious Diseases - 1	Basic		X				X				X		
	VED4110	Internal Medicine - 1	Basic		X				X				X		
	VED4111	Morbid Anatomy - 1	Basic	X		X	X			X				X	
	VED4114	Poultry Diseases - 1	Basic	X	X	X	X			X		X	X		
	VED4115	Surgery - 1	Basic	X				X	X						
	VEC4112	Veterinary Clinic - 1	Basic		X				X				X		
Fourth Year Second Semester	VED4127	Clinical Pathology - 2	Basic		X				X				X		
	VED4126	Infectious Diseases - 2	Basic		X				X				X		
	VED4128	Internal Medicine - 2	Basic		X				X				X		
	VED4121	Morbid Anatomy - 2	Basic	X		X	X			X				X	
	VED4124	Poultry Diseases - 2	Basic	X	X	X	X			X		X	X		
	VED4125	Surgery - 2	Basic	X				X	X						
	VEC4123	Veterinary Clinic - 2	Basic		X				X				X		
	VED4122	Veterinary Obstetrics	Basic	X	X	X	X	X	X		X	X	X	X	X
	VED4107	Zoonotic Diseases	Basic			X				X			X		
Fifth Year First Semester	VED5110	Fish Diseases	Basic	X	X	X	X			X		X	X		
	VED5113	Internal Medicine - 1	Basic	X					X				X		
	VEC5111	Male Fertility	Basic	X	X	X	X	X			X	X	X	X	X
	VEH5114	Meat Hygiene	Basic	X				X							
	VEC5115	Surgery - 1	Basic	X				X	X						

	VEC5112	Veterinary Clinic - 1	Basic	X					X				X		
Fifth Year Second Semester	VED5120	Internal Medicine - 2	Basic	X					X				X		
	VEH5121	Milk Hygiene	Basic	X				X							
	VEC5117	Reproductive Biotechnology	Basic	X				X	X		X	X	X	X	X
	VEC5123	Surgery - 2	Basic	X				X	X						
	VEC5118	Veterinary Clinic - 2	Basic	X					X				X		
	VEC5119	Veterinary Ethics	Basic		X							X	X	X	X
	VED5122	Veterinary Forensic Medicine	Basic	X	X	X	X			X	X	X	X	X	
	VEC5125	Research Projects	Basic		X				X				X		
	VEC5109	Summer Clinic	Basic	X					X				X		

Course Description Form

1. Course Name:

Anatomy - 1

2. Course Code:

VEA1101

3. Semester / Year:

First Semester / First Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	3	1.5
Total	**5**	**3.5**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Introduction to anatomy	Theoretical lectures	Written Exam
2-4	6		General osteology		
5-7	6		Myology		
8-10	6		General syndesmology (arthrology)		
11-12	4		Endocrine glands		
13-15	6		Sense organs		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3		Bones of thoracic limb, joints, scapula of horse	Practical work in laboratory	Practical Exam
2	3		Humerus and comparative anatomy		
3	3		Radius and ulna with comparison		
4	3		Carpal bones in horse and metacarpal and phalanges bones		
5	3		Muscles of the shoulder griddle of the sheep		
6	3		The lateral surface of shoulder muscles and arm in sheep		
7	3		The medial surface of shoulder muscles and arm in sheep		
8	3		Muscles of the forearm and manus (extensors and flexors)		
9	3		Review		
10	3		Practical examination		
11	3		Arteries and nerves of the thoracic limb in sheep		
12	3		Thoracic, lumbar vertebrae and sacrum in horse		
13	3		Ribs and sterium in horse		
14	3		The hoof in horse and claw of the ox		
15	3		Urinary system (kidneys, ureter and urinary bladder)		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	23	34	57
Practical	17	26	43
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Animal Management - 1

2. Course Code:

VEH1103

3. Semester / Year:

First Semester / First Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical classes utilizing live animals.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Introduction to animal welfare	Theoretical lectures	Written Exam
2-3	4		Animal wealth and its importance		
4-7	8		Horses		
8-11	8		Cattle		
12-15	8		Sheep and Goats		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-4	8		External features of farm animals	Practical work in laboratory	Practical Exam
5-7	6		Methods of approaching, restraint and casting of horses		
8-10	6		Methods of approaching, restraint and casting of cattle, camel		
11	2		Exam		
12-14	6		Methods of approaching, restraint and casting of sheep		
15	2		Vices of horses		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Biology - 1

2. Course Code:

VEA1102

3. Semester / Year:

First Semester / First Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Introduction and definitions of terms	Theoretical lectures	Written Exam
2	2		Origin of life		
3	2		The cell		
4	2		Taxonomy of Kingdoms		
5-6	4		Phylum: Protozoa		
7-8	4		Phylum: Platyhelminthes		
9-10	4		Phylum: Nemathelminths		
11	2		Phylum: Arthropoda		
12-15	8		Phylum: Chordata		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		The Microscope	Practical work in laboratory	Practical Exam
2	2		The Cell		
3-4	4		Protozoa / Mastigophora		
5	2		Protozoa / Sarcodena		
6	2		Protozoa / Ciliphora		
7	2		Protozoa / Sporozoa		
8	2		Nematoda / Ascaris		
9	2		Nematoda / Ancylostoma		
10	2		Trematoda / Fasciola		
11	2		Trematoda / Schistosoma		
12	2		Cestoda / Taenia		
13	2		Mosquitoes		
14-15	4		Phylum: Chordata (dissecting)		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Computer Science - 1

2. Course Code:

VED1004

3. Semester / Year:

First Semester / First Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	1	1
Practical	2	1
Total	**3**	**2**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-3	3		Introduction to digital world and computer system (generations)	Theoretical lectures	Written Exam
4-5	2		Data representation in computer's memory		
6-8	3		Numerical systems		
9-12	4		Introduction to Windows		
13-15	3		Definition of (task bar, start menu, icons)		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-5	10		Using computer	Practical work in laboratory	Practical Exam
6-10	10		Practicing with GWBASIC instructions		
11-15	10		Practicing with windows		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	20	30	50
Practical	20	30	50
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Democracy and Human Rights

2. Course Code:

VEH1001

3. Semester / Year:

First Semester / First Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.

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

	Credit Hours	Units
Theoretical	2	2
Total	**2**	**2**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Definition of democracy	Theoretical lectures	Written Exam
2-3	4		Types of democracy		
4-5	4		Classification of democracy		
6-7	4		Evaluation of democracy		
8	2		Human right between Islam and laws		
9	2		Historical development of human right		
10-11	4		Human right and its types		
12-13	4		Insurance to protection of human rights		
14	2		Childhood protection in Islam		
15	2		Childhood protection in Laws		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

English Language

2. Course Code:

VEP1003

3. Semester / Year:

First Semester / First Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.

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

	Credit Hours	Units
Theoretical	1	1
Total	**1**	**1**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
				Theoretical lectures	Written Exam

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

General Chemistry - 1

2. Course Code:

VEP1104

3. Semester / Year:

First Semester / First Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Atoms and electronic structure	Theoretical lectures	Written Exam
3-4	4		Types of chemical bonds		
5	2		Acid base theory		
6-7	4		Volumetric analysis		
8-9	4		Organic chemistry		
10	2		Alkynes and aromatic compounds		
11-12	4		Organichalides, ethers, alcohol and phenols		
13	2		Aldehydes and Ketones		
14	2		Carboxylic acids and carboxylic acid derivatives		
15	2		Anhydrides, esters and amides		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Qualitative analysis of cations	Practical work in laboratory	Practical Exam
3-4	4		Analysis of group (1) Ions. (Ag, Hg, pb).		
5-6	4		Analysis of mixture of group (1) ions		
7-8	4		Analysis of group (2) ions. (Cu, Cd, Bi, Hg).		
9-10	4		Analysis of mixture of group (2) ions		
11-12	4		Analysis of mixture of group (1) and group (2).		
13-14	4		Titration, practice on titration with water.		
15	2		Preparation of standard Na2C solution		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Biorisks Management

2. Course Code:

VEM1106

3. Semester / Year:

First Semester / First Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.

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

	Credit Hours	Units
Theoretical	1	1
Total	**1**	**1**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1		Introduction: Definitions and Concepts	Theoretical lectures	Written Exam
2	1		Biological Materials		
3	1		Personal protective equipment		
4	1		Laboratory safety symbols and hazard signs.		
5	1		Risks groups and Biosafety Levels		
6	1		Biosafety cabinet classes		
7	1		Standard Microbiology Techniques and Safety		
8	1		Safe use of laboratory equipment		
9	1		Collection, handling and transport of diagnostic specimens		
10	1		Decontamination and waste disposal		
11	1		Working with potentially infected animals		
12-13	2		Hazardous chemicals		
14	1		Preparedness and response to Chemical, Biological accidents		
15	1		First aid and emergency response in the Laboratories		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Anatomy - 2

2. Course Code:

VEA1106

3. Semester / Year:

Second Semester / First Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	3	1.5
Total	**5**	**3.5**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-3	6		Common Integument	Theoretical lectures	Written Exam
4-6	6		Urinary System		
7-10	8		Male Genital System		
11-13	6		Female Genital System		
14-16	4		Mammary Gland		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3		Comparative anatomy of the pelvic bone	Practical work in laboratory	Practical Exam
2	3		Comparative anatomy of the femur		
3	3		Comparative anatomy of the tibia and fibula		
4	3		Tarsus and metatarsal bone in horse		
5	3		Muscles of the sublumber, hip and in sheep		
6	3		Muscles of the thigh in sheep		
7	3		Flexor and extensor muscles of the pelvic limb in sheep		
8	3		Review		
9	3		Practical examination		
10	3		Arteries and sacrolumbar plexuses and nerves of pelvic limb		
11	3		Inguinal region and mammary gland in sheep		
12	3		Male reproductive system in sheep (testis and scrotum)		
13	3		Female reproductive system in sheep (ovaries, uterine tube and uterus)		
14	3		The eye (tunics, muscles, nerves, chambers)		
15	3		Review and Exam		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	23	34	57
Practical	17	26	43
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Animal Management - 2

2. Course Code:

VEH1107

3. Semester / Year:

Second Semester / First Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical classes utilizing live animals.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-4	8		External features of farm animals	Theoretical lectures	Written Exam
5-7	6		Methods of approaching, restraint and casting of horses		
8-10	6		Methods of approaching, restraint and casting of cattle, camel		
11	2		Exam		
12-14	6		Methods of approaching, restraint and casting of sheep for		
15	2		Vices of horses		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Vices of cows	Practical work in laboratory	Practical Exam
2-7	12		Mouth ages for different animals, signs of health: pulse and		
8-10	6		Care of farm animals, grooming, washing, heating, clipping, drying		
11	2		Exam		
12-13	4		Sheep dipping		
14-15	4		Shoeing of horses		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Biology - 2

2. Course Code:

VED1106

3. Semester / Year:

Second Semester / First Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Living organisms	Theoretical lectures	Written Exam
2	2		Comparison between Prokaryotic & Eukaryotic cells		
3	2		Mitosis: Replication of Eukaryotic cells		
4	2		Meiosis: Reduction division and Gametogenesis		
5	2		Types of living tissues		
6	2		Stem cells		
7-8	4		Blood composition & Functions		
9	2		General characters of Bacteria		
10	2		General characters of Viruses		
11	2		Introduction to Molecular Biology		
12-13	4		Nucleic acid Types & Functions		
14	2		Genes & Chromosomes		
15	2		Genetic Engineering		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Prokaryotic & Eukaryotic cells	Practical work in laboratory	Practical Exam
2	2		Mitosis		
3-4	4		Bacterial staining		
5-8	8		Types of tissues		
9-10	4		Blood film		
11-15	10		How to use laboratory equipme		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Computer Science - 2

2. Course Code:

VED1005

3. Semester / Year:

Second Semester / First Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	1	1
Practical	2	1
Total	**3**	**2**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-5	5		Using bars in MS-WORD	Theoretical lectures	Written Exam
6-10	5		Using bars in MS-POWERPOINT		
11-15	5		Using bars in MS-EXCEL		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Looking at MS-WORD interface	Practical work in laboratory	Practical Exam
3	2		Application about menu bar		
4	2		Application about format bar		
5	2		Application about standard bar		
6	2		Application about painting bar		
7-8	4		Looking at MS-POWERPOINT interface		
9	2		Application about using bars		
10	2		Looking at MS-EXCEL interface		
11	2		Application about using bars		
12	2		Application about menu bar		
13	2		Application about format bar		
14	2		Application about standard bar		
15	2		Application about painting bar		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	20	30	50
Practical	20	30	50
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

General Chemistry - 2

2. Course Code:

VEP1109

3. Semester / Year:

Second Semester / First Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Introduction, water and Carbohydrates	Theoretical lectures	Written Exam
3	2		Disaccharides		
4	2		Polysaccharides		
5-6	4		Lipids, Fats and oils		
7-9	6		Amino acids		
10-12	6		Peptides		
13-15	6		Nucleic acids		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Standardization of HCl with standard solution of Na_2CO_3	Practical work in laboratory	Practical Exam
3-4	4		Analysis of mixture of $NaHCO_3$ and Na_2CO_3		
5-6	4		Iodometric titration		
7-8	4		Self-indicator titration		
9-10	4		Precipitation titration		
11-12	4		Determination of the strength volume of H_2O_2 solution		
13	2		Crystallization		
14-15	4		Determination of melting point		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Poultry Management

2. Course Code:

VEH1108

3. Semester / Year:

Second Semester / First Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical classes utilizing live animals.

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

	Credit Hours	Units
Theoretical	1	1
Practical	2	1
Total	**4**	**2**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1		Characters of poultry management	Theoretical lectures	Written Exam
2-3	2		Terminology and poultry Classification		
4-5	2		Biology of the chickens		
6	1		Egg Structure and Hygiene		
7-8	2		Artificial Hatching and Hatcheries		
9-10	2		Brooding and rearing period		
11	1		Factors affecting egg production		
12	1		Nutrition and Rations Formation		
13	1		Design of poultry Houses		
14-15	2		Vaccination Management		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Phenotypic and molting	Practical work in laboratory	Practical Exam
3	2		Distinguishing of layers' chicken		
4-5	4		Egg Storage – Disinfection and Fumigation		
6-7	4		Anatomy of an adult Hen		
8	2		Demonstration of Hatcheries		
9	2		Poultry Equipment		
10	2		Types of poultry diets		
11-12	4		Calculations of feed components in rations		
13	2		Lighting Systems for poultry breeding		
14	2		Disinfection of Hatcheries and equipment		
15	2		Disinfection of poultry Houses		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	20	30	50
Practical	20	30	50
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

English Language

2. Course Code:

VEP1003

3. Semester / Year:

First Semester / First Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.

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

	Credit Hours	Units
Theoretical	1	1
Total	**1**	**1**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
				Theoretical lectures	Written Exam

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Anatomy - 1

2. Course Code:

VEA2101

3. Semester / Year:

First Semester / Second Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Digestive System-General description	Theoretical lectures	Written Exam
2	2		Mouth cavity, Salivary glands		
3	2		Pharynx		
4	2		Muscles of mastication.		
5	2		Classification of stomach		
6	2		Parts of the intestine		
7	2		Liver and its ligaments		
8	2		Gallbladder and the variations in farm animals		
9	2		Pancreas and its variations		
10	2		Peritoneum its reflexation in the abdominal cavity		
11	2		Respiratory System-Introduction		
12	2		Nose, nasal cavity, nasopharynx		
13	2		Paranasal sinuses		
14	2		Larynx, Trachea		
15	2		Lungs, Thoracic cavity		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		General description of the skull	Practical work in laboratory	Practical Exam
2	2		Cranial cavity, hyoid bone, mandible		
3-4	4		Skull comparative, Cervical vertebrae comparative		
5	2		Dissection of oral cavity with its contents		
6	2		Dissection of pharynx		
7	2		Viscera: esophagus. Stomach (comparative)		
8	2		Viscera: small and large intestine (comparative)		
9	2		Viscera: liver and its ligaments (comparative)		
10-11	4		Dissection of paranasal sinuses, nasal cavity (comparative)		
12	2		Larynx, blood and nerve supply to the larynx		
13	2		Trachea, pleura, pulmonary ligament, lung comparative, trachea, bronchial tree.		
14-15	4		Dissection of thorax, thoracic fascia, muscles of thoracic wall		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Animal Nutrition - 1

2. Course Code:

VEH2105

3. Semester / Year:

First Semester / Second Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Introduction and importance of nutrition of farm animals	Theoretical lectures	Written Exam
3-4	4		The animal and its food		
5	2		Water and its functions, regulation and comparative use		
6-7	4		Energy Metabolism		
8-9	4		Carbohydrate Metabolism		
10	2		Protein and nucleic acids Metabolism		
11	2		Lipid metabolism		
12	2		Evaluation of proteins		
13	2		Expressing energy values of feeds		
14-15	4		Ration formulation		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		How to use nutrition laboratory	Practical work in laboratory	Practical Exam
3-4	4		What is the feedstuffs approximat analysis		
5-6	4		How to make the samples and prepare it to use		
7-8	4		Determination of moisture in feed suffs, green roughages, milk, meat		
9-10	4		Determination of ash		
11-12	4		Determination of silica		
13-14	4		How to make standard solution		
15	2		Determination of crude protein.		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Biochemistry - 1

2. Course Code:

VEP2104

3. Semester / Year:

First Semester / Second Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	3	3
Practical	2	1
Total	**5**	**4**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3		Cell Biochemistry	Theoretical lectures	Written Exam
2-4	9		Enzymes		
5-7	9		Vitamins		
8-9	6		Bioenergetic		
10-12	9		Carbohydrate metabolism		
13-15	9		Protein and Amino acids metabolism		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		General instruction and qualitative tests of carbohydrates	Practical work in laboratory	Practical Exam
3	2		Testing of unknown carbohydrates		
4	2		Glycogen		
5	2		General reactions of proteins		
6	2		Fibrous proteins		
7	2		Glyoproteins		
8	2		Albumin and globulins		
9	2		Phosphoproteins		
10	2		Enzymes: digested activity of salivary amylase		
11	2		Effect of (pH) on the activity of salivary amylase		
12	2		Effect of temperature on the activity of salivary amylase		
13	2		Urine analysis: physical properties of normal urine		
14	2		Normal constituents of urine		
15	2		Abnormal constituents of urine		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	30	45	75
Practical	10	15	25
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Histology - 1

2. Course Code:

VEA2102

3. Semester / Year:

First Semester / Second Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	3	1.5
Total	**5**	**3.5**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Cytology	Theoretical lectures	Written Exam
3-4	4		Blood and Myeloid Tissue		
5-6	4		Nervous Tissue		
7-8	4		Cartilage and Bone		
9-10	4		Cardiovascular System		
11-12	4		Lymphatic System		
13-14	4		Respiratory System		
15	2		Skin		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3		Laboratory Guiding	Practical work in laboratory	Practical Exam
2	3		Cytology		
3	3		Epithelial Tissues		
4	3		Connective Tissues		
5	3		Muscular tissue		
6	3		Bone and Cartilages		
7	3		Nervous tissue		
8	3		Blood cells		
9	3		Bone marrow		
10	3		Lymph system		
11	3		Cardiovascular system		
12	3		Respiratory system		
13	3		Skin		
14	3		Review		
15	3		Examination		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	23	34	57
Practical	17	26	43
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Physiology - 1

2. Course Code:

VEP2103

3. Semester / Year:

First Semester / Second Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	4	4
Practical	2	1
Total	**6**	**5**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4		Introduction to physiology and cell membrane	Theoretical lectures	Written Exam
2	4		Nerve cell physiology		
3	4		Muscle cell physiology		
4	4		The autonomic nervous system physiology		
5-6	8		Blood composition and physiology		
7	4		Lymph composition and function		
8	4		Cerebrospinal fluid composition and function		
9-10	8		Cardiovascular system physiology		
11-12	8		Respiration system physiology		
13-15	12		Digestive system physiology		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Introduction, Frog sciatic nerve and gastrocnemius muscle preparation	Practical work in laboratory	Practical Exam
3	2		Simple muscle twitch and effect of temperature on muscle contraction		
4	2		Effect of prolonged and strength stimulation on muscle contraction		
5	2		Effect of repeat stimulation on muscle contraction		
6	2		Frog`s heart		
7	2		Extra systole and compensatory pause and Stannius ligatures		
8	2		Blood pressure in man and effect of exercise		
9	2		Venous flow, venous pressure, reactive hyperemia, cold pressor test		
10	2		RBC		
11	2		WBC		
12	2		Hb		
13	2		ESR		
14	2		PCV estimation		
15	2		Wintrobe erythrocyte index		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	32	48	80
Practical	8	12	20
Total	**40**	**60**	**100**

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Genetics

2. Course Code:

VEH2106

3. Semester / Year:

First Semester / Second Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.

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

	Credit Hours	Units
Theoretical	2	2
Total	**2**	**2**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Development of Genetics and its theories	Theoretical lectures	Written Exam
2-3	4		Cell and chromosome behaviors		
4	2		Mundelein Laws and its modification		
5-6	4		Genetics and statistics in the analysis of genealogy		
7	2		The interaction between genes		
8-9	4		Multiple alleles and alleles false		
10	2		Assigned sex and genetics associated with it		
11-12	4		Link, transit and genetic maps		
13	2		Chromosomal mutations		
14	2		Chemical basis and engineering of heredity		
15	2		Quantitative genetics and animal improvement		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Anatomy - 2

2. Course Code:

VEA2107

3. Semester / Year:

Second Semester / Second Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Lymphatic System: Introduction	Theoretical lectures	Written Exam
2	2		Lymph vascular system. lymphatic tissue		
3	2		Lymph vessels, lymph capillaries		
4	2		Lymphatic tissue structures, solitary lymph nodules		
5	2		Tonsils, lymph nodes, lymph center		
6	2		Lymph trunks and ducts, thymus, spleen		
7-8	4		Nervous System		
9-10	4		Development of the brain		
11	2		Central nervous system		
12	2		Autonomic nervous system		
13	2		Cardio Vascular System		
14	2		Heart and pericardium		
15	2		Blood supply of the limb		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Superficial dissection of face region	Practical work in laboratory	Practical Exam
2	2		Deep dissection of face region		
3	2		The brain, cranial and spinal meninges		
4-5	4		Dissection of neck region		
6	2		Nerves in thoracic cavity		
7	2		Pericardium, cranial and caudal venae cavae		
8-9	4		Circulatory system		
10-11	4		Aortic arch, common brachiocephalic		
12-13	4		Lymph centers in abdominal cavity, spleen4		
14-15	4		Abdominal aorta with its branches		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Animal Nutrition - 2

2. Course Code:

VEH2111

3. Semester / Year:

Second Semester / Second Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		The importance of minerals in animal nutrition	Theoretical lectures	Written Exam
2	2		Functions of essential elements		
3	2		Calcium and phosphorus		
4	2		Magnesium and sulfur		
5	2		Iron and cobalt		
6	2		Copper and Iodine		
7	2		Selenium and zinc		
8	2		Importance of vitamins in animal nutrition		
9	2		Classifications and characteristics of vitamins		
10	2		Fat soluble vitamins A and D		
11	2		Fat soluble vitamins E and K		
12	2		Water soluble vitamins B1,B2, B3		
13	2		Water soluble vitamins B6,B12		
14	2		Direct Digestion trial		
15	2		Indirect digestion trial		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Determination of ether extract	Practical work in laboratory	Practical Exam
3-4	4		Determination N.F.E by chemical method and calculated method		
5-6	4		Determination of crude fiber		
7-8	4		Determination of gross energy by chemical method		
9-10	4		Determination of gross energy by calculated method		
11-12	4		Determination of gross energy by bomb calorimeter		
13-15	6		The digestion trials: How to make standard ration for farm animals		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Biochemistry - 2

2. Course Code:

VEP2110

3. Semester / Year:

Second Semester / Second Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	3	3
Practical	2	1
Total	**5**	**4**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	6		Plasma proteins 6	Theoretical lectures	Written Exam
3-6	12		Lipid metabolism 12		
7-8	6		Nucleotids and nucleic acids 7		
9-10	6		Protein synthesis 6		
11-14	12		Hormones 10		
15	3		Free radical and antioxidants 4		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Photometric Analysis of Biochemical Molecules	Practical work in laboratory	Practical Exam
2	2		Photometric Analysis of Biochemical Molecules		
3	2		Determination of Serum Total Protei		
4	2		Determination of Serum Total Protein Using Standard Curve		
5	2		Determination of Serum Inorganic Phosphate		
6	2		Determination of Serum Calcium		
7	2		Determination of Serum Total Cholesterol		
8	2		Determination of Serum Total Lipids		
9	2		Determination of Serum Creatinine		
10	2		Determination of Serum Uric Acid		
11	2		Determination of Serum Bilirubin		
12	2		Enzymatic Method for Determination of Glucose		
13	2		Determination of Serum Amylase Activity		
14	2		Determination of Serum urea		
15	2		Determination of serum transaminase		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	30	45	75
Practical	10	15	25
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Histology - 2

2. Course Code:

VEA2108

3. Semester / Year:

Second Semester / Second Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	3	1.5
Total	**5**	**3.5**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-3	6		Digestive System	Theoretical lectures	Written Exam
4-6	6		Urinary System		
7-8	4		Endocrine System		
9-11	6		Male Reproductive System		
12-14	6		Female Reproductive System		
15	2		Sensory Organs		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3		Tongue structure, lingual papillae	Practical work in laboratory	Practical Exam
2	3		Salivary glands		
3	3		Fundic gland region of stomach rumen, reticulum, omasum		
4	3		Small intestine		
5	3		Liver, gallbladder, pancreas		
6-7	6		Endocrine glands		
8-9	6		Adrenal gland, hyroid gland, parathyroid gland		
10	3		Urinary system		
11	3		Male genital system		
12	3		Female genital system		
13	3		Eye: cornea, retina		
14	3		Ear: cochlea, corti organ		
15	3		Mammary gland		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	23	34	57
Practical	17	26	43
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Physiology - 2

2. Course Code:

VEP2109

3. Semester / Year:

Second Semester / Second Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	4	4
Practical	2	1
Total	**6**	**5**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-3	12		Kidney and Urinary System	Theoretical lectures	Written Exam
4-7	16		Endocrine System		
8-10	12		Male Reproductive System		
11-13	12		Female Reproductive System		
14-15	8		Central Nervous System		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Blood groups and coagulation time.	Practical work in laboratory	Practical Exam
2	2		Measurements of respiratory volume-spirometry		
3	2		Measurement of pulmonary ventilation and respiratory movements		
4	2		Salivary digestion		
5	2		Nervous system		
6	2		Eye reflexes		
7	2		Response time		
8	2		Sensory physiology		
9	2		Taste		
10	2		Vision		
11	2		Hearing		
12	2		Estrous cycle in rat		
13	2		Evaluation of seminal quality		
14	2		Concentration of spermatozoa		
15	2		Ovariectomy in rat		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	32	48	80
Practical	8	12	20
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Statistics

2. Course Code:

VEH2113

3. Semester / Year:

Second Semester / Second Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Definition statistics and statistical symbols	Theoretical lectures	Written Exam
3	2		Descriptive study of the data		
4	2		Mediate measures (concentration)		
5	2		Dispersion and differences measurements		
6	2		Simple regression and correlation		
7-8	4		Principles of probability		
9	2		Discrete probability distributions		
10-11	4		Continuous probability distributions		
12	2		Hypotheses Testes		
13	2		Z test		
14	2		t test		
15	2		X2 test		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Definition statistics and statistical symbols	Practical work in laboratory	Practical Exam
3	2		Descriptive study of the data		
4	2		Mediate measures (concentration)		
5	2		Dispersion and differences measurements		
6	2		Simple regression and correlation		
7-8	4		Principles of probability		
9	2		Discrete probability distributions		
10-11	4		Continuous probability distributions		
12	2		Hypotheses Testes		
13	2		Z test		
14	2		t test		
15	2		X2 test		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Embryology

2. Course Code:

VEA2112

3. Semester / Year:

Second Semester / Second Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.

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

	Credit Hours	Units
Theoretical	2	2
Total	**2**	**2**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1		Introduction to embryology	Theoretical lectures	Written Exam
2	1		phase of Fertilization		
3	1		phase of cleavage, Implantation process		
4	1		Formation of fatal membranes		
5	1		Phase of Gastrulation and notochord formation		
6	1		Mesoderm differentiation and neurulation process		
7	1		Development of cardiovascular system		
8	1		Development of nervous system		
9	1		Development of brachial arches and pharyngeal pouches		
10	1		Development of digestive system		
11	1		Development of urinary system		
12	1		Development of genital system		
13	1		Development of respiratory system		
14	1		Development of skeletal system		
15	1		Development of lymphatic system		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

General Microbiology

2. Course Code:

VEM3104

3. Semester / Year:

First Semester / Third Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	3	3
Practical	2	1
Total	**5**	**4**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3		Introduction and History of Microbiology	Theoretical lectures	Written Exam
2	3		Bacterial Cell Structure		
3-4	6		Bacterial Classification		
5	3		Bacterial Nutrition and Growth		
6	3		Sterilization and Disinfection		
7-8	6		Antibiotics and Chemotherapeutic Agents		
9	3		Bacterial Genetics		
10	3		Bacterial Virulence		
11	3		Normal Flora and Probiotics		
12-13	6		Rickettsia and Chlamydia		
14-15	6		Mycoplasma		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		General Laboratory Instructions	Practical work in laboratory	Practical Exam
2	2		Microscopes		
3	2		Sterilization and Disinfection		
4	2		Culture Media for Bacterial Growth		
5	2		Bacterial Nutrition and Growth		
6	2		Colony Morphology		
7	2		Pure Culture Techniques		
8	2		Bacterial Motility		
9	2		Bacterial Morphology		
10	2		Bacterial Staining Techniques		
11	2		Bacterial Count		
12	2		Antibiotics Tests		
13	2		Biochemical Tests		
14-15	4		Mycology		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	30	45	75
Practical	10	15	25
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

General Pathology

2. Course Code:

VED3100

3. Semester / Year:

First Semester / Third Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	3	3
Practical	3	1.5
Total	**6**	**4.5**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3		Introduction	Theoretical lectures	Written Exam
2	3		Degenerative changes and Necrosis		
3	3		Acute Cellular Degeneration		
4	3		Gout Degeneration and Gangrenous necrosis		
5	3		Disturbance of Pigmentation		
6	3		Disturbance of growth		
7-8	6		Disturbance of Circulation		
9-10	6		Inflammation		
11	3		Healing and repair		
12-13	6		Inmmunopathology		
14-15	6		Tumors		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	6		Solutions and fluids used in fixation and preservation of tissue samples used as preservative samples	Practical work in laboratory	Practical Exam
3-4	6		Methods of processing and preparation of tissue for microscopically examination		
5-6	6		Methods of embedding and preparation of tissue blocks		
7-8	6		Methods of cryostat for frozen sections		
9-10	6		Methods of reaction and special tissue stains		
11-12	6		Frozen section microtome for pathological detection of fat and enzymes		
13-15	9		Practical training in examination and diagnosis of many pathological conditions as histological section		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Helminthology

2. Course Code:

VEM3102

3. Semester / Year:

First Semester / Third Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	3	3
Practical	2	1
Total	**5**	**4**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3		Introduction & Definitions of Terms Effects of parasites on their hosts	Theoretical lectures	Written Exam
2	3		Transmission of parasite		
3-4	6		Nemathelminthes /Families: Ascardidae Oxyuridae,		
5-6	6		Hetrakidae Subuluridae, Rhabditidae Strongyloididae,		
7-8	6		Ancylostomatidae, Trichostrongylidae Dictyocaulidae		
9-10	6		Metastrongyloidae Spiruridae, Fillariidae, Trichinellidae		
11-12	6		Phylum: Trematoda / Families: Fasciolidae, Dicrocoelidae,		
13-14	6		Phylum: Platyhelminthes / Families: Taeniidae,		
15	3		Davaineidae, Dipylidiidae, Hymenolepididae, Mesocestoidae,		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Laboratory diagnosis of parasitism	Practical work in laboratory	Practical Exam
2	2		Parascaris equorum, Toxocara canis,		
3	2		Strongylidae copulatory bursa, Strongylus vulgaris		
4-5	4		Haemonchus contortus, Ostertagia, Dictyocalus filarial		
6	2		Habronema, Thelazia, Setaria		
7	2		Fasciola hepatica, Fasciola gigantica		
8	2		Dicrocoelium dendriticum		
9	2		Schistoma		
10	2		Moniezia expansa		
11-12	4		Raillietina		
13-14	4		Taenia spp		
15	2		Echinococcus granulosus, protoscolex of Hydatid cyst		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	30	45	75
Practical	10	15	25
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Immunology

2. Course Code:

VEM3115

3. Semester / Year:

First Semester / Third Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Principle of immunity and immune response (specific and nonspecific)	Theoretical lectures	Written Exam
2-3	4		Immunoglobulin: Structure, variation, Function and synthesis		
4-5	4		Immunology of T and B cells		
6	2		Complement: Nature, Function and pathways		
7	2		Cell mediated immunity, antigen recognition by T cells		
8	2		Immunological tolerance		
9-10	4		Hypersensitivity, Mechanisms		
11	2		Auto-immunity		
12	2		Transplantation		
13	2		Principle of immune genetics		
14	2		Immunoanaphylaxis reaction		
15	2		Immunity of infection		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Introduction to immunology labs	Practical work in laboratory	Practical Exam
2	2		Lab animals		
3-4	4		Preservation of antigens and antibodies		
5	2		Separation of immunoglobulin		
6	2		Complement test		
7	2		Precipitation test		
8	2		Agglutination test		
9	2		Neutralization test		
10-11	4		Separation of lymphocytes from blood and lymph nodes		
12-13	4		Preparation of antigens		
14	2		Leukocytes		
15	2		Phagocytosis		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Pharmacology - 1

2. Course Code:

VEP3101

3. Semester / Year:

First Semester / Third Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	3	3
Practical	2	1
Total	**5**	**4**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3		Introduction to the Pharmacology	Theoretical lectures	Written Exam
2	3		Drug kinetic		
3-4	6		Drug dynamic		
5	3		Drug metabolism		
6-8	9		Mechanism of action of drug		
9-10	6		Side effects of drug		
11-12	6		Autonomic nervous system drugs		
13-15	9		Central nervous system drugs		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		General principles and definition	Practical work in laboratory	Practical Exam
2	2		Drug form		
3	2		Metrology		
4-5	4		Dose calculation and dilution		
6	2		Lab animal technique, handling		
7	2		Effect of ionization on absorption		
8	2		Analysis of alanine		
9	2		Effect of rout of administration		
10	2		Effect of autonomic drugs on isolated rabbit duodenum		
11-12	4		Effect of drugs on eye		
13-14	4		Effect of autonomic drug & hormones on isolated uterus from animals		
15	2		Diuretics		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	30	45	75
Practical	10	15	25
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Toxicology

2. Course Code:

VEH3116

3. Semester / Year:

First Semester / Third Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.

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

	Credit Hours	Units
Theoretical	2	2
Total	**2**	**2**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Concepts and terminology of toxicology	Theoretical lectures	Written Exam
2	2		Toxicokinetics		
3	2		Antidotes and general treatment of poisoning		
4	2		Diagnostic aspects of toxicology		
5-6	4		Insecticides		
7	2		Herbicides		
8	2		Toxic metals		
9	2		Mycotoxins		
10	2		Feed-associated toxicants		
11	2		House-hold & industrial products		
12	2		Toxic plants		
13	2		Bio toxins		
14	2		Environmental pollution with toxicants		
15	2		Pharmaceuticals poisoning		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Protozoa and Arthropoda

2. Course Code:

VEM3122

3. Semester / Year:

Second Semester / Third Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	3	3
Practical	2	1
Total	**5**	**4**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	6		Phylum: Sarcomastigophora	Theoretical lectures	Written Exam
3-4	6		Families: Trypanosomatidae, Trichomonadae,		
5-6	6		Plasmodiidae, Babesiidae,		
7-8	6		Theileriidae , Monocercomonadidae,		
9	3		Eimeriidae, Sarcocystidae, Cryptosporidiidae.		
10	3		Phylum: Arthropoda		
11	3		Families: Ioxdidae, Argasidae, Sarcoptidae, Psoroptidae,		
12	3		Tabanidae, Culicidae, Psychodidae		
13	3		Simuliidae, Oestridae, Calliphoridae		
14	3		Anthomyidae, Cimicidae, Haematopinidae		
15	3		Linognathidae, Superfamilies, Ischnocera, Amblycera		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Trypanosoma brucei, T.equiperdium, T.evansi, T.cruzi, Leishmania (Amastigete), Trichomonas vaginalis, Entamoeba histolytica(trophozoite)	Practical work in laboratory	Practical Exam
3-4	4		Eimeria (life cycle), Sarcocystis, Toxoplasma gondii, Cryptosporidium		
5-6	4		Plasmodium gallinaceum, Babesia canis, B. motasi		
7-8	4		Theileria, Anaplasma, Hard ticks, Hyalomma, Rhipicephalus, Boophilus, larva, Soft tick		
9-10	4		Demodex folliculorum, Dermanyssus gallinae, Psorptes, Sarcoptes		
11-12	4		Menacanthus straminus, Haematopinus suis, Ctenocephalides canis, Xenopsylla cheopis, Cimex lectularis		
13-14	4		Anopheles, Culex, (male + female) pupa and larva, Simulium adult and Larva		
15	2		Oesteridae, Oestrus ovis, Hypoderma bovis, Gastrophilus intestinalis		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	30	45	75
Practical	10	15	25
Total	**40**	**60**	**100**

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Special Microbiology

2. Course Code:

VEM3124

3. Semester / Year:

Second Semester / Third Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	3	3
Practical	2	1
Total	**5**	**4**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3		Staphylococcus	Theoretical lectures	Written Exam
2	3		Streptococcus		
3	3		Corynebacterium, Listeria		
4	3		Bacillus		
5-6	6		Clostridium		
7	3		Actinomyces and Nocardia		
8	3		Actionbacillus, Pasteurella		
9	3		Haemophillus, Moraxella and bordetlla		
10	3		Pseudomonas (Burkholderia)		
11	3		Leptospira, Campylobacter		
12	3		Brucella		
13-14	6		Spharophorus, Enterbacteriacae		
15	3		Mycobacterium		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Staphylococcus	Practical work in laboratory	Practical Exam
2	2		Streptococcus		
3-4	4		Corynebacterium		
5	2		Rhodococcus, Listeria		
6	2		Bacillus		
7-8	4		Clostridium and Anaerobic Condition		
9	2		Mycobacterium		
10	2		Pasteurella		
11	2		Pseudomonas (Burkholderia)		
12	2		Leptospira		
13	2		Brucella		
14-15	4		Enterbacteriacae		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	30	45	75
Practical	10	15	25
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Systemic Pathology

2. Course Code:

VED3120

3. Semester / Year:

Second Semester / Third Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	3	3
Practical	3	1.5
Total	**6**	**4.5**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	6		Diseases of Respiratory system/ Upper respiratory tract/ Lung/ Pleura	Theoretical lectures	Written Exam
3-4	6		Diseases of Cardiovascular system		
5	3		Diseases of haemopoetic and lymphatic tissues		
6-8	9		Diseases of digestive system		
9	3		Disease of urinary system		
10	3		Disease of Male and Female genital system		
11	3		Diseases of Muscol- Skeletal system		
12	3		Diseases of Nervous system		
13	3		Disease of Endocrine		
14	3		Diseases of skin and accessory		
15	3		Diseases of eye and special organ		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	6		Histopathological of upper respiratory tract	Practical work in laboratory	Practical Exam
3-4	6		Histological section endocarditis and myocarditis		
5-6	6		Pathological affections of aorta		
7-8	6		Pathological affection of digestive system		
9-10	6		Gastroenteritis, parasitic affection of stomach, intestinal obstruction, coccidiosis		
11	3		Liver necrosis, liver cirrhosis, abscess, parasitic infection of liver		
12-13	6		Microscopic slides of metritis and salphangitis, mastitis and urinary tract		
14	3		Microscopic slides of bone infection, and cartridge, joints, osteomalaysia		
15	3		Microscopic slides from general diseases cases.		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Pharmacology - 2

2. Course Code:

VEP3121

3. Semester / Year:

Second Semester / Third Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	3	3
Practical	2	1
Total	**5**	**4**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-3	9		Antibacterial drugs	Theoretical lectures	Written Exam
4	3		Antifungal drugs		
5	3		Antiviral drugs		
6	3		Antineoplastic drugs		
7-8	6		Antinematodal, Anticestodal and Antiprotozoan		
9	3		Dermatopharmacology, Ectoparasiticides		
10	3		Antiseptics and Disinfectants		
11	3		Endocrine pharmacology		
12	3		Autocoids and anti-inflammatory		
13	3		Metabolic therapy		
14	3		Growth promoter		
15	3		Herbal medicine		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Nature and source of drugs	Practical work in laboratory	Practical Exam
2	2		Writing of prescription		
3	2		Pharmaceutical preparation for farm animals and poultry		
4	2		Despising of drugs lotion and solution		
5	2		Despising of drugs ointment and cream		
6	2		Despising of drugs antacid and laminate		
7	2		Analgesic		
8	2		Log dose response relationships (ED50 , LD50, TI)		
9	2		Sensitivity test of antibiotic		
10	2		Organophosphate poisoning in rats or mice		
11-12	4		Determination of blood cholinesterase activity		
13-14	4		Cyanide poisoning		
15	2		Aspirin toxicity (comparison with acetaminophen)		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	30	45	75
Practical	10	15	25
Total	**40**	**60**	**100**

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Virology

2. Course Code:

VEM3126

3. Semester / Year:

Second Semester / Third Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Introduction and Discovering of Viruses	Theoretical lectures	Written Exam
2	2		Morphology and Chemistry of Viruses		
3	2		Virus Classification and Taxonomy		
4	2		Virus Multiplication and Propagation (replication)		
5	2		Viral genetics and Interaction Between Viruses		
6	2		Interferon and Viral Interference		
7	2		Viral Vaccines and Antiviral Drugs		
8	2		Effect of Physical and Chemical Agents on Viruses		
9	2		Laboratory Diagnosis of Viral Infection		
10	2		Picornavirus and Caliciviridae		
11	2		Orthomyxoviridae		
12	2		Paramyxoviridae and Retroviridae		
13	2		Reoviridae, Birnaviridae, Rhabdoviridiae and Bornaviridae		
14	2		Poxviridae, Herpesviridae		
15	2		Adenoviridae, Parvoviridae, Papovaviridae and Papillomaviridae		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Collection and Preservation of Viral Samples	Practical work in laboratory	Practical Exam
2-3	4		Isolation and Preservation of Viruses		
4-5	4		Propagation of Viruses in Egg Embryo		
6-8	6		Propagation of Viruses in Tissue Culture		
9	2		Haemagglutination Test of ND Virus		
10	2		Haemagglutination Inhibition Test of ND Virus		
11	2		Neutralization Test for ND Virus		
12-13	4		Methods of Virus Titration		
14	2		Physical Character of Viruses		
15	2		Chemical Character of Viruses		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Veterinary Clinic

2. Course Code:

VEC3127

3. Semester / Year:

Second Semester / Third Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Practical classes utilizing live animals.
- Practice in the University Veterinary Clinic.

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

	Credit Hours	Units
Practical	2	1
Total	**2**	**1**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Practical classes utilizing live animals. • Practice in the University Veterinary Clinic. • Student prepare a scientific related reports.

10. Course Structure

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Introduction	Practical classes utilizing live animals	Written Exam
2	2		Inspection, Palpation, Percussion and Auscultation		
3	2		Examination of Body Temperature		
4	2		Examination of Arterial Pulse		
5	2		Examination of Respiration		
6	2		Examination of Lymph nod		
7	2		Examination of Mucous membranes		
8	2		Examination of Respiratory System		
9	2		Examination of Cardiovascular System: Heart, Jugular vein		
10	2		Examination of Digestive System: Rumen, Liver, Pain reflex		
11	2		Examination of Urinary System		
12	2		Examination of Skin		
13	2		Examination of Reproductive System (Udder + Genital System)		
14	2		Route of Administration of Drugs		
15	2		Allergic Tests (Diagnostic Tests) and Revising		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Practical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Clinical Pathology - 1

2. Course Code:

VED4119

3. Semester / Year:

First Semester / Fourth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	1	1
Practical	2	1
Total	**3**	**2**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	2		Introduction (terminology and concepts)	Theoretical lectures	Written Exam
3-4	2		Clinical haematology (leukocytes and erythrocytes)		
5	1		Bone marrow examination		
6	1		Platelets function abnormalities & diagnosis of bleeding disorders		
7	1		Clinical biochemistry, Basic principles, total portion,		
8	1		Ketones, urea, enzymology, mineral levels.		
9	1		Metabolic profile testing and S.1. unit.		
10-11	2		Liver function test		
12-13	2		Kidney function test		
14	1		Water electrolytes and acid - base imbalance		
15	1		Disturbances of adrenal, pituitary, thyroid and parathyroid glands		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Collection of different samples.	Practical work in laboratory	Practical Exam
2	2		Erythrocytes count		
3	2		Reticulocytes count		
4	2		Packed cell volume and Hb determination		
5	2		Leukocytes parameters (TLC)		
6	2		Leukocytes parameters (DLC)		
7	2		ESR determination		
8	2		Platelets function abnormalities		
9	2		Bleeding and clotting time		
10	2		Blood smear examination		
11	2		Lymph smear examination		
12-13	4		Clinical biochemistry, Total protein, Ketones and urea.		
14	2		Enzymology and mineral levels.		
15	2		Urine examination (physical, chemical and microscopic)		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	20	30	50
Practical	20	30	50
Total	**40**	**60**	**100**

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Female Fertility

2. Course Code:

VED4113

3. Semester / Year:

First Semester / Fourth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.
- Practical classes utilizing live animals.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Female puberty and maturity	Theoretical lectures	Written Exam
2	2		Physiology of the female reproductive system		
3	2		Female reproductive hormones		
4	2		Estrus cycle		
5	2		Seasonality, Ovulation, Luteolysis		
6-8	6		Infertility and sterility		
9-10	4		Reproduction in buffalo cows		
11-12	4		Reproduction in mares		
13	2		Reproduction in she camels		
14	2		Reproduction in ewes and does		
15	2		Reproduction in bitch and queen		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Anatomy of the female reproductive system	Practical work in laboratory	Practical Exam
2-3	4		Estrus signs and detection		
4	2		Vaginal examination		
5-7	6		Rectal palpation		
8	2		Clinical uses of hormones		
9-11	6		Female infertility and sterility		
12	2		Abnormalities of the female reproductive system		
13	2		Intrauterine therapy		
14	2		Reproductive performance		
15	2		Records		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Infectious Diseases - 1

2. Course Code:

VED4117

3. Semester / Year:

First Semester / Fourth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.

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

	Credit Hours	Units
Theoretical	3	3
Total	**3**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	6		Enzootic abortion in sheep, Glanders, Epizootic lymphangitis	Theoretical lectures	Written Exam
3	3		Strangles, Contagious bovine pyelonephritis		
4-5	6		Caseous lymphadenitis of sheep		
6-7	6		Ulcerative lymphangitis, Brucellosis		
8	3		Listerosis, Leptospirosis		
9	3		Anthrax, Salmonllosis, Colibacillosis		
10	3		Footrot and Mastitis		
11	3		TB and john's disease.		
12	3		Actinomycosis and Actinobacillosis, Oral and laryngeal necrobacillosis		
13	3		Winter dysentery of cattle, Hemophilus and Moraxella		
14	3		Pasteurellosis and HS, Black leg, Black disease		
15	3		Tetanus, Enterotoxaemia, Botulism		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Internal Medicine - 1

2. Course Code:

VED4110

3. Semester / Year:

First Semester / Fourth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.

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

	Credit Hours	Units
Theoretical	3	3
Total	**3**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3		Introduction	Theoretical lectures	Written Exam
2	3		General systemic states		
3-4	6		Digestive system: Principles of alimentary tract dysfunction		
5	3		Manifestation of alimentary tract dysfunction		
6-7	6		Diseases of the buccal cavity and associated organs, Stomatitis, Pharygeal obstruction, Pharyngeal paralysis, Esophagitis, esophageal obstruction		
8-11	12		Diseases of the forestomachs of ruminants		
12-13	6		Diseases of the stomach and intestine		
14-15	6		Equine colic		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Morbid Anatomy - 1

2. Course Code:

VED4111

3. Semester / Year:

First Semester / Fourth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	1	1
Practical	2	1
Total	**3**	**2**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1		Bovine diseases: Tuberculosis, Leptospirosis,	Theoretical lectures	Written Exam
2	1		Contagious bovine pleuropneumonia,		
3	1		Colibacillosis, Shipping fever,		
4-5	2		Cattle plague, Bovine malignant catarrhal,		
6-7	2		Foot and mouth disease, Bovine viral diarrhea,		
8	1		Actinobacillosis, Actinomycosis,		
9	1		Theileriosis, Anaplasmosis,		
10	1		Babesiosis, Lumpy skin disease		
11-12	2		Ovine disease: contagious ecthyma, Sheep pox,		
13	1		Foot root, Black leg,		
14	1		Lamb dysentery, Anthrax, Listeriosis,		
15	1		Enterotoxaemia, Black disease		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Introduction & P.M report	Practical work in laboratory	Practical Exam
2	2		Post mortem technique for large animals		
3	2		PM technique for lab animals		
4	2		Bovine diseases: Tuberculosis, Leptospirosis,		
5	2		Contagious bovine pleuro pneumonia,		
6	2		Colibacillosis, Shipping fever,		
7	2		Cattle plague, Bovine malignant		
8	2		catarrhal, Foot and mouth disease,		
9	2		Bovine viral diarrhea, Actinobacillosis,		
10	2		Actinomycosis, Theileriosis, Anaplasmosis,		
11	2		Babesiosis, Lumpy skin disease		
12	2		Ovine disease: contagious ecthyma, Sheep pox,		
13	2		Foot root, Black leg, Lamb dysentery,		
14	2		Anthrax, Listeriosis,		
15	2		Enterotoxaemia, Black disease		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	20	30	50
Practical	20	30	50
Total	**40**	**60**	**100**

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Poultry Diseases - 1

2. Course Code:

VED4114

3. Semester / Year:

First Semester / Fourth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.
- Practical classes utilizing live animals.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Introduction about diseases and poultry industry	Theoretical lectures	Written Exam
3-7	10		Bacterial diseases		
8-10	6		Mycoplasma and Chlamydia diseases		
11-15	2		Viral diseases		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Introduction about poultry industry in relation to diseases	Practical work in laboratory	Practical Exam
2	2		management of poultry house and their effected on diseases		
3	2		Method for killing chickens prepared for post mortem		
4	2		Learning student about how to write case report		
5	2		Comparative anatomy of bird (gross lesions and samples collection)		
6	2		E. coli infection		
7	2		Diseases caused by Salmonella		
8	2		Coryza/ fowl cholera and spirochetosis		
9	2		Necrotic and ulcerative enteritis		
10	2		Mycoplasma diseases		
11	2		Newcastle, Maerks disease, leukosis, avian encephalomyelitis		
12	2		IB, IBD, IH, ILT		
13	2		Avian pox, Stunting syndrome, EDS, HHS		
14	2		Introduction about poultry industry in relation to diseases		
15	2		Requirement of management of house and their effected on diseases		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Surgery - 1

2. Course Code:

VED4115

3. Semester / Year:

First Semester / Fourth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.
- Practical classes utilizing live animals.

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

	Credit Hours	Units
Theoretical	3	3
Practical	2	1
Total	**5**	**4**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3		Introduction and classification of Surgery	Theoretical lectures	Written Exam
2	3		Sterilization		
3	3		Response to trauma, Wound classification		
4	3		Heamastasis, Abscess, Ulcer		
5	3		Tumors, Hernia		
6	3		Inflammation		
7	3		Affection of the bursa, joints		
8	3		Affection of tendon		
9	3		Introduction of anesthesia and history		
10	3		Affection of the bursa, joints		
11	3		Introduction of anesthesia and history		
12	3		Classification of anesthesia		
13	3		Stage of anesthesia		
14	3		General anesthetic agents		
15	3		Local anesthesia		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Introduction to surgical theater	Practical classes utilizing live animals.	Practical Exam
3-4	4		Instrumentation		
5-6	4		Preparation of surgical packs		
7-8	4		Preoperative examination		
9-10	4		Sutures and ligatures		
11-12	4		Local anesthesia		
13-14	4		Regional anesthesia		
15	2		Examination		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	30	45	75
Practical	10	15	25
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Veterinary Clinic - 1

2. Course Code:

VEC4112

3. Semester / Year:

First Semester / Fourth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Practical classes utilizing live animals.
- Practice in the University Veterinary Clinic.

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

	Credit Hours	Units
Practical	4	2
Total	**4**	**2**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Practical classes utilizing live animals. • Practice in the University Veterinary Clinic. • Student prepare a scientific related reports.

10. Course Structure

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-15	4		Weekly rotation at the departments of the University Veterinary Clinic: 1. Internal medicine 2. Surgery. 3. Obstetrics. 4. Poultry and fish. 5. Clinical pathology.	Practice in the University Veterinary Clinic	Objective Structured Practical Veterinary examination (OSPVE)

11.Course Evaluation

	Course Exam	Final Exam	Sum
Practical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Clinical Pathology - 2

2. Course Code:

VED4127

3. Semester / Year:

Second Semester / Fourth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	1	1
Practical	2	1
Total	**3**	**2**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-3	3		Clinical parasitology	Theoretical lectures	Written Exam
4	1		Rumen fluid examination		
5-6	2		Clinical microbiology		
7-8	2		Milk Examination		
9	1		Antimicrobial sensitivity test		
10-12	3		Clinical immunology		
13	1		Transudate and exudate		
14-15	2		Water electrolytes and acid - base imbalance		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Fecal examination	Practical work in laboratory	Practical Exam
3	2		Skin scraping examination		
4-5	4		Clinical microbiology		
6-7	4		Milk Examination (physical and chemical)		
8	2		Milk Examination (Bacterial)		
9-10	4		Antimicrobial sensitivity test		
11	2		Rumen fluid examination		
12-13	4		Serological test		
14-15	4		Tests of detection of toxic substances.		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	20	30	50
Practical	20	30	50
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Infectious Diseases - 2

2. Course Code:

VED4126

3. Semester / Year:

Second Semester / Fourth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.

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

	Credit Hours	Units
Theoretical	3	3
Total	**3**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-5	15		Diseases caused by Viruses	Theoretical lectures	Written Exam
6-10	15		Diseases caused by Fungus		
11-15	15		Diseases caused by Parasites		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Internal Medicine - 2

2. Course Code:

VED4128

3. Semester / Year:

Second Semester / Fourth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.

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

	Credit Hours	Units
Theoretical	3	3
Total	**3**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-3	9		Diseases of Liver	Theoretical lectures	Written Exam
4-8	15		Diseases of Nervous system		
9-13	15		Diseases of Respiratory system		
14-15	6		Diseases of Skin		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Morbid Anatomy - 2

2. Course Code:

VED4121

3. Semester / Year:

Second Semester / Fourth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	1	1
Practical	2	1
Total	**3**	**2**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	2		Equine disease: Strangles, Glanders	Theoretical lectures	Written Exam
3-4	2		Shigellosis, Epizootic lymphangitis, Ulcerative lymphangitis		
5-6	2		Equine infectious anemia, Equine influenza		
7-8	2		Canine and Feline disease: Rabies		
9-10	2		Canine distemper		
11-12	2		Canine viral hepatitis, Feline parvovirus		
13	1		Lab animal disease: Tyzzer's disease		
14-15	2		Coccidiosis in rabbit, External parasite		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Strangles,	Practical work in laboratory	Practical Exam
2	2		Glanders		
3	2		Shigellosis,		
4	2		Epizootic lymphangitis		
5	2		Ulcerative lymphangitis,		
6	2		Equine influenza		
7	2		Equine infectious anemia		
8	2		Rabies		
9	2		Canine distemper		
10	2		Canine viral hepatitis		
11	2		Feline parvovirus		
12	2		Tyzzer's disease		
13	2		Coccidiosis in rabbit		
14-15	4		External parasite		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	20	30	50
Practical	20	30	50
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Poultry Diseases - 2

2. Course Code:

VED4124

3. Semester / Year:

Second Semester / Fourth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.
- Practical classes utilizing live animals.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4			Theoretical lectures	Written Exam
3-7	10				
8-10	6				
11-15	2				

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Malnutrition of diseases	Practical work in laboratory	Practical Exam
3	2		Method for killing chickens prepared for post mortem		
4	2		Method used for vaccination		
5	2		Parasitic diseases		
6	2		Drug used for treatment of poultry diseases		
7	2		Mycotic diseases		
8-9	4		Field visiting to layers, parents stock		
10-11	4		Bacteriological and serological method and collection of blood,		
12-13	2		diseases of seabird, wild birds and prey birds (Eagles and Hawks)		
14	2		Methods of treatment		
15	2		Visiting to scientific central lab in veterinary medicine college		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Surgery - 2

2. Course Code:

VED4125

3. Semester / Year:

Second Semester / Fourth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.
- Practical classes utilizing live animals.

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

	Credit Hours	Units
Theoretical	3	3
Practical	2	1
Total	**5**	**4**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3		Regional anesthesia	Theoretical lectures	Written Exam
2	3		Preanesthetic consideration		
3	3		Premeditation and muscle relaxant		
4	3		Inhalation anesthesia		
5-6	6		Anesthesia of lab animals and birds		
7	3		X-ray		
8	3		Radiation hazard and protection		
9	3		Diagnostic and procedures of radiology		
10	3		Processing of X-Ray		
11-12	6		Fracture		
13	3		Lameness and hoof affection		
14	3		Laser surgery		
15	3		Eye and ear		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-3	6		General anesthesia 6	Practical classes utilizing live animals.	Practical Exam
4-6	6		X-ray 6		
7-9	6		Orthopedics surgery 6		
10	2		Tendon surgery 2		
11	2		Intra articular injection 2		
12	2		Laser surgery		
13	2		Eye and ear surgery 2		
14	2		Docking 2		
15	2		Examination 2		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	30	45	75
Practical	10	15	25
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

General anesthesia 6
X-ray 6
Orthopedics surgery 6
Tendon surgery 2
Intra articular injection 2
Laser surgery
Eye and ear surgery 2
Docking 2
Examination 2

Course Description Form

1. Course Name:

Veterinary Clinic - 2

2. Course Code:

VEC4123

3. Semester / Year:

Second Semester / Fourth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Practical classes utilizing live animals.
- Practice in the University Veterinary Clinic.

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

	Credit Hours	Units
Practical	4	2
Total	**4**	**2**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Practical classes utilizing live animals. • Practice in the University Veterinary Clinic. • Student prepare a scientific related reports.

10. Course Structure

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-15	4		Weekly rotation at the departments of the University Veterinary Clinic: 1. Internal medicine 2. Surgery. 3. Obstetrics. 4. Poultry and fish. 5. Clinical pathology.	Practice in the University Veterinary Clinic	Objective Structured Practical Veterinary examination (OSPVE)

11.Course Evaluation

	Course Exam	Final Exam	Sum
Practical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Veterinary Obstetrics

2. Course Code:

VED4122

3. Semester / Year:

Second Semester / Fourth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.
- Practical classes utilizing live animals.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Fertilization	Theoretical lectures	Written Exam
2	2		Physiology of pregnancy		
3	2		Maternal recognition of pregnancy		
4	2		Length of gestation period		
5	2		Maintenance of pregnancy		
6	2		Pregnancy diagnosis		
7-8	4		Problem of pregnancy		
9	2		Parturition		
10	2		Normal uterine involution		
11	2		Uterine defense mechanism		
12-13	4		Dystocia		
14-15	4		Puerperal diseases		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Implantation and embryo development	Practical work in laboratory	Practical Exam
2	2		Fetal membrane		
3	2		Position of uterus during pregnancy		
4-5	4		Rectal palpation		
6-7	4		Method of pregnancy diagnosis		
8	2		Induction of abortion and parturition		
9	2		Normal Presentation, Position and Posture		
10-11	4		Abnormal Presentation, Position and Posture		
12	2		Obstetrical instruments		
13	2		Obstetrical maneuvers		
14	2		Fetotomy		
15	2		Caesarian section		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Zoonotic Diseases

2. Course Code:

VED4107

3. Semester / Year:

Second Semester / Fourth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.

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

	Credit Hours	Units
Theoretical	2	2
Total	**2**	**2**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Introduction to the zoonosis, Principles of zoonosis recognition	Theoretical lectures	Written Exam
2	2		Principles of zoonosis control and prevention, Viral zoonosis		
3	2		Eastern, Venezuelan and Western equine encephalitis, Louping - ill, Mad cow disease		
4	2		Rabies , California encephalitis, Colorado tick fever, West Nile fever, Yellow fever, Nairobi sheep disease		
5	2		Influenza, Newcastle disease, Psittacosis, Q fever		
6	2		Bacterial zoonosis, Anthrax, Listerosis, Leptospirosis, Lepracy		
7	2		Closterdium perfringes food poisoning, Streptocuccosis, Staphylococuccosis		
8	2		Colibacillosis, Vibriosis, Salmonllosis, Shigellosis		
9	2		Parasitic zoonosis, Arthropod infection and tick paralysis		
10	2		Cestoda infection: Coenuriasis, Taeniasis.		
11	2		Trematode infection:Fascioliasis, Dictoceliasis		
12	2		Nematode infection: Ascariasis, Capillariasis, Filariasis, Thelaziasis, Trichinosis		
13	2		Cutanous larva migrans, Visceral larva migrant		
14	2		Protozoa infection		
15	2		Fungal infection		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Fish Diseases

2. Course Code:

VED5110

3. Semester / Year:

First Semester / Fifth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Introduction of Ichthyology and Fish Pathology	Theoretical lectures	Written Exam
2-3	4		Prevention and health control		
4-7	8		Infectious diseases		
8-12	10		Parasitic diseases		
13-15	6		Non infectious diseases		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Introduction in fish breeding and diseases	Practical work in laboratory	Practical Exam
2	2		External appearance for fish and anatomy		
3	2		Physical and chemical property of pond water		
4	2		Pond's designed		
5	2		Fish feeding, breeding, and types of ponds		
6	2		Sample taken and preservation		
7	2		Practical examination		
8	2		Practical tests and bacterial culture in fish		
9	2		Parasitic tests and diagnosis methods in fish		
10	2		Practical fishing and field fish exam		
11	2		Diagnostic and pathological slides show		
12	2		Methods with practical apply		
13	2		Practical work on pathological samples for diagnosis		
14	2		Pond's fertilization and it's methods		
15	2		Final Practical examination		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Internal Medicine - 1

2. Course Code:

VED5113

3. Semester / Year:

First Semester / Fifth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.

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

	Credit Hours	Units
Theoretical	3	3
Total	**3**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-8	24		Metabolic Diseases: - Milk fever, Downer cow syndrome, Hypomagnesemia tetany - Pregnancy toxemia, Ketosis, Post parturient Hb urea, Azotouria.	Theoretical lectures	Written Exam
9-15	21		Nutritional Diseases: - Vitamin deficiency: D, A, E, K, C and B vitamins. - Mineral deficiency: Ca, P, Cu, Iodine, Mn, Zn and Osteomalacia.		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Male Fertility

2. Course Code:

VEC5111

3. Semester / Year:

First Semester / Fifth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.
- Practical classes utilizing live animals.

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

	Credit Hours	Units
Theoretical	1	1
Practical	2	1
Total	**3**	**2**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1		Male puberty and maturity	Theoretical lectures	Written Exam
2	1		Hormonal control of male reproductive system		
3	1		Spermatogenesis		
4	1		Composition of semen		
5	1		Sperm metabolism 1		
6	1		Method of semen collection		
7-8	2		Method of semen evaluation		
9-10	2		Method of semen dilution		
11	1		Method of semen storage		
12	1		Artificial insemination and Sperm transport		
13-15	3		Infertility in males		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Anatomy of the male genital system	Practical work in laboratory	Practical Exam
2	2		Breeding soundness		
3-4	4		Semen collection		
5-7	6		Semen evaluation		
8	2		Semen dilution		
9-10	4		Semen storage		
11-12	4		Insemination techniques		
13-15	6		Infertility in males		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	20	30	50
Practical	20	30	50
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Meat Hygiene

2. Course Code:

VEH5114

3. Semester / Year:

First Semester / Fifth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Terms in meat hygiene	Theoretical lectures	Written Exam
2	2		Meat structure		
3	2		Conversion of muscle to meat		
4	2		Parts of abattoir		
5	2		Pre slaughter meat inspection		
6	2		Post slaughter meat inspection		
7	2		Meat preservation		
8	2		Meat spoilage		
9	2		Meat microbiology		
10	2		Food poisoning		
11	2		Residues in meat		
12	2		Sanitation in abattoir		
13	2		Judgment on bacterial diseases		
14	2		Judgment on parasitic diseases		
15	2		Slaughter and dressing of poultry carcasses		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Meat plant construction and operation	Practical work in laboratory	Practical Exam
2	2		Ante-mortem inspection of animals		
3	2		Carcass inspection		
4	2		Head and viscera inspection		
5	2		Bleeding efficiency of carcasses		
6	2		Estimation of meat pH		
7	2		Abnormal odors in meat		
8	2		Abnormal colors in meat		
9	2		Distinguish between fat and meat of different animals		
10	2		Qualitative tests for meat		
11	2		Meat microbiology (part 1)		
12	2		Meat microbiology (part 2)		
13	2		Detection of drug residues in meat		
14	2		Detection of mycotoxin residues in meat		
15	2		Slaughter and dressing of poultry carcasses		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Surgery - 1

2. Course Code:

VEC5115

3. Semester / Year:

First Semester / Fifth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Digestive system: Affection of salivary gland	Theoretical lectures	Written Exam
2	2		Affection of tongue		
3	2		Affection of teeth		
4	2		Affection of esophagus		
5	2		Affection of stomach		
6	2		Affection of small intestine		
7	2		Affection of digestive accessory organs		
8	2		Facial paralysis		
9	2		Respiratory system: Affection of upper tract		
10	2		Affection of larynx and guttural		
11-12	4		Affection lungs and trachea		
13	2		Affection of chest wall		
14	2		Cardiovascular system: cardiac anomalies		
15	2		Pericarditis		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Oesophagotomy	Practical work in laboratory	Practical Exam
3-4	4		Tracheotomy		
5-7	6		Intestinal surgery		
8-9	4		Enterotomy		
10-11	4		Castration		
12-13	4		Gastrotomy		
14-15	4		Mammectomy		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Veterinary Clinic - 1

2. Course Code:

VEC5112

3. Semester / Year:

First Semester / Fifth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Practical classes utilizing live animals.
- Practice in the University Veterinary Clinic.

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

	Credit Hours	Units
Practical	14	7
Total	**14**	**7**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Practical classes utilizing live animals. • Practice in the University Veterinary Clinic. • Student prepare a scientific related reports.

10. Course Structure

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-15	14		Weekly rotation at the departments of the University Veterinary Clinic: 1. Internal medicine 2. Surgery. 3. Obstetrics. 4. Poultry and fish. 5. Clinical pathology.	Practice in the University Veterinary Clinic	Objective Structured Practical Veterinary examination (OSPVE)

11.Course Evaluation

	Course Exam	Final Exam	Sum
Practical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Internal Medicine - 2

2. Course Code:

VED5120

3. Semester / Year:

Second Semester / Fifth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.

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

	Credit Hours	Units
Theoretical	3	3
Total	**3**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-3	9		Cardiovascular system	Theoretical lectures	Written Exam
4-8	15		Blood and blood forming organs		
9-12	12		Poisonous material		
13-15	9		Urinary system		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Milk Hygiene

2. Course Code:

VEH5121

3. Semester / Year:

Second Semester / Fifth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Definition of milk, The Importance of Milk from Animals	Theoretical lectures	Written Exam
2	2		Structure of Mammary Gland, mechanism of milk synthesis		
3	2		Milk Components and Milk Quality, and nutritional aspect of milk		
4	2		The Microbiological of the Dairy Milk		
5	2		Milk from farm to dairy plant, and characteristics of milk		
6	2		Microbiology of milk		
7	2		Guidelines for dairy food manufacturing premises		
8	2		Milk and dairy science		
9	2		Milk quality and Mastitis		
10	2		Diagnostic procedures of mastitis		
11	2		Mastitis staphylococci		
12	2		Somatic Cell Counts		
13	2		Contaminants and drug residues of milk		
14	2		Probiotic and Health Aspects		
15	2		Cleaning and Sanitizing in Milk Production and Processing		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Procedures for collecting milk samples	Practical work in laboratory	Practical Exam
2	2		Milk specific gravity determination		
3	2		Determination of fat and total solids in milk.		
4	2		Measurement of milk proteins and pH		
5	2		Detection of milk adulteration		
6	2		Mastitis test.		
7	2		Petrifilm method for detecting bacterial contamination in milk		
8	2		Detection of drug residues in milk		
9	2		Detection of mycotoxin residues in milk		
10	2		ELISA method for detecting milk contaminants		
11	2		Estimation of milk acidity		
12	2		Somatic Cell Counts		
13	2		Isolation and identification of bacteria causing mastitis (part 1)		
14	2		Isolation and identification of bacteria causing mastitis (part 2)		
15	2		Isolation and identification of bacteria causing mastitis (part 3)		

11.Course Evaluation			
	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Reproductive Biotechnology

2. Course Code:

VEC5117

3. Semester / Year:

Second Semester / Fifth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.
- Practical classes utilizing live animals.

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

	Credit Hours	Units
Theoretical	1	1
Practical	2	1
Total	**3**	**2**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1		Ultrasonography-general information	Theoretical lectures	Written Exam
2	1		Ultrasonography in large animals		
3	1		Ultrasonography in small animals		
4	1		Estrus synchronization in bovine		
5	1		Estrus synchronization in ovine and caprine		
6	1		Controlling the age of puberty		
7	1		Superovulation		
8-9	2		Embryo Transfer		
10	1		Laparoscopic intrauterine insemination		
11	1		Methods of oocyte collection and maturation		
12	1		In vitro fertilization		
13	1		Sperm sexing (Gender selection)		
14	1		Cloning and splitting of embryo		
15	1		Suppress of reproductive activity		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Clinical application of ultrasonography	Practical work in laboratory	Practical Exam
3	2		Estrus synchronization		
4	2		Controlling the age of puberty		
5	2		Superovulation		
6	2		Embryo transfer		
7	2		Intrauterine insemination		
8	2		Methods of oocyte collection and maturation		
9-10	4		In vitro fertilization		
11	2		Sperm sexing (Gender selection)		
12	2		Cloning and splitting of embryo		
13	2		Suppress of reproductive activity		
14-15	4		Ovariectomy and castration		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	20	30	50
Practical	20	30	50
Total	**40**	**60**	**100**

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Surgery - 2

2. Course Code:

VEC5123

3. Semester / Year:

Second Semester / Fifth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.
- Practical work in laboratory.

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

	Credit Hours	Units
Theoretical	2	2
Practical	2	1
Total	**4**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Hernia	Theoretical lectures	Written Exam
2	2		Treatment of Fistula whether		
3	2		Affection of male genital system		
4	2		Affection female genital system		
5	2		Treatment Pneumovagina		
6	2		Affection of penis and prepuce		
7	2		Preparation of teaser		
8	2		Castration		
9	2		Urinary system: Affection of kidney		
10	2		Affection of ureter		
1	2		Affection of urinary bladder		
12	2		Affection of urethra		
13	2		Affection of teat and udder		
14	2		Ear surgery		
15	2		Eye surgery		

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4		Teat fistula	Practical work in laboratory	Practical Exam
3-4	4		Nephrectomy		
5-6	4		Ovariohysterectomy		
7-8	4		Cystotomy and Cystectomy		
9-10	4		Urethrostomy and Urethrotomy		
11-12	4		Splenectomy		
13-14	4		Rumenotomy		
15	2		Ophthalmic surgery		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	27	40	67
Practical	13	20	33
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Veterinary Clinic - 2

2. Course Code:

VEC5118

3. Semester / Year:

Second Semester / Fifth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Practical classes utilizing live animals.
- Practice in the University Veterinary Clinic.

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

	Credit Hours	Units
Practical	12	6
Total	**12**	**6**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Practical classes utilizing live animals. • Practice in the University Veterinary Clinic. • Student prepare a scientific related reports.

10. Course Structure

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-15	12		Weekly rotation at the departments of the University Veterinary Clinic: 1. Internal medicine 2. Surgery. 3. Obstetrics. 4. Poultry and fish. 5. Clinical pathology.	Practice in the University Veterinary Clinic	Objective Structured Practical Veterinary examination (OSPVE)

11.Course Evaluation

	Course Exam	Final Exam	Sum
Practical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Veterinary Ethics

2. Course Code:

VEC5119

3. Semester / Year:

Second Semester / Fifth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.

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

	Credit Hours	Units
Theoretical	1	1
Total	**1**	**1**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1		Veterinarians Medical Doctor Duties	Theoretical lectures	Written Exam
2	1		Ethics of Veterinarians		
3	1		Veterinary job Licenses		
4	1		Veterinary Medicine clinic		
5	1		Veterinary Medical Services		
6	1		Veterinary Medical consultant burses		
7	1		Order for giving consultant		
8	1		Graduating consultant of veterinaries		
9-15	7		Job Ethics		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Veterinary Forensic Medicine

2. Course Code:

VED5122

3. Semester / Year:

Second Semester / Fifth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.

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

	Credit Hours	Units
Theoretical	1	1
Total	**1**	**1**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-3	3		Death, cause of general death, syncope, asphyxia	Theoretical lectures	Written Exam
4-6	3		Drowning, sudden death, death from starvation, death from cold, death from effect of heat, death from electric current		
7-9	3		Burns and it's types		
10-12	3		Wounds and it's types		
13-15	3		Toxin and it's types		

11.Course Evaluation

	Course Exam	Final Exam	Sum
Theoretical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Research Projects

2. Course Code:

VEC5125

3. Semester / Year:

Second Semester / Fifth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Theoretical lectures.

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

	Credit Hours	Units
Theoretical	1	1
Practical	1	1
Total	**2**	**2**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Training of students for practical applications in laboratories. • Student prepare a scientific related reports.

10. Course Structure

- Theoretical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-3	3		Research methods and hypothesis testing 3	Theoretical lectures	Written Exam
4-6	3		Defining problems 3		
7-9	3		Designing study 3		
10-12	3		Data management 3		
13-15	3		Writing reports 3		

- Practical Subjects:
The students conducts a research project and submits the work for discussion

11.Course Evaluation			
	Course Exam	Final Exam	Sum
Theoretical	20	30	50
Practical	20	30	50
Total	**40**	**60**	**100**

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Summer Clinic

2. Course Code:

VEC5109

3. Semester / Year:

Summer Semester / Fourth Year

4. Description Preparation Date:

1 / 9 / 2023

5. Available Attendance Forms:

- Practice in the University Veterinary Clinic.

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

	Credit Hours	Units
Practical	15	3
Total	**15**	**3**

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

Name:
Email:

8. Course Objectives

Course Objectives	• • •

9. Teaching and Learning Strategies

Strategy	• Explanation of scientific subjects through theoretical lectures. • Practical classes utilizing live animals. • Practice in the University Veterinary Clinic. • Student prepare a scientific related reports.

10. Course Structure

- Practical Subjects:

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-9	15		Weekly rotation at the departments of the University Veterinary Clinic: 1. Internal medicine 2. Surgery. 3. Obstetrics. 4. Poultry and fish. 5. Clinical pathology.	Practice in the University Veterinary Clinic	Objective Structured Practical Veterinary examination (OSPVE)

11.Course Evaluation

	Course Exam	Final Exam	Sum
Practical	40	60	100
Total	**40**	**60**	**100**

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	