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

Course Description Guide

2024

Academic Program Description Form

University Name: Kufa
Faculty/Institute: Faculty of Veterinary Medicine
Scientific Department: Veterinary Medicine
Academic or Professional Program Name: Veterinary Medicine and Surgery
Final Certificate Name: Bachelor in Veterinary Medicine and Surgery
Academic System: Semester
Description Preparation Date: 2022
File Completion Date: 2024/3/4

Signature: Abdullah
Head of Department Name:
Abdullah O. Alhatami
Date: 5/3/2024

Signature:
Scientific Associate Name: Falah Hasan Ali
Date: 6/3/2024

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date: Asaad Chasib
Signature:
5/3/2024

Approval of the Dean

Course Description Form (Biology)

1. Course Name: Biology
2. Course Code: VEA1102
3. Semester / Year: Semester
4. Description Preparation Date: 23/2/2024
5. Available Attendance Forms: In-Person/Theoretical + Practical
6. Number of Credit Hours (Total) / Number of Units (Total) 2/2
7. Course administrator's name (mention all, if more than one name)
Name: Zainab Mohammed Ali Ibrahim Email: zainabm.albermani@uokufa.edu.iq
8. Course Objectives

Course Objectives	**- The general goal of teaching the basic sciences of the anatomy branch is to provide important scientific knowledge that it involves knowing structure of the body at the level of systems, organs and cells.** **- Understanding the physiological principles, anatomical structures, biochemistry and genetic characteristics of microorganisms.** **- Teaching biology provides a broad knowledge of the type and structure of microorganisms.** **- Identifying the animal immune system, its components, how it works in pathological conditions, and what are the most important ailments and disorders that may affect it.**
9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** A1- The student defines the basic methods for studying biology. A2- The student's knowledge of the different types of microscopic organisms and the scientific classification used in biology.

	A3- Identify the methods of reproduction and transmission of microorganisms and the optimal conditions for their living. A4- The student's knowledge of the infections and diseases that can be caused by these microorganisms and thus how to prevent or reduce the occurrence of these diseases. A5- Identify the body's defenses against these microorganisms and the types of cells that contribute to eliminating them. **B - Skills:** B1- The student acquires the skills of using histological techniques, including preparation methods and using different staining. B2- The student acquires the skills of analyzing and comparing the microscopic structures of various body organs. B3- The student is able to grow microorganisms on different agricultural media. B4-. The student can differentiate between the different microscopic types through his knowledge of their appearance characteristics and internal structures, thus enabling him to diagnose them and determine their scientific type. B5- The student is able to identify the various infections in the animal body and the microorganisms responsible for them, and thus determine the appropriate treatment for them by using a test of the different antibiotics used as treatment. **C - Values:** C1- The learner provides assistance to classmates in class and engages in teamwork. C2- The learner practices voluntary work consciously and with full awareness.

	C3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college. C4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.

10. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1-2	2	Understanding, knowledge	Introduction and definition of term	Theoretical + practical lectures	Exams
3-4	2	Understanding, knowledge	Origin of life	Theoretical + practical lectures	Exams
5	4	Understanding, knowledge	The cell: The cells structure composition and function	Theoretical + practical lectures	Exams
6	2	Understanding, knowledge	Taxonomy of the kingdom	Theoretical + practical lectures	Exams

7	4	Understanding, knowledge	Phylum : protozoa	Theoretical + practical lectures	Exams
8-9	4	Understanding, knowledge	Phylum: Platyhelminthes	Theoretical + practical lectures	Exams
10-11	4	Understanding, knowledge	Phylum:Nemathelimінthes	Theoretical + practical lectures	Exams
12-13	4	Understanding, knowledge	Phylum: Arthropoda	Theoretical + practical lectures	Exams
14-15	4	Understanding, knowledge	Phylum: Chordata	Theoretical + practical lectures	Exams

11. Course Evaluation

1. Daily exams.
2. Midterm and final exams.
3. Participation grades for discussion questions on the topics of study.
4. Grades for homework and reports.

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Gillies R.R. & Dodds, 1984: Bacteriology illustrated, 5th edition. Long man group limit USA. (Text book).
Main references (sources)	1- Katherine N. Ward, A. Christine McCartney & Bishan Thakker 2009: Notes On Medical Microbiology, 2nd edition. Churchill Livingstone Elservier. UK. 2- Morello, Mizer & Granato 2006: Laboratory manual and Workbook in Microbiology "Application to patient care", Eighth edition. The McGraw-Hill Companies Inc., USA. 3- Whitman, William B; Rainey, Fred; Kämpfer, Peter; Trujillo, Martha; Chun, Jonsik; Devos, Paul; Hedlund, Brian; Dedysh, Svetlana (eds.) (2015). *Bergey's Manual of Systematics of Archaea and Bacteria*. John Wiley and Sons. 4- Richard A. Harvey, Cynthia Nau Cornelissen and Bruce D. Fisher. Microbiology. (Lippincott's Illustrated Reviews) 3rd edition. 2014 5- Bailey and Scott's.(2014). Diagnostic microbiology.Elseiver,2014.

	6-- Brock TD.Madigan M. Martinko J. et al.editors: Biology of microbiology. Upper Saddle River, NJ.2009. Prentice Hall
Recommended books and references (scientific journals, reports...)	*Journal of Bacteriology*
Electronic References, Websites	Web sites of Microbiology

Course Description Form: Anatomy

1. Course Name: Anatomy
2. Course Code: VEA1101
3. Semester / Year: Semester
4. Description Preparation Date: 23/2/2024
5. Available Attendance Forms: In-Person/Theoretical + Practical

6. Number of Credit Hours (Total) / Number of Units (Total) 2/2	
7. Course administrator's name (mention all, if more than one name)	
Name: Waleed jaleel abed Email: waleedj.abed@uokufa.edu.iq	
8. Course Objectives	
Course Objectives	**- The general goal of teaching the basic sciences of the anatomy branch is to provide important scientific knowledge that it involves knowing structure of the body at the level of systems, organs and cells.** **- Knowledge of scientific methods for studying anatomy and modern molecular methods.** **- Raising students' ability to link anatomical facts with clinical applications using radiographs, ultrasound, magnetic resonance imaging, and histological slides.** **- Implementing professional and ethical education for students to deal with animal carcasses.**
9. Teaching and Learning Strategies	

Strategy	**1A - Knowledge:** A1- The student defines the basic methods for studying veterinary a**natomy.** A2- Enable the student to explain and describe the morphological structures of the body's organs. A3- Enabling the student to apply the a**natomical** techniques . A4- The student analyzes the main structures that make up the body's systems, especially the organ That affects animal production. A5- The student can express an opinion on the quality of animals in fields and private farms. A6- The student can plan various animal production projects. **B - Skills:** B1- The student acquires the skills of using histological techniques, including preparation methods and using different staining. B2- The student acquires the skills of analyzing and comparing the microscopic structures of various body organs. B3- The student requires the skills to use immunohistochemical techniques that help describe genetic structures for tissues.

	C - Values: C1- The learner provides assistance to classmates in class and engages in teamwork. C2- The learner practices voluntary work consciously and with full awareness. C3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college. C4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.

10. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2	Understanding, knowledge	Introduction anatomy	Theoretical + practical lectures	Exams
2-4	5	Understanding, knowledge	Myology	Theoretical + practical lectures	Exams

5-6	4	Understanding, knowledge	General syndesmology (arthrology)	Theoretical + practical lectures	Exams
7-9	5	Understanding, knowledge	Common integument	Theoretical + practical lectures	Exams
10-14	6	Understanding, knowledge	Endocrine gland	Theoretical + practical lectures	Exams

11. Course Evaluation
1. Daily exams. **2. Midterm and final exams.** **3. Participation grades for discussion questions on the topics of study.** **4. Grades for homework and reports.**

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	1- Textbook of Veterinary Anatomy, 4e (4th Edition) Hardcover – 23 Dec. 2009. 2-Veterinary Anatomy of Domestic Animals Textbook and Colour Atlas Editors Horst Erich König Hans-Georg Liebich.

	3- Anatomy of the Horse: with Aaron Horowitz and Rolf Berg Hardcover – 1 Mar. 2012. 4- Anatomy of Domestic Animals: Systemic & Regional Approach by Chris Pasquini (Author), Tom Spurgeon (Author), Susan Pasquini (Author)
Main references (sources)	Albishtue A, Yimer N, Zakaria M, Haron A, Yusoff R, Assi M, and Almhanawi B. 2018e. Edible bird's nest impact on rats' uterine histomorphology, expressions of genes of growth factors and proliferating cell nuclear antigen, and oxidative stress level, Vet World, 11 (1): 71-79.
Recommended books and references (scientific journals, reports...)	*Journal of Advances in Animal Anatomy*
Electronic References, Websites	Albishtue A, Yimer N, Zakaria M, Haron A, Babji A, Abubakar A, Almhanna H, Baiee F and Almhanawi, B. 2019 d. Edible bird's nest's role and mechanism in averting lead acetate toxicity effect on rat's uterus, Vet World, 12(7): 1013-1021.

Course Description Form biorisk management
13.Course Name: biorisk management
14. Course Code: VEM1106
15. Semester / 1st Year/ 1st Semester
16. Description Preparation Date: 23/2/2024
17.Available Attendance Forms: In-Person/Theoretical
18.Number of Credit Hours (Total) / Number of Units (Total) 1/1

19. Course administrator's name (mention all, if more than one name)
Name: Kifah Fadhil Hassoon Al-Shabaa Email: kefahf.hasson@uokufa.edu.iq
20. Course Objectives

Course Objectives	- achieve principal knowledge of biorisk management systems - tools and resources to begin implementation of a biorisk management system**.** - provide students with an understanding of what is risk in the context of biosafety and biosecurity. - understand the safety labels and how they deal with the basic instruments in the laboratory.

21. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:**

	A1- The student defines the AMP model. A2- Enables the student to define Risk, Hazard, Biological Materials, Biorisk, Biosafety, and Biosecurity. A3- Empowers the student to apply Laboratory safety symbols and hazard signs**.** A4- The student can express Risks groups and Biosafety Levels. A5- The student can identify the Standard Microbiology Techniques and Safety**.** **B - Skills:** **B1-** The student acquires skills in Decontamination and waste disposal**.** **B2-** The student acquires skills in analyzing response to Chemical, Biological accidents: **.** **B3-** The student acquires the skills necessary for selecting First aid and emergency response in the Laboratories**.** **C - Values:** C1- The learner provides assistance to classmates in class and engages in teamwork. C2- The learner practices voluntary work consciously and with full awareness. C3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the faculty.

	C4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious**.**

22. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	2	Understanding, knowledge	Introduction	Theoretical	Exams
3-6	4	Understanding, knowledge	Fundamentals of Biorisk management	Theoretical	Exams
7-10	3	Understanding, knowledge	Laboratory safety symbols and hazard signs	Theoretical	Exams
11-13	2	Understanding, knowledge	Selection of PPE,BSC	Theoretical	Exams

14-15	2	Understanding, knowledge	General considerations for Working with potentially infected animals & Hazardous chemicals.	Theoretical	Exams

23. Course Evaluation

1. Daily exams.
2. Midterm and final exams.
3. Participation grades for discussion questions on the topics of study.
4. Grades for homework and reports.

24. Learning and Teaching Resources

Required textbooks (curricular books, if any)	World Health Organization. *Laboratory biosafety manual*. Third edition. Geneva, World Health Organization, 2004
Main references (sources)	- WHO. Biorisk management. Laboratory biosecurity guidance. September 2006. WHO/CDS/EPR/2006.6.

Recommended books and references (scientific journals, reports…)	Laboratory Design and Maintenance, WHO 2020 (4 th edition)
Electronic References, Websites	biorisk management. Management Centre: Avenue Marnix 17, B-1000 Brussels. (http://www.uab.cat/doc/CWA15793_2011)

Course Description Form Anatomy

1. Course Name: Anatomy
2. Course Code: VEA2101
3. Semester / Year: Semester
4. Description Preparation Date: 23/2/2024

5. Available Attendance Forms: In-Person/Theoretical + Practical	
6. Number of Credit Hours (Total) / Number of Units (Total) 2/2	
7. Course administrator's name (mention all, if more than one name)	
Name: Waleed jaleel abed Email: waleedj.abed@uokufa.edu.iq	
8. Course Objectives	
Course Objectives	**- The general goal of teaching the basic sciences of the anatomy branch is to provide important scientific knowledge that it involves knowing structure of the body at the level of systems, organs and cells.** **- Knowledge of scientific methods for studying anatomy and modern molecular methods.** **- Raising students' ability to link anatomical facts with clinical applications using radiographs, ultrasound, magnetic resonance imaging, and histological slides.** **- Implementing professional and ethical education for students to deal with animal carcasses.**
9. Teaching and Learning Strategies	

Strategy	**1A - Knowledge:** A1- The student defines the basic methods for studying veterinary a**natomy.** A2- Enable the student to explain and describe the morphological structures of the body's organs. A3- Enabling the student to apply the a**natomical** techniques . A4- The student analyzes the main structures that make up the body's systems, especially the organ That affects animal production. A5- The student can express an opinion on the quality of animals in fields and private farms. A6- The student can plan various animal production projects. **B - Skills:** B1- The student acquires the skills of using histological techniques, including preparation methods and using different staining. B2- The student acquires the skills of analyzing and comparing the microscopic structures of various body organs. B3- The student requires the skills to use immunohistochemical techniques that help describe genetic structures for tissues.

	C - Values: C1- The learner provides assistance to classmates in class and engages in teamwork. C2- The learner practices voluntary work consciously and with full awareness. C3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college. C4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-10	20	Understanding, knowledge	Digestive system	Theoretical + practical lectures	Exams
11-15	10	Understanding, knowledge	Respiratory system	Theoretical + practical lectures	Exams

11. Course Evaluation

1. Daily exams.
2. Midterm and final exams.

3. Participation grades for discussion questions on the topics of study. **4. Grades for homework and reports.**	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	1- Textbook of Veterinary Anatomy, 4e (4th Edition) Hardcover – 23 Dec. 2009. 2-Veterinary Anatomy of Domestic Animals Textbook and Colour Atlas Editors Horst Erich König Hans-Georg Liebich. 3- Anatomy of the Horse: with Aaron Horowitz and Rolf Berg Hardcover – 1 Mar. 2012. 4- Anatomy of Domestic Animals: Systemic & Regional Approach by Chris Pasquini (Author), Tom Spurgeon (Author), Susan Pasquini (Author)
Main references (sources)	Albishtue A, Yimer N, Zakaria M, Haron A, Yusoff R, Assi M, and Almhanawi B. 2018e. Edible bird's nest impact on rats' uterine histomorphology, expressions of genes of growth factors and proliferating cell nuclear antigen, and oxidative stress level, Vet World, 11 (1): 71-79.
Recommended books and references (scientific journals, reports...)	*Journal of Advances in Animal Anatomy*

Electronic References, Websites	Albishtue A, Yimer N, Zakaria M, Haron A, Babji A, Abubakar A, Almhanna H, Baiee F and Almhanawi, B. 2019 d. Edible bird's nest's role and mechanism in averting lead acetate toxicity effect on rat's uterus, Vet World, 12(7): 1013-1021.

Course Description Form : Animal management/part 2

1. Course Name: Animal management/part 2
2. Course Code: VEH1107

3. Semester / Year: Semester	
4. Description Preparation Date: 07/03/2024	
5. Available Attendance Forms: In-Person/Theoretical + Practical	
6. Number of Credit Hours (Total) / Number of Units (Total) 4/3	
7. Course administrator's name (mention all, if more than one name)	
Name: Ali Mahdi Sahib Email: alim.alkaabi@uokufa.edu.iq	
8. Course Objectives	
Course Objectives	**- Basic knowledge of animal behavior** **- understanding scientific methods for raising of farm animals** **-Knowledge of health sings**
9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:**

	A1- The student defines the reasons of cow culling from herd A2- Enables the student to describe biotechnology in the field of animal production A3- Empowers the student to apply methods of control on sheep, goat and camel A4- The student analyzes the main factors which affected on productive traits A5- The student can express an opinion on selecting the animal breed A6- The student can plan for animal production projects. **B - Skills:** B1- The student acquires skills to sheep husbandry B2- The student acquires skills to goat husbandry B3- The student acquires the skills to camel husbandry **C - Values:** C1- The learner provides assistance to classmates in class and engages in teamwork. C2- The learner practices voluntary work consciously and with full awareness.

	C3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college. C4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	Understanding, knowledge	Sheep management(terminology- site in animal kingdom-breeds)	Theoretical + practical lectures	Exams
2-4	8	Understanding, knowledge	Sheep management(productive traits-body requirement)	Theoretical + practical lectures	Exams
4-6	8	Understanding, knowledge	Sheep management(health care)	Theoretical + practical lectures	Exams
6-7	4	Understanding, knowledge	Goat management(terminology-site in animal kingdom-breeds	Theoretical + practical lectures	Exams
7-9	8	Understanding, knowledge	Goat management(productive traits-body requirement)	Theoretical + practical lectures	Exams

9-11	8	Understanding, knowledge	Goat management(health care)	Theoretical + practical lectures	Exams
11-13	8	Understanding, knowledge	Camel management(productive traits-body requirement)	Theoretical + practical lectures	Exams
13-15	8	Understanding, knowledge	Camel management(health care)	Theoretical + practical lectures	Exams

11. Course Evaluation
1. Daily exams. **2. Midterm and final exams.** **3. Participation grades for discussion questions on the topics of study.** **4. Grades for homework and reports.**

12. Learning and Teaching Resources	
Required textbooks (curricular books, any)	Scientific Farm Animal Production - 11th edition, 2016
Main references (sources)	Farm Animal Management: Principles and Practices, 2014

Recommended books and references (scientific journals, reports...)	*Sheep Best Management Practices* https://extension.umaine.edu/livestock/sheep-entrepreneurs/tools-resources-for-participants/sheep-best-management-practices/
Electronic References, Websites	**https://www.jica.go.jp/Resource/nepal/english/office/others/c8h0vm0000bjww96-att/tm_7.pdf**

Course Description Form Anatomy 1st 2nd sem

1. Course Name: Anatomy 1st 2nd sem.
2. Course Code: VEA2112
3. Semester / Year: Semester
4. Description Preparation Date: 23/2/2024
5. Available Attendance Forms: In-Person/Theoretical + Practical
6. Number of Credit Hours (Total) / Number of Units (Total) 2/2

7. Course administrator's name (mention all, if more than one name)
Name: Waleed jaleel abed Email: waleedj.abed@uokufa.edu.iq
8. Course Objectives

Course Objectives	**- The general goal of teaching the basic sciences of the anatomy branch is to provide important scientific knowledge that it involves knowing structure of the body at the level of systems, organs and cells.** **- Knowledge of scientific methods for studying anatomy and modern molecular methods.** **- Raising students' ability to link anatomical facts with clinical applications using radiographs, ultrasound, magnetic resonance imaging, and histological slides.** **- Implementing professional and ethical education for students to deal with animal carcasses.**

9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** A1- The student defines the basic methods for studying veterinary anatomy.

	A2- Enable the student to explain and describe the morphological structures of the body's organs. A3- Enabling the student to apply the anatomical techniques. A4- The student analyzes the main structures that make up the body's systems, especially the organ That affects animal production. A5- The student can express an opinion on the quality of animals in fields and private farms. A6- The student can plan various animal production projects. **B - Skills:** B1- The student acquires the skills of using histological techniques, including preparation methods and using different staining. B2- The student acquires the skills of analyzing and comparing the microscopic structures of various body organs. B3- The student requires the skills to use immunohistochemical techniques that help describe genetic structures for tissues. **C - Values:** C1- The learner provides assistance to classmates in class and engages in teamwork. C2- The learner practices voluntary work consciously and with full awareness.

	C3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college. C4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.

10. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2	Understanding, knowledge	Cardiovascular system	Theoretical + practical lectures	Exams
3-5	4	Understanding, knowledge	Urinary system	Theoretical + practical lectures	Exams
6-9	4	Understanding, knowledge	Male genital system	Theoretical + practical lectures	Exams
10-12	4	Understanding, knowledge	Female genital system	Theoretical + practical lectures	Exams

13-14	4	Understanding, knowledge	Mammary gland	Theoretical + practical lectures	Exams

11. Course Evaluation
1. Daily exams. **2. Midterm and final exams.** **3. Participation grades for discussion questions on the topics of study.** **4. Grades for homework and reports.**

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	1- Textbook of Veterinary Anatomy, 4e (4th Edition) Hardcover – 23 Dec. 2009. 2-Veterinary Anatomy of Domestic Animals Textbook and Colour Atlas Editors Horst Erich König Hans-Georg Liebich. 3- Anatomy of the Horse: with Aaron Horowitz and Rolf Berg Hardcover – 1 Mar. 2012. 4- Anatomy of Domestic Animals: Systemic & Regional Approach by Chris Pasquini (Author), Tom Spurgeon (Author), Susan Pasquini (Author)
Main references (sources)	Albishtue A, Yimer N, Zakaria M, Haron A, Yusoff R, Assi M, and Almhanawi B. 2018e. Edible bird's nest impact on rats' uterine histomorphology, expressions of genes of

	growth factors and proliferating cell nuclear antigen, and oxidative stress level, Vet World, 11 (1): 71-79.
Recommended books and references (scientific journals, reports...)	*Journal of Advances in Animal Anatomy*
Electronic References, Websites	Albishtue A, Yimer N, Zakaria M, Haron A, Babji A, Abubakar A, Almhanna H, Baiee F and Almhanawi, B. 2019 d. Edible bird's nest's role and mechanism in averting lead acetate toxicity effect on rat's uterus, Vet World, 12(7): 1013-1021.

Course description form Poultry Management

25. Course name :Poultry Management
26. Course code :VEH1108
27. Semester/Year: Semester
28. The date this description was prepared2024/02/17
5.Available forms of attendance: physical/theoretical + practical

6.Number of study hours (total)/number of units (total) 2/2
29. Name of the course administrator (if more than one name is mentioned(
Name:Prof.Dr.Ali Mehmood Alkassar Email:alim.amer@uokufa.edu.iq
30. Course objectives
Educating the student about the economic importance of poultry, knowing its international breeds, their external appearance, and explaining the equipment **The different things inside the bird's body, the classification of poultry birds, their genetics, the foundations of their nutrition, and everything related to hatcheriesTypes of poultry housing, biosecurity of fields, vaccination programs, and some common diseases an methods of treating them** **Objecti ves subject**
31. Teaching and learning strategies
A- Knowledge A1- The student knows the basic methods for identifying birds, types of feathers, and crests A2- Enable the student to explain and summarize methods for selecting good genetic traits and how to develop strains High productivity and resistant to local environmental conditions A3- Enabling the student to apply veterinary health management methods to poultry fields. A4- The student analyzes the main elements that affect the appearance of symptoms of nutritional deficiency and stress Which affects the productivity of the bird (laying chickens or broilers(A5- The student can express his opinion about the quality of birds found in poultry farming projects **strategi s**

A6- The student will be able to plan various animal production projects

B - Skill

B1 - The student will acquire skills in using veterinary health management systems in poultry fields

B2 - The student acquires the skills of sterilizing and disinfecting fields and veterinary vaccination programs

B3 - The student will acquire the necessary skills in diagnosing feed toxins and ways to reduce them

C- Values:

C1- The learner provides assistance to his friends in class and group work

C2- The learner practices volunteer work with full awareness and understanding

A3- The student tries to maintain mutual respect between himself and his classmates, as well as respect Mutual exchange with the educational family at the college

A4- The student can be familiar with professional ethics and the relationship with educators, and the motivation is moral and emotional.

32. Course structure (theoretical only)

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Hours		Week
exams	Theoretical lectures, discussions	**Poultry science and industry development**	**Understanding and knowledge**	**1**	**1 2024/2/**	**8**

exams	Theoretical lectures, discussions	**Terminology –classification of poultry.**	**Understanding and knowledge**	**1**	**2 2024/3/**
d exams	Theoretical lectures, discussions	**Classification of domestic birds**	**Understanding and knowledge**	**1**	**3 2024/3/ 3**
exams	Theoretical lectures, discussions	**Classification of domestic birds**	**Understanding and knowledge**	**1**	**4 2024/3/ 0**
exams	Theoretical lectures, discussions	**Poultry Breeding**	**Understanding and knowledge**	**1**	**5 2024/3/ 7**
exams	Theoretical lectures, discussions	**Brooding and Broiler production**	**Understanding and knowledge**	**1**	**6 2024/4/**
exams	Theoretical lectures, discussions	**Brooding and Broiler production**	**Understanding and knowledge**	**1**	**7 2024/4/ 1**

exams	Theoretical lectures, discussions	**Artificial hatching of chicks**	**Understanding and knowledge**	**1**	**8 2024/4/ 1**
exams	**Video lecture on poultry قثشقهىل**	**Rearing and Laying**	**Understanding and knowledge**	**1**	**9 2022/4/ 8**
exams	Theoretical lectures, discussions	**Rearing and Laying**	**Understanding and knowledge**	**1**	**10 2024/4/ 5**
exams	Theoretical lectures, discussions	**Nutrition of the chicken**	**Understanding and knowledge**	**1**	**11 2024/5/**
exams	Theoretical lectures, discussions	**Nutrition of the chicken**	**Understanding and knowledge**	**1**	**12 2024/5/**
exams	Theoretical lectures, discussions	**Poultry Hygiene**	**Understanding and knowledge**	**1**	**13 2024/5/ 6**

exams	Theoretical lectures, discussions	**Some poultry diseases**	**Understanding and knowledge**	**1**	**14 2024/5/3**
exams	Theoretical lectures, discussions	**Marketing of poultry products**	**Understanding and knowledge**	**1**	**15 2024/5/30**

Course evaluation .33

1.Daily exams

.2Semester and final exams.

.3Degrees of students' participation in discussion questions for academic topics.

.4Grades for homework and reports

34. Learning and teaching resources

Poultry Production,book.Ali Alkassar,2010 Poultry Management Poultry Nutrition.book.Ali Alkassar,2012 Feed additives in poultry .book.Ali Alkassar.2017. Poultry feeds and chemical analysis.book.Ali Alkassar.2018.	Required textbooks (methodology, if any(

Basic Management of Poultry in Developing Communities. By Jon Moyle, Ph.2020 Poultry Production in hot climates. Nuhad J. Daghir.2018. *Poultry Health and Management*. *Dr. Joseph J. Giambrone*.2023. The chicken health-Hand book.Gail Damerow.2010	Main references (sources)
Poultry Science. Gideon Waddell.New York.USA.2017 Poultry Products technology.George,.and Carmen.Mississippi State University.2014	Recommended supporting books and references (scientific journals, reports(....
Poultry Site,Poultry World.Wikipedia Multi E.Journal about the poultry in all internet sites.	Electronic references, Internet sites

Course Description Form Anatomy

1. Course Name: Anatomy	
2. Course Code: VEA2107	
3. Semester / Year: Semester	
4. Description Preparation Date: 23/2/2024	
5. Available Attendance Forms: In-Person/Theoretical + Practical	
6. Number of Credit Hours (Total) / Number of Units (Total) 2/2	
7. Course administrator's name (mention all, if more than one name)	
Name: Waleed jaleel abed Email: waleedj.abed@uokufa.edu.iq	
8. Course Objectives	
Course Objectives	**- The general goal of teaching the basic sciences of the anatomy branch is to provide important scientific knowledge that it involves knowing structure of the body at the level of systems, organs and cells.**

	- Knowledge of scientific methods for studying anatomy and modern molecular methods. **- Raising students' ability to link anatomical facts with clinical applications using radiographs, ultrasound, magnetic resonance imaging, and histological slides.** **- Implementing professional and ethical education for students to deal with animal carcasses.**
9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** A1- The student defines the basic methods for studying veterinary anatomy. A2- Enable the student to explain and describe the morphological structures of the body's organs. A3- Enabling the student to apply the anatomical techniques. A4- The student analyzes the main structures that make up the body's systems, especially the organ That affects animal production. A5- The student can express an opinion on the quality of animals in fields and private farms.

	A6- The student can plan various animal production projects. **B - Skills:** B1- The student acquires the skills of using histological techniques, including preparation methods and using different staining. B2- The student acquires the skills of analyzing and comparing the microscopic structures of various body organs. B3- The student requires the skills to use immunohistochemical techniques that help describe genetic structures for tissues. **C - Values:** C1- The learner provides assistance to classmates in class and engages in teamwork. C2- The learner practices voluntary work consciously and with full awareness. C3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college. C4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.

10. Course Structure

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

1-6	12	Understanding, knowledge	Lymphatic system	Theoretical + practical lectures	Exams
7-12	12	Understanding, knowledge	NERVOUS SYSTEM	Theoretical + practical lectures	Exams
13-15	6	Understanding, knowledge	Sense organs (eye and ear)	Theoretical + practical lectures	Exams

11. Course Evaluation
1. Daily exams. **2. Midterm and final exams.** **3. Participation grades for discussion questions on the topics of study.** **4. Grades for homework and reports.**

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	1- Textbook of Veterinary Anatomy, 4e (4th Edition) Hardcover – 23 Dec. 2009. 2-Veterinary Anatomy of Domestic Animals Textbook and Colour Atlas Editors Horst Erich König Hans-Georg Liebich.

	3- Anatomy of the Horse: with Aaron Horowitz and Rolf Berg Hardcover – 1 Mar. 2012. 4- Anatomy of Domestic Animals: Systemic & Regional Approach by Chris Pasquini (Author), Tom Spurgeon (Author), Susan Pasquini (Author)
Main references (sources)	Albishtue A, Yimer N, Zakaria M, Haron A, Yusoff R, Assi M, and Almhanawi B. 2018e. Edible bird's nest impact on rats' uterine histomorphology, expressions of genes of growth factors and proliferating cell nuclear antigen, and oxidative stress level, Vet World, 11 (1): 71-79.
Recommended books and references (scientific journals, reports...)	*Journal of Advances in Animal Anatomy*
Electronic References, Websites	Albishtue A, Yimer N, Zakaria M, Haron A, Babji A, Abubakar A, Almhanna H, Baiee F and Almhanawi, B. 2019 d. Edible bird's nest's role and mechanism in averting lead acetate toxicity effect on rat's uterus, Vet World, 12(7): 1013-1021.

Course Description Form Histology

1. Course Name: Histology
2. Course Code: VEA2102
3. Semester / Year: Semester

4. Description Preparation Date: 23/2/2024	
5. Available Attendance Forms: In-Person/Theoretical + Practical	
6. Number of Credit Hours (Total) / Number of Units (Total) 2/2	
7. Course administrator's name (mention all, if more than one name)	
Name: Morteta hamza Mohamed Email: mortetah.mohamed@uokufa.edu.iq	
8. Course Objectives	
Course Objectives	**- The general goal of teaching the basic sciences of the anatomy branch is to provide important scientific knowledge that it involves knowing the structural structure of the body at the level of systems, organs and cells.** **- Knowledge of scientific methods for studying anatomy and modern molecular methods.** **- Raising students' ability to link anatomical facts with clinical applications using radiographs, ultrasound, magnetic resonance imaging, and histological slides.**

	- Implementing professional and ethical education for students to deal with animal carcasses.
9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** A1- The student defines the basic methods for studying veterinary histology. A2- Enable the student to explain and describe the histological structure of the body's organs. A3- Enabling the student to apply the histological sectioning technique and the histochemical technique. A4- The student analyzes the main structures that make up the body's systems, especially the organ That affects animal production. A5- The student can express an opinion on the quality of animals in fields and private farms. A6- The student can plan various animal production projects. **B - Skills:** B1- The student acquires the skills of using histological techniques, including preparation methods and using different staining. B2- The student acquires the skills of analyzing and comparing the microscopic structures of various body organs.

	B3- The student requires the skills to use immunohistochemical techniques that help describe genetic structures for tissues. **C - Values:** C1- The learner provides assistance to classmates in class and engages in teamwork. C2- The learner practices voluntary work consciously and with full awareness. C3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college. C4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	2	Understanding, knowledge	Introduction	Theoretical + practical lectures	Exams
3-4	3	Understanding, knowledge	Cytology	Theoretical + practical lectures	Exams

5	3	Understanding, knowledge	Blood and myeloid tissues	Theoretical + practical lectures	Exams
6-7	5	Understanding, knowledge	Nervous tissue	Theoretical + practical lectures	Exams
8-9	3	Understanding, knowledge	Cartilage and bone	Theoretical + practical lectures	Exams
10-11	3	Understanding, knowledge	Cardiovascular system	Theoretical + practical lectures	Exams
12-13	3	Understanding, knowledge	Lymphatic system	Theoretical + practical lectures	Exams
14	5	Understanding, knowledge	Respiratory system	Theoretical + practical lectures	Exams

15	4	Understanding, knowledge	Skin	Theoretical + practical lectures	Exams

11. Course Evaluation
1. Daily exams. **2. Midterm and final exams.** **3. Participation grades for discussion questions on the topics of study.** **4. Grades for homework and reports.**

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	1- Color text book of histology. 2- Basic histilogy. 3- Dellmann s textbook veterinary histology and atlas. 4- Comparative veterinary histology. 5- Textbook of veterinary histology, Don A.Samuelson. Pp. 451
Main references (sources)	Albishtue A, Yimer N, Zakaria M, Haron A, Yusoff R, Assi M, and Almhanawi B. 2018e. Edible bird's nest impact on rats' uterine histomorphology, expressions of genes of growth factors and proliferating cell nuclear antigen, and oxidative stress level, Vet World, 11 (1): 71-79.
Recommended books and references (scientific journals, reports...)	*Journal of Advances in Animal Anatomy*

Electronic References, Websites	Albishtue A, Yimer N, Zakaria M, Haron A, Babji A, Abubakar A, Almhanna H, Baiee F and Almhanawi, B. 2019 d. Edible bird's nest's role and mechanism in averting lead acetate toxicity effect on rat's uterus, Vet World, 12(7): 1013-1021.

Course Description Form Histology

1. Course Name: Histology
2. Course Code: VEA2102
3. Semester / Year: Semester
4. Description Preparation Date: 23/2/2024
5. Available Attendance Forms: In-Person/Theoretical + Practical
6. Number of Credit Hours (Total) / Number of Units (Total) 2/2

7. Course administrator's name (mention all, if more than one name)	
Name: Morteta hamza Mohamed Email: mortetah.mohamed@uokufa.edu.iq	
8. Course Objectives	
Course Objectives	**- The general goal of teaching the basic sciences of the anatomy branch is to provide important scientific knowledge that it involves knowing the structural structure of the body at the level of systems, organs and cells.** **- Knowledge of scientific methods for studying anatomy and modern molecular methods.** **- Raising students' ability to link anatomical facts with clinical applications using radiographs, ultrasound, magnetic resonance imaging, and histological slides.** **- Implementing professional and ethical education for students to deal with animal carcasses.**
9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** A1- The student defines the basic methods for studying veterinary histology.

	A2- Enable the student to explain and describe the histological structure of the body’s organs. A3- Enabling the student to apply the histological sectioning technique and the histochemical technique. A4- The student analyzes the main structures that make up the body's systems, especially the organ That affects animal production. A5- The student can express an opinion on the quality of animals in fields and private farms. A6- The student can plan various animal production projects. **B - Skills:** B1- The student acquires the skills of using histological techniques, including preparation methods and using different staining. B2- The student acquires the skills of analyzing and comparing the microscopic structures of various body organs. B3- The student requires the skills to use immunohistochemical techniques that help describe genetic structures for tissues. **C - Values:** C1- The learner provides assistance to classmates in class and engages in teamwork. C2- The learner practices voluntary work consciously and with full awareness.

	C3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college. C4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.

10. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1-4	8	Understanding, knowledge	Digestive system	Theoretical + practical lectures	Exams
5-6	4	Understanding, knowledge	Urinary system	Theoretical + practical lectures	Exams
7-8	4	Understanding, knowledge	Endocrine system	Theoretical + practical lectures	Exams
9-10	4	Understanding, knowledge	Male reproductive system	Theoretical + practical lectures	Exams

11-12	4	Understanding, knowledge	Female reproductive system	Theoretical + practical lectures	Exams
13-14	4	Understanding, knowledge	Sense organs	Theoretical + practical lectures	Exams

11. Course Evaluation

1. Daily exams.
2. Midterm and final exams.
3. Participation grades for discussion questions on the topics of study.
4. Grades for homework and reports.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1- Color text book of histology. 2- Basic histilogy. 3- Dellmann s textbook veterinary histology and atlas. 4- Comparative veterinary histology. 5- Textbook of veterinary histology, Don A.Samuelson. Pp. 451
Main references (sources)	Albishtue A, Yimer N, Zakaria M, Haron A, Yusoff R, Assi M, and Almhanawi B. 2018e. Edible bird's nest impact on rats' uterine histomorphology, expressions of genes of growth factors and proliferating cell nuclear antigen, and oxidative stress level, Vet World, 11 (1): 71-79.

Recommended books and references (scientific journals, reports...)	*Journal of Advances in Animal Anatomy*
Electronic References, Websites	Albishtue A, Yimer N, Zakaria M, Haron A, Babji A, Abubakar A, Almhanna H, Baiee F and Almhanawi, B. 2019 d. Edible bird's nest's role and mechanism in averting lead acetate toxicity effect on rat's uterus, Vet World, 12(7): 1013-1021.

Course Description Form Physiology part 1

1. Course Name: Physiology part 1
2. Course Code: VEP2103
3. Semester / Year: Semester
4. Description Preparation Date: 23/2/2024
5. Available Attendance Forms: In-Person/Theoretical + Practical
6. Number of Credit Hours (Total) / Number of Units (Total) 6/5

7. Course administrator's name (mention all, if more than one name)
Name: Fouad Zeidan Hamzah Al.quraishi Email: fouadz.alquraishi@uokufa.edu.iq
8. Course Objectives

Course Objectives	**The student's knowledge of the functions of the animal's body organs in order to be able to know the changes in the different organs and tissues of the body when infection with various pathogens occurs, and to study the chemical reactions that occur inside and outside the body**
9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** A1- The student defines the basic methods for studying veterinary physiology. A2- **Enabling the student to know the functions of the organs accurately, so that he can know the pathological conditions in order to reach the correct diagnosis** .A3- Empowers the student to apply parctical physiology methods. A4- The student analyzes the main factors influencing the function of organs such as diseases that affect animal productivity.

	A5- The student can express an opinion on the quality of animals in fields and private farms. A6- The student can plan various animal production projects. **B - Skills:** B1- Providing students with skills in how to deal with laboratory and field animals and methods of drawing blood. B2- Providing students with skills in how laboratory equipment works. B3- To provide the student with the skill of different methods of administering medication. **C - Values:** C1- The learner provides assistance to classmates in class and engages in teamwork. C2- The learner practices voluntary work consciously and with full awareness. C3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college. C4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.

10. Course Structure

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

1-2	12	Understanding, knowledge	introduction of physiology	Theoretical + practical lectures	Exams
3-6	18	Understanding, knowledge	Fundamentals of physiology	Theoretical + practical lectures	Exams
7-10	18	Understanding, knowledge	Functions of body systems	Theoretical + practical lectures	Exams
11-13	12	Understanding, knowledge	physiology of cells	Theoretical + practical lectures	Exams
14-15	6	Understanding, knowledge	Specific functions of organs	Theoretical + practical lectures	Exams

11. Course Evaluation

1. Daily exams.
2. Midterm and final exams.
3. Participation grades for discussion questions on the topics of study.
4. Grades for homework and reports.

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**Gyuton and Hill , medical physiology, 2008,**
Main references (sources)	Animal Physiology From Genes To Organisms Text Book Of Veterinary Physiology Chemistry
Recommended books and references (scientific journals, reports...)	Essentials of Anatomy and Physiology: 9780803669376
Electronic References, Websites	**Manual on meat inspection for developing countries.https://libguides.sun.ac.za/physiology/refsources**

Course Description Form Physiology part 2
1. Course Name: Physiology part 2
2. Course Code: VEP2109
3. Semester / Year: Semester

4. Description Preparation Date: 5/3/2024
5. Available Attendance Forms: In-Person/Theoretical + Practical
6. Number of Credit Hours (Total) / Number of Units (Total) 6/5
7. Course administrator's name (mention all, if more than one name)
Name: Fouad Zeidan Hamzah Al.quraishi Email: fouadz.alquraishi@uokufa.edu.iq
8. Course Objectives

Course Objectives	**The student's knowledge of the functions of the animal's body organs in order to be able to know the changes in the different organs and tissues of the body when infection with various pathogens occurs, and to study the chemical reactions that occur inside and outside the body**

9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** A1- The student defines the basic methods for studying veterinary physiology.

	A2- **Enabling the student to know the functions of the organs accurately, so that he can know the pathological conditions in order to reach the correct diagnosis** .A3- Empowers the student to apply parctical physiology methods. A4- The student analyzes the main factors influencing the function of organs such as diseases that affect animal productivity. A5- The student can express an opinion on the quality of animals in fields and private farms. A6- The student can plan various animal production projects. **B - Skills:** B1- Providing students with skills in how to deal with laboratory and field animals and methods of drawing blood. B2- Providing students with skills in how laboratory equipment works. B3- To provide the student with the skill of different methods of administering medication. **C - Values:** C1- The learner provides assistance to classmates in class and engages in teamwork. C2- The learner practices voluntary work consciously and with full awareness. C3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college.

	C4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	12	Understanding, knowledge	Physiology of urinary system	Theoretical + practical lectures	Exams
3-6	18	Understanding, knowledge	Physiology of Reproductive system	Theoretical + practical lectures	Exams
7-10	18	Understanding, knowledge	physiology of endocrine systems	Theoretical + practical lectures	Exams
11-13	12	Understanding, knowledge	physiology of nervous system	Theoretical + practical lectures	Exams

14-15	6	Understanding, knowledge	physiology of digestive systems	Theoretical + practical lectures	Exams

11. Course Evaluation
1. Daily exams. **2. Midterm and final exams.** **3. Participation grades for discussion questions on the topics of study.** **4. Grades for homework and reports.**

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**Gyuton and Hill , medical physiology, 2008,**
Main references (sources)	Animal Physiology From Genes To Organisms Text Book Of Veterinary Physiology Chemistry
Recommended books and references (scientific journals, reports...)	Essentials of Anatomy and Physiology: 9780803669376
Electronic References, Websites	**Manual on meat inspection for developing countries.https://libguides.sun.ac.za/physiology/refsources**

Course Description Form Nutrition

1. Course Name: Nutrition
2. Course Code: VEH2105/ VEH2111
3. Semester / Year: Annual / 2 Semester
4. Description Preparation Date: 7/3/2024
5. Available Attendance Forms: In-Person/Theoretical + Practical
6. Number of Credit Hours (Total) / Number of Units (Total) 2/2
7. Course administrator's name (mention all, if more than one name)
Name: Ali Mohammod Al- kassar Email: alim.amer@uokufa.edu.iq Name: Hayder Razzaq Abed Email: hayderr.alessay@uokufa.edu.iq

8. Course Objectives	
Course Objectives	**- Basic knowledge of veterinary nutrition.** **- understanding scientific methods for studying nutrition.** **- Knowledge of important nutritional diseases in field animals**
9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** A1- The student defines the basic methods for studying veterinary nutrition. A2- Enables the student to explain and summarize methods for selecting good nutritional traits. A3- Empowers the student to apply nutritional methods to animals. A4- The student analyzes the main factors influencing the occurrence of nutritional diseases. A5- The student can express the essential nutrient in animals feed.. A6- The student can plan various animal nutritional projects.

	B - Skills: B1- The student acquires skills in using nutritional systems. B2- The student acquires skills in analyzing nutritional traits. B3- The student acquires the skills necessary for selecting good nutritional traits for farm animals. **C - Values:** C1- The learner provides assistance to classmates in class and engages in teamwork. C2- The learner practices voluntary work consciously and with full awareness. C3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college. C4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	Understanding, knowledge	**Introduction and importance of nutrition of farm animals**	Theoretical + practical lectures	Exams

3-6	8	Understanding, knowledge	**Water and its function,regulation and comparative use by farm animals**	Theoretical + practical lectures	Exams
7-10	6	Understanding, knowledge	**Energy metabolism**	Theoretical + practical lectures	Exams
11-13	6	Understanding, knowledge	**Cabohydrates metabolism**	Theoretical + practical lectures	Exams
14-15	4	Understanding, knowledge	**Protein and nucleic acids metabolism**	Theoretical + practical lectures	Exams

11. Course Evaluation

1. Daily exams.
2. Midterm and final exams.
3. Participation grades for discussion questions on the topics of study.
4. Grades for homework and reports.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Animal nutrition,Text book.Ali alkassar and et al.2024. Animal nutrition.book.McDonald,et al.2010.

	LABORATORY PROCEDURES INANIMAL NUTRITION RESEARCH.book. *Galyean*.2010. A Guide to the Principles of Animal Nutrition.book. *GITA CHERIAN*.2020
Main references (sources)	Poultry nutrition.book.Ali Alkassar.2012. Nutrition and the Welfare of FarmAnimals.book. Clive J.C. Phillips.2014
Recommended books and references (scientific journals, reports...)	**Nutrient Requirements of Dairy Cattle: Seventh Revised Edition, 2001**. Beef cattle feeding and nutrition.book.Tilden and Micheal.2000. Biotechnology in Animal Feedsand Animal Feeding.book. Wallace and Chesson.1995. FORAGE EVALUATION IN RUMINANT NUTRITION.book.Givens.2000. Journal of animal science,
Electronic References, Websites	.Wikipedia, Recent Advance in Animal and Feed Technology to Support Sustainable Livestock Production System Multi E.Journal about the animals in all internet sites.

Course description form Biostatistics

1. Course name: Biostatistics
2. .Course code :VEH2113
3. Semester/Year: Semester

4. The date this description was prepared2024/02/17	
5. Available forms of presence: physical/theoretical	
6. Number of study hours (total)/number of units (total) 2/2	
7. Name of the course administrator (if more than one name is mentioned(	
Name:Prof.Dr.Ali Mehmood Alkassar Email:alim.amer@uokufa.edu.iq	
8. Course objectives	
Educating the student about the importance of statistics in all modern sciences, with a focus on its importance in veterinary science **Estimating the features of animals and injuries, predicting injuries and the rate of recovery, while illustrating pure veterinary examples to be A work guide that serves the student as outcomes for future assignments...with linking the veterinary characteristics of all animals to equations Statistics, methods of displaying data, the concept of taking a samp from livestock fields and linking it statistically to the animal community, and making very important veterinary decisio in accepting or rejecting a specific vaccine or drug according to the probability method. Probability distributions with a explanation of the correlation and regression coefficient between the type of animal and its productivity.**	**Objectiv of the stu subject**
9. Teaching and learning strategies	
A- Knowledge A1- The student knows the basic methods of sampling and population and how to take samples from the animal community A2- Enabling the student to know the importance of the sample and how to display characteristics relevant to animal research	**stra gie**

And veterinary experiments

A3- Enabling the student to know how to interpret statistical hypotheses in light of veterinary research.

A4- The student analyzes the main elements within the normal and standard distribution analysis

A5- The student can express his opinion before importing a specific vaccine or drug regarding the truth or falsehood of the manufacturer in what it claims, and the solution is statistical.

A6- The student will be able to predict the occurrence of disease cases based on the samples he receives

-B Skill

B1 - The student will acquire the skills of using structured data organization in animal production projects

B2 - The student acquires skills in statistical analyzes of blood and milk

B3 - The student will acquire the necessary skills in diagnosing feed toxins and statistically estimating their quantity

C- Values:

C1- The learner provides assistance to his friends in class and group work

C2- The learner practices volunteer work with full awareness and understanding

A3- The student tries to maintain mutual respect between himself and his classmates, as well as respect Mutual exchange with the educational family at the college

A4- The student can be familiar with professional ethics and the relationship with educators, and the motivation is moral a emotional**.**

10. Course structure (theoretical only)

Evaluation method	**Learning method**	**Name of the unit or topic**	**Required learning outcomes**	**Hours**	**W e e k**

exams	Theoretical lectures, discussions	Introduction to the concept of ancient and modern statistics and the most important statistical symbols	Understanding and knowledge	**2**	**1**
exams	Theoretical lectures, discussions	Methods of displaying statistical data tabular and graphical	Understanding and knowledge	**2**	**2**
d exams	Theoretical lectures, discussions	Methods of displaying statistical data tabular and graphical	Understanding and knowledge	**2**	**3**
exams	Theoretical lectures, discussions	Measures of concentration or central tendency	Understanding and knowledge	**2**	**4**
exams	Theoretical lectures, discussions	Measures of dispersion and how to calculate it|	Understanding and knowledge	**2**	**5**

exams	Theoretical lectures, discussions	The concept of probability theories, addition and multiplication laws for probabilities, and binomial distribution for discrete data	Understanding and knowledge	**2**	**6**
exams	Theoretical lectures, discussions	The concept of probability theories, addition and multiplication laws for probabilities, and binomial distribution for discrete data	Understanding and knowledge	**2**	**7**
d exams	Theoretical lectures, discussions	Other probability distributions for discrete data	Understanding and knowledge	**2**	**8**
exams	Theoretical lectures, discussions	Continuous variables and methods for calculating their probabilities, such as the normal distribution	Understanding and knowledge	**2**	**9**

exams	Theoretical lectures, discussions	Correlation coefficient and simple regression	Understanding and knowledge	**2**	**10**
exams	Theoretical lectures, discussions	Statistical hypotheses and testing Z	Understanding and knowledge	**2**	**11**
exams	Theoretical lectures, discussions	Explain and explain the t distribution	Understanding and knowledge	**3**	**12**
exams	Theoretical lectures, discussions	Explanation and explanation of chi-square	Understanding and knowledge	**3**	**14**
exams	Theoretical lectures, discussions	Explain and illustrate the F distribution	Understanding and knowledge	**3**	**15**

11. Course evaluation	
.1Daily exams .2Semester and final exams. .3Degrees of students' participation in discussion questions for academic topics. .4Grades for homework and reports	
12. Learning and teaching resources	
Statistics for veterinary and animal science.book.Petrie and Watson.2013. Essential Statistics.book. Rees.1990. Understanding Statistics and Experimental Design.book. Michael_H. Herzog; Gregory_Francis; Aaron_Clarke.2019	Required textbo (methodology, if any(.(
Biostatistics.book.Ali Alkassar.2024.unpublihed. Basic statistics.book.Dunn and Clark.2009	Main references (source
Design and analysis of agricultural experiments. Book by Abdul Aziz Khalafallah Al-Rawi. All Arabic books on statistics are useful to all students	Recommended supporting books and references (scientific journals, reports(....
Edexcel GCSE (9 –1) Statistics.book.Pearson.2020.internet MOSTLY HARMLESS STATISTICS.book. *Rachel L. Webb*. (https://LibreTexts.org info@LibreTexts.org (https://facebook.com/Libretexts	Electronic referenc Internet sites

(https://twitter.com/libretexts	

Course Description Form Helminthology

1. Course Name: parasitology part1 /Helminthology
2. Course Code: VEM3112
3. Semester / Year: Semester
4. Description Preparation Date: 6/3/2024
5. Available Attendance Forms: In-Person/Theoretical + Practical
6. Number of Credit Hours (Total) / Number of Units (Total) 5/4
7. Course administrator's name (mention all, if more than one name)
Name: Lecturer Dr. Maytham Askar Alwan

Email: maithama.alwan@uokufa.edu.iq	
8. Course Objectives	
Course Objectives	1 - Introducing students to the most important veterinary parasites and their life cycles, medical important, ways of transmission and morbidity and treatment. 2 - Developing the skills of students in the diagnosis of parasites and accurate diagnosis of each parasite. 3. Introduce students to modern diagnostic methods.
9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** The student is introduced to parasitology, the most important types of veterinary parasites, zoonotic parasites between humans and animals, their life cycle, methods of transmission, pathogenesis, and treatment. **B - Skills:** B1- The student acquires the skills of diagnostic methods for parasites and accurate diagnosis of each parasite B2-The student acquires the skills of modern diagnostic methods for parasites B3-The student acquires skills in treating and controlling parasitic diseases

	C - Values: C1- The learner provides assistance to classmates in class and engages in teamwork. C2- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college. C3- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.

10. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1-2	10	Understanding, knowledge	Introduction of Parasitology	Theoretical + practical lectures	Exams
3-8	30	Understanding, knowledge	Phylum: Nemathelminths	Theoretical + practical lectures	Exams
9-11	15	Understanding, knowledge	Phylum: Platyhelminthes Class: Trematoda	Theoretical + practical lectures	Exams

12-15	20	Understanding, knowledge	Phylum: Platyhelminthes Class: Cestoda	Theoretical + practical lectures	Exams

11. Course Evaluation
1. Daily exams. **2. Midterm and final exams.** **3. Participation grades for discussion questions on the topics of study.** **4. Grades for homework and reports.**

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Parasitology for Veterinarians 10th ed. 2014
Main references (sources)	1- Foundations of Parasitology 9th ed. 2013 2- Diagnostic Parasitology for veterinary technicians 4th ed. 2012
Recommended books and references (scientific journals, reports...)	Medical Microbiology 2010
Electronic References, Websites	Centers for Disease Control and Prevention (cdc.gov) https://www.cdc.gov/

Course Description Form parasitology part2 / Protozoa & Artropoda

1. Course Name: parasitology part2 / Protozoa & Artropoda

2. Course Code: VEM3122	
3. Semester / Year: Semester	
4. Description Preparation Date: 6/3/2024	
5. Available Attendance Forms: In-Person/Theoretical + Practical	
6. Number of Credit Hours (Total) / Number of Units (Total) 5/4	
7. Course administrator's name (mention all, if more than one name)	
Name: Lecturer Dr. Maytham Askar Alwan Email: maithama.alwan@uokufa.edu.iq	
8. Course Objectives	
Course Objectives	1 - Introducing students to the most important veterinary parasites and their life cycles, medical important, ways of transmission and morbidity and treatment. 2 - Developing the skills of students in the diagnosis of parasites and accurate diagnosis of each parasite. 3. Introduce students to modern diagnostic methods.

9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** The student is introduced to parasitology, the most important types of veterinary parasites, zoonotic parasites between humans and animals, their life cycle, methods of transmission, pathogenesis, and treatment. **B - Skills:** B1- The student acquires the skills of diagnostic methods for parasites and accurate diagnosis of each parasite B2-The student acquires the skills of modern diagnostic methods for parasites B3-The student acquires skills in treating and controlling parasitic diseases **C - Values:** C1- The learner provides assistance to classmates in class and engages in teamwork. C2- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college. C3- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-3	15	Understanding, knowledge	Phylum: Protozoa Class: Mastigophora	Theoretical + practical lectures	Exams
4-9	30	Understanding, knowledge	Phylum: Protozoa Class: Sporozoa	Theoretical + practical lectures	Exams
10-11	10	Understanding, knowledge	Phylum: Arthropoda Class: Arachnida	Theoretical + practical lectures	Exams
12-15	20	Understanding, knowledge	Phylum: Arthropoda Class: Insecta	Theoretical + practical lectures	Exams

11. Course Evaluation

1. Daily exams.
2. Midterm and final exams.
3. Participation grades for discussion questions on the topics of study.
4. Grades for homework and reports.

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Parasitology for Veterinarians 10th ed. 2014
Main references (sources)	1- Foundations of Parasitology 9th ed. 2013 2- Diagnostic Parasitology for veterinary technicians 4th ed. 2012
Recommended books and references (scientific journals, reports...)	Medical Microbiology 2010
Electronic References, Websites	Centers for Disease Control and Prevention (cdc.gov) https://www.cdc.gov/

Course Description Form : Pharmacology P1
1. Course Name: Pharmacology P1
2. Course Code: VEP310

3. Semester / Year: Semester	
4. Description Preparation Date: 23/2/2024	
5. Available Attendance Forms: In-Person/Theoretical + Practical	
6. Number of Credit Hours (Total) / Number of Units (Total) 5/4	
7. Course administrator's name (mention all, if more than one name)	
Name: Saadia Salih Mahdy Email: saadias.mahdy@uokufa.edu.iq	
8. Course Objectives	
Course Objectives	**he student's knowledge of the functions of the animal's body organs in order to be able to know the changes in the different organs and tissues of the body when infection with various pathogens occurs, and to study the chemical reactions that occur inside and outside the body**
9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** A- Cognitive goals

	Enabling the student to know the functions of the organs accurately, so that he can know the pathological conditions in order to reach the correct diagnosis - The student's knowledge of chemical reactions and their impact on the health and effectiveness of members. A3- Knowledge of chemical, blood and serological tests to help diagnose diseases. B4.Enabling the student to know the relationship of giving the drug to the way it is absorbed and represented by the body, and thus the extent of benefiting from the drug, as well as reducing its side effects. A5.Introducing the student to the basics of drug treatments and knowledge of the damages resulting from drugs and their toxins **B - Skills:** B1.Providing students with skills in how to deal with laboratory and field animals and methods of drawing blood. B2.Providing students with skills in how laboratory equipment works. B3.Acquiring the student the skill of conducting chemical experiments and observing their impact B4.To provide the student with the skill of different methods of administering medication**C –** **C- Values:** C 1- Instilling in the student the moral commitment towards preserving the health and welfare of the animal A 2- The student practices voluntary work with full awareness and awareness and helps his colleagues in the classroom and college A 3 - The student tries to maintain mutual respect between him and his classmates, as well as mutual respect with the educational family in the college C 4 - Instilling the concepts of community service and sound professional behavior through flexible dealings with educators
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	Understanding, knowledge	Principles of pharmacology	Theoretical + practical lectures	Exams
3-6	8	Understanding, knowledge	Drugs acting on autonomic and somatic nervous system	Theoretical + practical lectures	Exams
7-10	6	Understanding, knowledge	Drugs acting on central nervous system	Theoretical + practical lectures	Exams
11-13	6	Understanding, knowledge	Drugs affecting gastrointestinal function	Theoretical + practical lectures	Exams
14-15	4	Understanding, knowledge	Autacoids and anti-inflammatory drugs	Theoretical + practical lectures	Exams

14-15	4	Understanding, knowledge	Dermatopharmacology	Theoretical + practical lectures	Exams

11. Course Evaluation
1. Daily exams. **2. Midterm and final exams.** **3. Participation grades for discussion questions on the topics of study.** **4. Grades for homework and reports.**

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Lippincot pharmacology - Copy.pdf 9 2009
Main references (sources)	Veterinary Toxicology Basic and Clinical Principles. First edition2008
Recommended books and references (scientific journals, reports...)	Small Animal Clinical Pharmacology and Therapeutics 2nd Edition
Electronic References, Websites	Recommended books and references (scientific journals, reports

Course Description Form Pharmacology P2
1. Course Name: Pharmacology P2
2. Course Code: VEP320

3. Semester / Year: Semester	
4. Description Preparation Date: 23/2/2024	
5. Available Attendance Forms: In-Person/Theoretical + Practical	
6. Number of Credit Hours (Total) / Number of Units (Total) 5/4	
7. Course administrator's name (mention all, if more than one name)	
Name: shatha mosa mlaghee Email: shatham.mlaghee@uokufa.edu.iq	
8. Course Objectives	
Course Objectives	**he student's knowledge of the functions of the animal's body organs in order to be able to know the changes in the different organs and tissues of the body when infection with various pathogens occurs, and to study the chemical reactions that occur inside and outside the body**
9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** A- Cognitive goals Enabling the student to know the functions of the organs accurately, so that he can know the pathological conditions in order to reach the correct diagnosis - The student's knowledge of chemical reactions and their impact on the health and effectiveness of members.

	A3- Knowledge of chemical, blood and serological tests to help diagnose diseases. B4.Enabling the student to know the relationship of giving the drug to the way it is absorbed and represented by the body, and thus the extent of benefiting from the drug, as well as reducing its side effects. A5.Introducing the student to the basics of drug treatments and knowledge of the damages resulting from drugs and their toxins **B - Skills:** B1.Providing students with skills in how to deal with laboratory and field animals and methods of drawing blood. B2.Providing students with skills in how laboratory equipment works. B3.Acquiring the student the skill of conducting chemical experiments and observing their impact B4.To provide the student with the skill of different methods of administering medication**C –** **C- Values:** C 1- Instilling in the student the moral commitment towards preserving the health and welfare of the animal A 2- The student practices voluntary work with full awareness and awareness and helps his colleagues in the classroom and college A 3 - The student tries to maintain mutual respect between him and his classmates, as well as mutual respect with the educational family in the college C 4 - Instilling the concepts of community service and sound professional behavior through flexible dealings with educators

10. Course Structure

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

1-2	10	Understanding, knowledge	Chemotherapy of microbial diseases	Theoretical + practical lectures	Exams
3-6	8	Understanding, knowledge	Chemotherapy of parastic diseases	Theoretical + practical lectures	Exams
7-10	7	Understanding, knowledge	Drugs acting on cardiovascular system and blood	Theoretical + practical lectures	Exams
11-13	5	Understanding, knowledge	Drugs affecting renal function and fluid-electrolyte therapy	Theoretical + practical lectures	Exams
14-15	6	Understanding, knowledge	Drugs affecting the respiratory system	Theoretical + practical lectures	Exams
14-15	10	Understanding, knowledge	Endocrine pharmacology and hormones	Theoretical + practical lectures	Exams
11. Course Evaluation					
1. Daily exams.					

2. Midterm and final exams. **3. Participation grades for discussion questions on the topics of study.** **4. Grades for homework and reports.**

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Lippincot pharmacology - Copy.pdf 9 2009
Main references (sources)	Veterinary Toxicology Basic and Clinical Principles. First edition2008
Recommended books and references (scientific journals, reports...)	Small Animal Clinical Pharmacology and Therapeutics 2nd Edition
Electronic References, Websites	Recommended books and references (scientific journals, reports

Course Description Form

35. Course Name: General Microbiology
36. Course Code: VEM3114
37. Semester / Year: Semester

38. Description Preparation Date: 5/2/2024
39. Available Attendance Forms: In-Person/Theoretical + Practical
40. Number of Credit Hours (Total) / Number of Units (Total) 5/4
41. Course administrator's name (mention all, if more than one name)
Name: Ali Hadi Abbas Email: alih.abbas@uokufa.edu.iq
42. Course Objectives

Course Objectives	**- Fundamental knowledge about general bacterial Characteristics, structure and nutri** **- General basic knowledge on laboratory equipment and requirements for bacter al iso** **- Special bacterial structures genetics and replication.** **- Give the knowledge on bacterial virulence factors.**

43. Teaching and Learning Strategies

Strategies	**1A - Knowledge:**

	A1- Teaching the students using interactive teaching environment. A2- Envolve the students in the lecture and implement online and in class Quizzes. A3- Empowers the student to apply general microbiology in real life aspects. A4- The student can know the main requirements for bacterial labs. **B - Skills:** B1- The student acquires the required theoretical information on major bacterial and fungal pathogens and possible B2- The student acquires the required theoretical information on pathological elements of pathogens. B3- The student acquires the skills necessary for antiseptic procedures and decontamination. B4- The student acquires the skills necessary for in field requirements for bacterial isolation and identification **C - Values:** C1- The learner provides assistance to classmates in class and engages in teamwork. C2- The learner practices voluntary work consciously and with full awareness. C3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect wi college. C4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation

44. Course Structure				
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**
1	4	Theoretical knowledge and practical skills	*Introduction and History of Microbiology (1)*	Theoretical + practical lectur s
2	2	Theoretical knowledge and practical skills	*Bacterial cell Structure and Function (5)*	Theoretical + practical lectur s
3	4	Theoretical knowledge and practical skills	*Sterilization and Disinfection (3)*	Theoretical + practical lectur s
4	2	Understanding, knowledge	*Bacterial Classification (2)*	Theoretical + practical lectur s
5	2	Theoretical knowledge and practical skills	*Bacterial Nutrition and Growth (3)*	Theoretical + practical lectur s

6			*Exam*	Theoretical + practical lectur s
7	4	Theoretical knowledge and practical skills	*Antibiotics and Chemotherapeutic agents (3)M*	Theoretical + practical lectur s
8	3	Theoretical knowledge and practical skills	*Bacterial Virulence (2)*	Theoretical + practical lectur s
9	3	Theoretical knowledge and practical skills	*Bacterial Genetics (4)*	Theoretical + practical lectur s
10	3	Theoretical knowledge and practical skills	*Normal Flora and probiotics (2)*	Theoretical + practical lectur s
11	3	Theoretical knowledge and practical skills	*Exam*	Theoretical + practical lectur s

12-14	5	Theoretical knowledge and practical skills	*Rickettsia and Chlamydia (4)* *Mycoplasma (5)*	Theoretical + practical lectur s
15	10	Theoretical knowledge and practical skills	*Mycology (10)*	Theoretical + practical lectur s

45. Course Evaluation

1. In class and online Quizzes.
2. Midterm and final exams.
3. Grades for discussion questions on the topics of study.
4. Grades for homework and reports.

46. Learning and Teaching Resources

Required textbooks (curricular books, if any)	• Veterinary Microbiology and Microbial Disease. Quinn, P.J., Markey, B., Leonard, F.C., FitzPa S. and Hartigan, P.J. 2nd Edition, Wiley-Blackwell. 2011. ISBN : 978-1-4051-5823-7. • Textbook of microbiology. Surinder Kumar. Jaypee Brothers MedicalPublishers. *First Ed tion*: 5025-510-0
Main references (sources)	- Review of Medical Microbiology and Immunology. Warren E. Levinson, MD, PhD. 12e, La Education. ISBN: 9780071774345 / 0071774343

Recommended books and references (scientific journals, reports...)	- Pathogenesis of bacterial infections in animals. Edited by C L Gyles, J F Prescott, J G Sor ger, a Fourth Edition. 2010 Blackwell Publishing ISBN:
Electronic References, Websites	- **https://em100.edaptivedocs.net/GetDoc.aspx?doc=CLSI%20M23S3%20ED1:2023&s cope=** - **https://www.classcentral.com/classroom/youtube-microbiology-with-diseases-by-taxo nomy robert-bauman-97367/62d8e25426927**

Course Description Form

47. Course Name: General Microbiology
48. Course Code: VEM3114
49. Semester / Year: Semester

50. Description Preparation Date: 5/2/2024	
51. Available Attendance Forms: In-Person/Theoretical + Practical	
52. Number of Credit Hours (Total) / Number of Units (Total) 5/4	
53. Course administrator's name (mention all, if more than one name)	
Name: Ali Hadi Abbas Email: alih.abbas@uokufa.edu.iq	
54. Course Objectives	
Course Objectives	**- Fundamental knowledge about general bacterial Characteristics, structure and nutrition.** **- General basic knowledge on laboratory equipment and requirements for bacterial isolation..** **- Special bacterial structures genetics and replication.** **- Give the knowledge on bacterial virulence factors.**
55. Teaching and Learning Strategies	
Strategies	**1A - Knowledge:**

	A1- Teaching the students using interactive teaching environment. A2- Envolve the students in the lecture and implement online and in class Quizzes. A3- Empowers the student to apply general microbiology in real life aspects. A4- The student can know the main requirements for bacterial labs. **B - Skills:** B1- The student acquires the required theoretical information on major bacterial and fungal pathogens and possible diseases to animal. B2- The student acquires the required theoretical information on pathological elements of pathogens. B3- The student acquires the skills necessary for antiseptic procedures and decontamination. B4- The student acquires the skills necessary for in field requirements for bacterial isolation and identification. **C - Values:** C1- The learner provides assistance to classmates in class and engages in teamwork. C2- The learner practices voluntary work consciously and with full awareness. C3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college.

	C4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.

56. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Theoretical knowledge and practical skills	*Introduction and History of Microbiology (1)*	Theoretical + practical lectures	Exams
2	2	Theoretical knowledge and practical skills	*Bacterial cell Structure and Function (5)*	Theoretical + practical lectures	Exams
3	4	Theoretical knowledge and practical skills	*Sterilization and Disinfection (3)*	Theoretical + practical lectures	Exams
4	2	Understanding, knowledge	*Bacterial Classification (2)*	Theoretical + practical lectures	Exams

5	2	Theoretical knowledge and practical skills	*Bacterial Nutrition and Growth (3)*	Theoretical + practical lectures	Exams
6			*Exam*	Theoretical + practical lectures	Exams
7	4	Theoretical knowledge and practical skills	*Antibiotics and Chemotherapeutic agents (3)M*	Theoretical + practical lectures	Exams and quizzes
8	3	Theoretical knowledge and practical skills	*Bacterial Virulence (2)*	Theoretical + practical lectures	Exams
9	3	Theoretical knowledge and practical skills	*Bacterial Genetics (4)*	Theoretical + practical lectures	Exams and reports
10	3	Theoretical knowledge and practical skills	*Normal Flora and probiotics (2)*	Theoretical + practical lectures	Exams

11	3	Theoretical knowledge and practical skills	*Exam*	Theoretical + practical lectures	Exams and reports
12-14	5	Theoretical knowledge and practical skills	*Rickettsia and Chlamydia (4)* *Mycoplasma (5)*	Theoretical + practical lectures	Exams and reports
15	10	Theoretical knowledge and practical skills	*Mycology (10)*	Theoretical + practical lectures	

57. Course Evaluation

1. In class and online Quizzes.
2. Midterm and final exams.
3. Grades for discussion questions on the topics of study.
4. Grades for homework and reports.

58. Learning and Teaching Resources

Required textbooks (curricular books, any)	• Veterinary Microbiology and Microbial Disease. Quinn, P.J., Markey, B., Leonard, F.C., FitzPatrick, E.S., Fanning, S. and Hartigan, P.J. 2nd Edition, Wiley-Blackwell. 2011. ISBN : 978-1-4051-5823-7. • Textbook of microbiology. Surinder Kumar. Jaypee Brothers MedicalPublishers. *First Edition*: 2012. ISBN : 978-93-5025-510-0

Main references (sources)	- Review of Medical Microbiology and Immunology. Warren E. Levinson, MD, PhD. 12e, Lange, by McGraw-Hill Education. ISBN: 9780071774345 / 0071774343
Recommended books and references (scientific journals, reports...)	- Pathogenesis of bacterial infections in animals. Edited by C L Gyles, J F Prescott, J G Songer, and C O Thoen. Fourth Edition. 2010 Blackwell Publishing ISBN:
Electronic References, Websites	- **https://em100.edaptivedocs.net/GetDoc.aspx?doc=CLSI%20M23S3%20ED1:2023&scope=user** - **https://www.classcentral.com/classroom/youtube-microbiology-with-diseases-by-taxonomy-textbook-by-robert-bauman-97367/62d8e25426927**

Course Description Form

59. Course Name: Special Microbiology
60. Course Code: VEM3124
61. Semester / Year: Semester

62. Description Preparation Date: 5/2/2024
63. Available Attendance Forms: In-Person/Theoretical + Practical
64. Number of Credit Hours (Total) / Number of Units (Total) 5/4
65. Course administrator's name (mention all, if more than one name)
Name: Ali Hadi Abbas Email: alih.abbas@uokufa.edu.iq
66. Course Objectives

Course Objectives	**- Fundamental knowledge about pathogenic bacterial families and species.** **- Know how to diagnose different bacterial species theoretically and in practically.** **- Bacterial role in causing major diseases in animals and their pathogenesis and immune evasion.** **- Give the knowledge of the animal disease that those bacteria may cause.** **- Give the knowledge to potential zoonotic importance of zoonotic causative agents.**

	- Train the students the required skills for bacterial isolation and identification in safe and professional way.
67. Teaching and Learning Strategies	
Strategies	**1A - Knowledge:** A1- Teaching the students using interactive teaching environment. A2- Envolve the students in the lecture and implement online and in class Quizzes. A3- Empowers the student to apply special bacteriology. A4- The student analyzes the main factors influencing the occurrence of animal disease caused by major pathogenic bacterial species. A5- The students do field visits and laboratory experiments for bacterial isolation and diagnostic method under professional supervission. **B - Skills:** B1- The student acquires the required theoretical information on major bacterial pathogens and possible diseases to animal. B2- The student acquires the required theoretical information on possible bacterial pathogens. B3- The student acquires the skills necessary for bacterial isolation and identification. B4- The student acquires the skills necessary for in field requirements for bacterial isolation and identification.

	C - Values: C1- The learner provides assistance to classmates in class and engages in teamwork. C2- The learner practices voluntary work consciously and with full awareness. C3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college. C4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.

68. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	4	Theoretical knowledge and practical skills	*Staphylococcus* & *Streptococcus*	Theoretical + practical lectures	Exams
2	2	Theoretical knowledge and practical skills	*Corynebacterium* (2h)	Theoretical + practical lectures	Exams

3	4	Theoretical knowledge and practical skills	*& Bacillus species* (2h) *Actionbacillus (1h)* *Spherophorus (1h)*	Theoretical + practical lectures	Exams
4	2	Understanding, knowledge	*Actinomyces, Nocardia* (2h)	Theoretical + practical lectures	Exams
5	2	Theoretical knowledge and practical skills	*Listeria* (1hr) & *Pasteurella* (1hr)	Theoretical + practical lectures	Exams
6			Exam	Theoretical + practical lectures	Exams

7	4	Theoretical knowledge and practical skills	*Clostridium species* (4h)	Theoretical + practical lectures	Exams and quizzes
8	3	Theoretical knowledge and practical skills	*Haemophillus, Moraxella and Bordetlla* (2h) *Pseudomonas aeroginosa and Burkholderia species* (1h)	Theoretical + practical lectures	Exams
9	3	Theoretical knowledge and practical skills	*Mycobacterium* (3h)	Theoretical + practical lectures	Exams and reports
10	3	Theoretical knowledge and practical skills	*Brucella species* (3h)	Theoretical + practical lectures	Exams
11	3	Theoretical knowledge and practical skills	*Campylobacter species* (2h) ،*Leptospira* (1hr)	Theoretical + practical lectures	Exams and reports

12-14	5	Theoretical knowledge and practical skills	*Enterobacteriaceae: Escherichia, Salmonella, Yersinia, Shigella (5h)*	Theoretical + practical lectures	Exams and reports
15			Exam		

69. Course Evaluation

1. In class and online Quizzes.
2. Midterm and final exams.
3. Grades for discussion questions on the topics of study.
4. Grades for homework and reports.

70. Learning and Teaching Resources

Required textbooks (curricular books, any)	• Veterinary Microbiology and Microbial Disease. Quinn, P.J., Markey, B., Leonard, F.C., FitzPatrick, E.S., Fanning, S. and Hartigan, P.J. 2nd Edition, Wiley-Blackwell. 2011. ISBN : 978-1-4051-5823-7. • Textbook of microbiology. Surinder Kumar. Jaypee Brothers MedicalPublishers. *First Edition*: 2012. ISBN : 978-93-5025-510-0

Main references (sources)	- Veterinary Microbiology: Bacterial And Fungal Agents Of Animal Disease. Songer, J.G. and Post, K.W. Elsevier. Inc. China. 2005. - Pathogenesis of bacterial infections in animals. Edited by C L Gyles, J F Prescott, J G Songer, and C O Thoen. Fourth Edition. 2010 Blackwell Publishing ISBN: 978-0-813-81237-3 .
Recommended books and references (scientific journals, reports...)	- Clinical Veterinary Microbiology. P. J. Quinn, M. E. Carter and G. R. Carter. 2nd Edition. 2013 Mosby. ISBN 13: 9780723432371.
Electronic References, Websites	- **https://em100.edaptivedocs.net/GetDoc.aspx?doc=CLSI%20M23S3%20ED1:2023&scope=user** - **https://www.classcentral.com/classroom/youtube-microbiology-with-diseases-by-taxonomy-textbook-by-robert-bauman-97367/62d8e25426927**

Course Description Form Immunology

71. Course Name: Immunology	
72. Course Code: VEP3115	
73. Semester / Year: Semester	
74. Description Preparation Date: 13/9/2024	
75. Available Attendance Forms: In-Person/Theoretical + Practical	
76. Number of Credit Hours (Total) / Number of Units (Total) 2+1=3 units	
77. Course administrator's name (mention all, if more than one name)	
Name: Murtadha A. AL-Mudhafar Email: Murtadha.ama@uokufa.edu.iq Kefah Fadel , Mohamed Talib , Ismaeel AL-Muhana and Hadeel Ali	
78. Course Objectives	
Course Objectives	• **The objective of the course is to help you understand:** • **Conceptualize how the innate and adaptive immune responses coordinate to fight invading pathogens.**

	• **Determine what immunomodulatory strategies can be used to enhance immune responses or to suppress unwanted immune responses such as might be required in hypersensitivity reactions, transplantations or autoimmune diseases**

79. Teaching and Learning Strategies

Strategy	• **1. To review the role of immune cells in protection from different types of pathogens** • **2. To discuss the types of cells involved in immune responses** • **3. To describe the nature of specificity in adaptive immune responses** • **4. To understand the role of lymphocyte recirculation in immune responses** • **4. To know the humoral and cellular components of the innate immune response.** • **5. To recognize the mechanisms of action of the components of the innate immune response**

80. A. Course Structure/ Theoretical Lectures

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2	Understanding, knowledge	Introduction	Theoretical lectures	Exams
2	2	Understanding, knowledge	Immune response (Innate and Adaptive)	Theoretical lectures	Exams

3	2	Understanding, knowledge	Immune response (Primary and secondary immunity)	Theoretical lectures	Exams
4	2	Understanding, knowledge	Immune cells (Innate and adaptive -T and B cells- and phagocytosis)	Theoretical lectures	Exams
5	2	Understanding, knowledge	Immunoglobulins	Theoretical lectures	Exams
6	2	Understanding, knowledge	Antigens and receptors	Theoretical lectures	Exams
7	2	**Midterm 1st. Exam,**			
8	2	Understanding, knowledge	MHC	Theoretical lectures	Exams

9	2	Understanding, knowledge	Cytokines	Theoretical lectures	Exams
10	2	Understanding, knowledge	Transplantation	Theoretical lectures	Exams
11	2	Understanding, knowledge	Complement system	Theoretical lectures	Exams
12	2	Understanding, knowledge	Hypersensitivity	Theoretical lectures	Exams
13	2	Understanding, knowledge	Immune tolerance and Autoimmune	Theoretical lectures	Exams
14	2	Understanding, knowledge	Immunity of infections	Theoretical lectures	Exams

15	2	**Midterm 2nd. Exam,**

B. Course Structure/ practical Lectures

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Understanding, knowledge	Introduction of immunological labs	Practical Lectures	Exams
2-3	4	Understanding, knowledge	Lab animals management	Practical Lectures	Exams
4	2	Understanding, knowledge	Preservation of antigens &antibodies	Practical Lectures	Exams
5	2	Understanding, knowledge	Separation of immunoglobulin and lymphocyte	Practical Lectures	Exams

6	2	**Midterm 1st. Exam,**			
7-8	4	Understanding, knowledge	Precipitation test	Practical Lectures	Exams
9-10	4	Understanding, knowledge	Agglutination test	Practical Lectures	Exams
11	2	Scientific visit			
12-13	4	Understanding, knowledge	ELISA technique	Practical Lectures	Exams
14-15	4	Understanding, knowledge	Immunofluorescent technique and IHC	Practical Lectures	Exams
81. Course Evaluation					
1. Daily exams.					

2. Midterm and final exams. **3. Participation grades for discussion questions on the topics of study.** **4. Grades for homework and reports.**	
82. Learning and Teaching Resources	
Required textbooks (curricular books, if a	Day's Veterinary Immunology: Principles and Practice, 3rd Edition by Brian Catchpole, Ha HogenEsch May 2023 Michael Day's Veterinary Immunology:
Main references (sources)	Clinical Veterinary Microbiology. P. J. Quinn, M. E. Carter and G. R. Carter. 2nd Edition. 2013 Mosby. ISBN 13: 9780723432371.
Recommended books and references (scientific journals, reports...)	Immunology Journal
Electronic References, Websites	Microbiology and Immunology: Journals & Databases https://otago.libguides.com/c.php?g=171489&p=1130720

Course Description for General Pathology General Pathology	
1. Course Name: General Pathology	
2. Course Code: VED3110	
3. Semester / Year: Semester	
4. Description Preparation Date: 6/3/2024	
5. Available Attendance Forms: In-Person/Theoretical + Practical	
6. Number of Credit Hours (Total) / Number of Units (Total) 6/4.5	
7. Course administrator's name (mention all, if more than one name)	
Name: Asst. Prof. Dr. Aoula Emad Al-Zebeeba Email: abdullaho.mansour@uokufa.edu.iq	
8. Course Objectives	
Course Objectives	**- Basic knowledge of general pathology, definition with history and types of pathology**

	- Understand the classical scientific methods for studying pathology. In addition to modern methods. **- Knowing the most important histopathological changes accompanying pathological conditions.**
9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** A1- The student is introduced to the basic methods of studying general pathology. A2- Enables the student to explain and summarize methods for selecting samples that contain pathological lesions. A3- Enabling the student to understand and analyse pathological lesions that occur in a specific tissue after knowing the pathological causes that lead to them. A4- Increasing the student's ability to give a complete scientific description of the disease compared to the normal condition known to him. A5- Using specific scientific language to describe histological changes. A6- Enabling the student to know the modern methods used to study the changes that occur at the single-cell level. **B - Skills:**

	B1- The student acquires the skill of preparing tissue samples. B2- The student acquires the skills of preparing slides and staining them with various types of special stains. B3- The student acquires the skill of reading tissue sections using an optical microscope. **C - Values:** C1- Spreading the spirit of help and teamwork among learners. C2- Maintaining mutual respect between all educated students and the educational family in the faculty. C3- Cultivating a culture of scientific honesty and disseminating the correct principles of learning by adopting the ethical motives of the profession. C4- Encouraging volunteer work while ensuring that everyone participates with a genuine desire to contribute.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
2-1	**12**	Understanding, knowledge	General Pathology definition and types	Theoretical + practical lectures	Exams
6-3	**18**	Understanding, knowledge	Cell Injury reversible and irreversible changes	Theoretical + practical lectures	Exams

9-7	**12**	Understanding, knowledge	Inflammation Definition and types	Theoretical + practical lectures	Exams
10	**6**	Understanding, knowledge	Cellular adaptation	Theoretical + practical lectures	Exams
11-13	**12**	Understanding, knowledge	Hemodynamics Disturbance	Theoretical + practical lectures	Exams
14-16	**12**	Understanding, knowledge	Tumour Pathology	Theoretical + practical lectures	Exams
17-20	**18**	Understanding, knowledge	Immune System Pathology	Theoretical + practical lectures	Exams

11. Course Evaluation

1. Daily exams.
2. Midterm and final exams.
3. Participation grades for discussion questions on the topics of study.
4. Grades for homework and reports.

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**General Pathology** **Hafid Ibraheem**
Main references (sources)	Robbins Basic Pathology (Robbins Pathology) Vinay Kumar, Abul K. Abbas, Jon C. Aster Brook. 8th ed. 2009. Elsevier - Health Sciences Division. ed
Recommended books and references (scientific journals, reports...)	Textbook of PATHOLOGY Mohan Harsh Sector-32A, Chandigarh-160 031 INDIA
Electronic References, Websites	The Internet Pathology Laboratory for Medical Education webpath.med.utah.edu/webpath.htm

Course Description for Systemic Pathology

1. Course Name: s.Pathology	
2. Course Code: VED3120	
3. Semester / Year: Semester	
4. Description Preparation Date: 6/3/2024	
5. Available Attendance Forms: In-Person/Theoretical + Practical	
6. Number of Credit Hours (Total) / Number of Units (Total) 6/4.5	
7. Course administrator's name (mention all, if more than one name)	
Name: Asst. Prof. Dr. Aoula Emad Al-Zebeeba Email: abdullaho.mansour@uokufa.edu.iq	
8. Course Objectives	
Course Objectives	**- Basic knowledge of systemic pathology, definition of systemic pathology and its importance**

	- Understand the classical scientific methods for studying systemic pathology. In addition to modern methods. **- Knowing the most important histopathological changes accompanying pathological conditions in all specific organs in each body system.**
9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** A1- The student is introduced to the basic methods of studying systemic pathology. A2- Enables the student to explain and summarize methods for selecting samples that contain pathological lesions. A3- Enabling the student to understand and analyse pathological lesions that occur in a specific tissue after knowing the pathological causes that lead to them. A4- Increasing the student's ability to give a complete scientific description of the disease compared to the normal condition known to him. A5- Using specific scientific language to describe histological changes. A6- Enabling the student to know the modern methods used to study the changes that occur at the system and organ levels. **B - Skills:**

	B1- The student acquires the skill of preparing tissue samples. B2- The student acquires the skills of preparing slides and staining them with various types of special stains. B3- The student acquires the skill of reading tissue sections using an optical microscope. **C - Values:** C1- Spreading the spirit of help and teamwork among learners. C2- Maintaining mutual respect between all educated students and the educational family in the faculty. C3- Cultivating a culture of scientific honesty and disseminating the correct principles of learning by adopting the ethical motives of the profession. C4- Encouraging volunteer work while ensuring that everyone participates with a genuine desire to contribute.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
2-1	**12**	Understanding, knowledge	Digestive System Pathology	Theoretical + practical lectures	Exams
5-3	**12**	Understanding, knowledge	Respiratory System Pathology	Theoretical + practical lectures	Exams

9-7	**12**	Understanding, knowledge	Cardiovascular System pathology	Theoretical + practical lectures	Exams
11-10	**12**	Understanding, knowledge	Renal Pathology	Theoretical + practical lectures	Exams
13-12	**12**	Understanding, knowledge	Nervous System Pathology	Theoretical + practical lectures	Exams
15-14	**12**	Understanding, knowledge	Musculoskeletal system Pathology	Theoretical + practical lectures	Exams
17-16	**12**	Understanding, knowledge	Skin, Eye and Accessories Pathology	Theoretical + practical lectures	Exams

11. Course Evaluation

1. Daily exams.
2. Midterm and final exams.
3. Participation grades for discussion questions on the topics of study.
4. Grades for homework and reports.

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	General Pathology Hafid Ibraheem
Main references (sources)	Robbins Basic Pathology (Robbins Pathology) Vinay Kumar, Abul K. Abbas, Jon C. Aster Brook. 8th ed. 2009. Elsevier - Health Sciences Division. ed
Recommended books and references (scientific journals, reports...)	Textbook of PATHOLOGY Mohan Harsh Sector-32A, Chandigarh-160 031 INDIA
Electronic References, Websites	The Internet Pathology Laboratory for Medical Education webpath.med.utah.edu/webpath.htm

Course Description Form Toxicology

1. Course Name: Toxicology
2. Course Code: VEP316
3. Semester / Year: Semester
4. Description Preparation Date: 23/2/2024

5. Available Attendance Forms: In-Person/Theoretical + Practical	
6. Number of Credit Hours (Total) / Number of Units (Total) 2/2	
7. Course administrator's name (mention all, if more than one name)	
Name: Mohammad Taha Naqi Email: mohammadt.naqi@uokufa.edu.iq	
8. Course Objectives	
Course Objectives	**he student's knowledge of the functions of the animal's body organs in order to be able to know the changes in the different organs and tissues of the body when infection with various pathogens occurs, and to study the chemical reactions that occur inside and outside the body**
9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** A- Cognitive goals Enabling the student to know the functions of the organs accurately, so that he can know the pathological conditions in order to reach the correct diagnosis

	- The student's knowledge of toxic reactions and their impact on the health and effectiveness of members. A3- Knowledge of toxic, blood and serological tests to help toxication diseases. B4.Enabling the student to know the relationship of giving the drug to the way it is absorbed and represented by the body, and thus the extent of benefiting from the drug, as well as reducing its side effects. A5.Introducing the student to the basics of drug treatments of toxin and knowledge of the damages resulting from drugs and their toxins **B - Skills:** B1.Providing students with skills in how to deal with laboratory and field animals and methods of drawing blood. B2.Providing students with skills in how laboratory equipment works. B3.Acquiring the student the skill of conducting chemical experiments and observing their impact B4.To provide the student with the skill of different methods of administering medication **C- Values:** C 1- Instilling in the student the moral commitment towards preserving the health and welfare of the animal A 2- The student practices voluntary work with full awareness and awareness and helps his colleagues in the classroom and college

	A 3 - The student tries to maintain mutual respect between him and his classmates, as well as mutual respect with the educational family in the college C 4 - Instilling the concepts of community service and sound professional behavior through flexible dealings with educators

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Understanding, knowledge	Concepts and terminology	Theoretical + practical lectures	Exams
2	2	Understanding, knowledge	Toxicokinetics	Theoretical + practical lectures	Exams
3	2	Understanding, knowledge	Antidotes and general treatment of poisoning	Theoretical + practical lectures	Exams
4	2	Understanding, knowledge	Diagnostic aspects of toxicology	Theoretical + practical lectures	Exams

5	2	Understanding, knowledge	Insecticides	Theoretical + practical lectures	Exams
6	2	Understanding, knowledge	Herbicides	Theoretical + practical lectures	Exams
7	2		Metals and minerals	Theoretical + practical lectures	Exams
8	2		Mycotoxins	Theoretical + practical lectures	Exams
9	2		Feed_associated toxicants	Theoretical + practical lectures	Exams
10	2		House-hold and industrial products	Theoretical + practical lectures	Exams

11	2		Plants	Theoretical + practical lectures	Exams
12-15	6		Biotoxins	Theoretical + practical lectures	Exams

11. Course Evaluation
1. Daily exams. **2. Midterm and final exams.** **3. Participation grades for discussion questions on the topics of study.** **4. Grades for homework and reports.**

12. Learning and Teaching Resources	
Required textbooks (curricular books, if an	Handbook of Veterinary Pharmacology , Walter H. Hsu
Main references (sources)	Veterinary Toxicology Basic and Clinical Principles. First edition2008
Recommended books and references (scientific journals, reports...)	Small Animal Clinical Pharmacology and Therapeutics 2nd Edition
Electronic References, Websites	Recommended books and references (scientific journals, reports

Course Description Form Virology	
83. Course Name: Virology	
84. Course Code: VEM3126	
85. Semester / Year: Semester	
86. Description Preparation Date: 28/1/2024	
87. Available Attendance Forms: In-Person/Theoretical + Practical	
88. Number of Credit Hours (Total) / Number of Units (Total) 2+1=3 units	
89. Course administrator's name (mention all, if more than one name)	
Name: Murtadha A. AL-Mudhafar Email: Murtadha.ama@uokufa.edu.iq Ali Hadi, Ismaeel AL-Muhana and Hadeel	
90. Course Objectives	
Course Objectives	• **The objective of the course is to help you understand:**

	• **Understanding the viral structural and replication and how virus and host factors interact and how these interactions lead to pathogenesis, disease and/or recovery.** • **How you can apply this knowledge to the diagnosis, prevention and management of disease.**

91. Teaching and Learning Strategies

Strategy	• **Explain basic principles of virus taxonomy, structure, replication and host-virus interactions that lead to disease and recovery.** • **For every economically important viral disease of animals in Iraq you should be able to:** • **Know the causative agents and pathogenesis of animal viral infections** • **Know the laboratory diagnostic test for each viral infection** • **Control of disease** •

92. A. Course Structure/ Theoretical Lectures

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2	History of virology	Introduction and discovering of virology	Theoretical lectures	Exams

2	2	Understanding, knowledge	General characteristic of viruses	Theoretical lectures	Exams
3	2	Understanding, knowledge	Virus classification and Taxonomy	Theoretical lectures	Exams
4	2	Understanding, knowledge	Virus DNA replication	Theoretical lectures	Exams
5	2	Understanding, knowledge	Virus RNA replication	Theoretical lectures	Exams
6	2	Understanding, knowledge	Virus cultivation (propagation)	Theoretical lectures	Exams
7	2	**Midterm 1st. Exam,**			

8	2	Understanding, knowledge	Viral vaccines and antiviral Drugs	Theoretical lectures	Exams
9	2	Understanding, knowledge	Bacteriophages	Theoretical lectures	Exams
10	2	Understanding, knowledge	Picornavirus and caliciviridae	Theoretical lectures	Exams
11	2	Understanding, knowledge	Orthomyxoviridae and Retroviridae	Theoretical lectures	Exams
12	2	Understanding, knowledge	Paramyxoviridae , Rhabdoviridae and Bornaviridae	Theoretical lectures	Exams
13	2	Understanding, knowledge	Bunyaviridae and Birnaviridae	Theoretical lectures	Exams

14	2	Understanding, knowledge	Poxviridae, Adenoviridae and papillomaviridae	Theoretical lectures	Exams
15	2	**Midterm 2nd. Exam,**			
B. Course Structure/ practical Lectures					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2	Understanding, knowledge	Introduction to Collection and preservation of viral samples	Practical Lectures	Exams
2-3	4	Understanding, knowledge	Isolation and preservation of viral samples	Practical Lectures	Exams

4-5	4	Understanding, knowledge	Embryonated egg inoculation	Practical Lectures	Exams
6	2	**Midterm 1st. Exam,**			
7-8	4	Understanding, knowledge	Virus propagation, HI and HA titration	Practical Lectures	Exams
9-10	2	Understanding, knowledge	TEM and SEM	Practical Lectures	Exams
11	2	Scientific visit			
12-13	4	Understanding, knowledge	Viral DNA & RNA extraction	Practical Lectures	Exams

14-15	4	Understanding, knowledge	PCR, Electrophorisis and qPCR	Practical Lectures	Exams

93. Course Evaluation

1. Daily exams.
2. Midterm and final exams.
3. Participation grades for discussion questions on the topics of study.
4. Grades for homework and reports.

94. Learning and Teaching Resources

Required textbooks (curricular books, if ar	Veterinary Microbiology and Microbial Disease. Quinn, P.J., Markey, B., Leonard, F.C., FitzPatri E.S., Fanning, S. and Hartigan, P.J. 2nd Edition,Wiley-Blackwell. 2011. **ISBN : 978-1-4051-58 7**
Main references (sources)	Clinical Veterinary Microbiology. P. J. Quinn, M. E. Carter and G. R. Carter. 2nd Edition. 2013 Mosby. ISBN 13: 9780723432371.
Recommended books and references (scientific journals, reports...)	Virology Journal
Electronic References, Websites	**LaGrange College Lewis Library, LibGuides, Sciences, Virology** **https://lagrange.libguides.com/virology**

Course Description Form

95. Course Name: female fertility	
96. Course Code: VEC4111	
97. Semester / Year: Semester	
98. Description Preparation Date: 4/3/2024	
99. Available Attendance Forms: In-Person/Theoretical + Practical	
100. Number of Credit Hours (Total) / Number of Units (Total) 3/3	
101. Course administrator's name (mention all, if more than one name)	
Name: Hala jawad kadhim Email: halaj.kadhim@uokufa.edu.iq	
102. Course Objectives	
Course Objectives	Basic knowledge about the concept of female animal fertility and its importance in reproduction. Understanding the key aspects of reproductive health in animals.

	Knowing the efficiency of animal reproductive abilities.
103.	Teaching and Learning Strategies
Strategy	**1A - Knowledge:** The student understands the concept of fertility. Empowering the student to explain and summarize the most important factors influencing female fertility. Empowering the student to understand the reproductive system in animals. The student analyzes the most important medical conditions associated with fertility. The student can determine which treatment methods are considered most effective in improving fertility quality. **B - Skills:** 1. The student acquires skills in knowing the appropriate age for animal fertility. ب 2. The student acquires skills in understanding the impact of hormones on fertility. ب 3. The student acquires skills to diagnose reproductive problems. **C - Values:** 1- The learner provides assistance to classmates in class and engages in teamwork. 2- The learner practices voluntary work consciously and with full awareness.

	3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college. 4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.

104. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	Understanding, knowledge	Puberty and maturity	Theoretical + practical lectures	Exams
3-6	8	Understanding, knowledge	Hormonal control of reproduction, ovulation and luteolysis	Theoretical + practical lectures	Exams
7-10	6	Understanding, knowledge	Estrus cycle , seasonality , abnormalities of female reproductive system	Theoretical + practical lectures	Exams

11-13	6	Understanding, knowledge	Reproduction in cow , sheep, goat	Theoretical + practical lectures	Exams
14-15	4	Understanding, knowledge	Reproduction in , camel , mare , dog and cat	Theoretical + practical lectures	Exams

105. Course Evaluation

1. Daily exams.
2. Midterm and final exams.
3. Participation grades for discussion questions on the topics of study.
4. Grades for homework and reports.

106. Learning and Teaching Resources

Required textbooks (curricular books, if an	**Arthur's Veterinary Reproduction and Obstetrics E-Book, 9th Edition** Author : Edited by David E. Noakes, BVet Med, PhD, FRCVS, DVRep, DipECAR, Timothy J. Parkinson, BVSc, PhD, DBR, FRCVS and Gary C. W. England, BVetmed, PhD, FRCVS, CertVA, DVR, DVRep, DiplomatACT 2009 Current Therapy in ***Large Animal*** Theriogenology. Book • Second Edition 2007. Edi by: ***ROBERT*** S. YOUNGQUIST and WALTER R.

Main references (sources)	**Veterinary Reproductive Ultrasonography: Horse, Cattle, Sheep, Goat, Pig, Dog and Cat** by Wolfgang, Robert Kenney **March 2004**
Recommended books and references (scientific journals, reports...)	Iasj
Electronic References, Websites	https://vetbooks.ir/tag/ultrasonography/

Course Description Form poultry diseases
1. Course Name: poultry diseases
2. Course Code:VED 4114

3. Semester / Year: semester
4. Description Preparation Date: 17/2/2024
5. Available Attendance Forms: In-Person/Theoretical + Practical
6. Number of Credit Hours (Total) / Number of Units (Total) 4/2
7. Course administrator's name (mention all, if more than one name)
Name: Haider Abas Hameed Alsaegh Email: haidra.alsaigh@uokufa.edu.iq
8. Course Objectives

Course Objectives	**Creating veterinarians capable of diagnosing diseases that affect poultry and how to control and treat them properly, as well as managing and raising poultry under healthy and correct conditions.**
9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** **A1- Enabling the student to identify fungal diseases in poultry of mycotoxin diseases that affect poultry** **A2- Enabling the student to apply identification**

	B - Skills: **B1 - The student will acquire skills in diagnosing fungal diseases B2 - The student will acquire skills in diagnosing mycotoxin diseases that affect poultry** **C - Values:** **C1- The learner provides assistance to classmates in class and engages in teamwork.** **C2- The learner practices voluntary work consciously and with full awareness.** **C3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college.** **C4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.**

10. Course Structure

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

8-1	**32**	Understanding, knowledge	Fungal diseases	Theoretical + practical lectures	Exams
13-9	**20**	Understanding, knowledge	Mycotoxin diseases	Theoretical + practical lectures	Exams

11. Course Evaluation
1. Daily exams. **2. Midterm and final exams.** **3. Participation grades for discussion questions on the topics of study.** **4. Grades for homework and reports.**

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Diseases of poultry (Swayne 2020)
Main references (sources)	Poultry Diseases (saif, 2014)
Recommended books and references (scientific journals, reports...)	*Poultry science* *Poultry diseases*
Electronic References, Websites	**الموقع العربي لتعليم الدواجن**

Course Description Form poultry diseases

1. Course Name: poultry diseases
2. Course Code:VED 4114
3. Semester / Year: semester
4. Description Preparation Date: 21/9/2023
5. Available Attendance Forms: In-Person/Theoretical + Practical
6. Number of Credit Hours (Total) / Number of Units (Total) 4/2
7. Course administrator's name (mention all, if more than one name)
Name: Furkan AlARAJI Email: furkans.alaraji@uokufa.edu.iq
8. Course Objectives

Course Objectives	**Creating veterinarians capable of diagnosing diseases that affect poultry and how to control and treat them properly, as well as managing and raising poultry under healthy and correct conditions.**
9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** **A1- The student knows the basic methods for studying poultry pathology** **A2- Enabling the student to identify viral diseases in poultry** **A3- Enabling the student to apply identification of bacterial diseases that affect poultry** **A4- Enabling the student to apply the identification of mycoplasma diseases that affect poultry** **A6- Enabling the student to apply identification of diseases caused by chlamydia** **B - Skills:** **B1 - The student will acquire skills in diagnosing viral diseases** **B2 - The student will acquire skills in diagnosing bacterial diseases that affect poultry**

	B3 - The student will acquire the necessary skills to diagnose mycoplasma and chlamydia **C - Values:** **C1- The learner provides assistance to classmates in class and engages in teamwork.** **C2- The learner practices voluntary work consciously and with full awareness.** **C3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college.** **C4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
8-1	**32**	Understanding, knowledge	Viral diseases	Theoretical + practical lectures	Exams
13-9	**20**	Understanding, knowledge	Bacterial diseases	Theoretical + practical lectures	Exams

15-14	**8**	Understanding, knowledge	**mycoplasma and chlamydia**	Theoretical + practical lectures	Exams

11. Course Evaluation
1. Daily exams. **2. Midterm and final exams.** **3. Participation grades for discussion questions on the topics of study.** **4. Grades for homework and reports.**

12. Learning and Teaching Resources	
Required textbooks (curricular books, if ar	Diseases of poultry (Swayne 2020)
Main references (sources)	Poultry Diseases (saif, 2014)
Recommended books and references (scientific journals, reports...)	*Poultry science* *Poultry diseases*
Electronic References, Websites	**الموقع العربي لتعليم الدواجن**

Course Description Form Surgery

1. Course Name: Surgery
2. Course Code: 1st Sem (VEC4115) and 2nd Sem (VEC4125)
3. Semester / Year: First & Second Semesters
4. Description Preparation Date: 23/2/2024
5. Available Attendance Forms: In-Person/Theoretical + Practical
6. Number of Credit Hours (Total) / Number of Units (Total) 8/8
7. Course administrator's name (mention all, if more than one name)
Name: Ayad Nouri diaa Email: ayadn.dheyaa@uokufa.edu.iq Name: Abdulhadi j. alabedi Email: abdulhadij.alabedi@ uokufa.edu.iq
8. Course Objectives

Course Objectives	Knowledge of the basic principles of veterinary surgery. Knowledge of veterinary surgery techniques. Know the importance of post-operative care, and how to provide effective care for animals after surgery.
9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** A1- The student's knowledge of the basic methods of veterinary surgery and surgical operations. A2- Knowledge of dealing with damaged tissue and living tissue. A3- Enabling the student to diagnose cases that require surgical treatment. A4- Knowledge of different veterinary anesthesia methods for the purpose of control and diagnosis for the purpose of treatment. A5- The student can express his opinion on the clinical cases of field animals. A6- The student's knowledge of diagnostic methods and how to deal with them, including x-rays and ultrasound. **B - Skills:** B1 - The student will acquire communication skills and how to deal with animal owners effectively, and explain surgical treatment in a way they can understand. B2 - The student acquires clinical diagnosis skills for cases that require surgical treatment. B3 - The student acquires the necessary skills to read the radiograph. **C - Values:** C1- The learner provides assistance to classmates in class and engages in teamwork. C2- The learner practices voluntary work consciously and with full awareness.

	C3- The student strives to maintain mutual respect between himself and his classmates, as well as mutual respect with the educational staff at the college. C4- The student is familiar with the ethics of the profession and the relationship with educators, and the motivation is ethical and conscientious.

10. Course Structure: First & Second Semesters

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1stSem 1	4	Understanding, knowledge	Introduction and classification of surgery	Theoretical + practical lectures	Exams
1stSem 2	4	Understanding, knowledge	Sterilization	Theoretical + practical lectures	Exams
1stSem 3	4	Understanding, knowledge	Response to trauma	Theoretical + practical lectures	Exams
1stSem 4	4	Understanding, knowledge	Wound classification	Theoretical + practical lectures	Exams

1stSem 5	4	Understanding, knowledge	Hemostasis	Theoretical + practical lectures	Exams
1stSem 6	4	Understanding, knowledge	Abscess	Theoretical + practical lectures	Exams
1stSem 7-8	4	Understanding, knowledge	Ulcer and Tumors	Theoretical + practical lectures	Exams
1stSem 9	4	Understanding, knowledge	Affection of bursa, joints	Theoretical + practical lectures	Exams
1stSem 10	4	Understanding, knowledge	Affection of tendon	Theoretical + practical lectures	Exams
1stSem 11	4	Understanding, knowledge	History of anesthesia	Theoretical + practical lectures	Exams

1stSem 12	4	Understanding, knowledge	classification of anesthesia	Theoretical + practical lectures	Exams
1stSem 13	4	Understanding, knowledge	Local anesthesia	Theoretical + practical lectures	Exams
1stSem 14	4	Understanding, knowledge	Regional anesthesia	Theoretical + practical lectures	Exams
1stSem 15	4	Understanding, knowledge	preanesthetics considerations	Theoretical + practical lectures	Exams
2ndSem 1	4	Understanding, knowledge	Premeditation and Muscle relaxant	Theoretical + practical lectures	Exams
2ndSem2	4	Understanding, knowledge	Stages of general anesthesia 3	Theoretical + practical lectures	Exams

2ndSem3	4	Understanding, knowledge	Volatile and non-volatile anesthetic agents	Theoretical + practical lectures	Exams
2ndSem4	4	Understanding, knowledge	Anesthesia of lab. Animals and birds	Theoretical + practical lectures	Exams
2ndSem5	4	Understanding, knowledge	Anesthetic accidents	Theoretical + practical lectures	Exams
2ndSem6	4	Understanding, knowledge	Anesthetic accidents treatment	Theoretical + practical lectures	Exams
2ndSem7	4	Understanding, knowledge	X-ray	Theoretical + practical lectures	Exams
2ndSem8	4	Understanding, knowledge	Radiation hazard and protection	Theoretical + practical lectures	Exams

2ndSem9	4	Understanding, knowledge	Diagnostic and procedures of radiology	Theoretical + practical lectures	Exams
2ndSem	4	Understanding, knowledge	Diagnostic and procedures of radiology	Theoretical + practical lectures	Exams
10	4	Understanding, knowledge	Processing of X-Ray	Theoretical + practical lectures	Exams
2ndSem	4	Understanding, knowledge	Processing of X-Ray	Theoretical + practical lectures	Exams
11	4	Understanding, knowledge	Fracture classification	Theoretical + practical lectures	Exams
2ndSem 12	4	Understanding, knowledge	Fracture classification	Theoretical + practical lectures	Exams

2ndSem 13	4	Understanding, knowledge	Fracture healing	Theoretical + practical lectures	Exams
2ndSem 14	4	Understanding, knowledge	Fracture healing	Theoretical + practical lectures	Exams
2ndSem 15	4	Understanding, knowledge	Lameness	Theoretical + practical lectures	Exams
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11. Course Evaluation
1. Daily exams. 2. Midterm and final exams. 3. Participation grades for discussion questions on the topics of study. 4. Grades for homework and reports.
12. Learning and Teaching Resources

Required textbooks (curricular books, if any	Veterinary Surgery - Small Animal Volume 1&2.
Main references (sources)	Techniques in Large Animal Surgery 4th Edition. Equine Surgery, 3rd edition.
Recommended books and references (scientific journals, reports...)	Veterinary Surgery. Veterinary Surgery - Wiley Online Library
Electronic References, Websites	The role of the theatre veterinary nurse: surgical site preparation.

Course Description Form Clinical pathology

1. Course Name: Clinical pathology
2. Course Code: VEC4119
3. Semester / Year: Semester
4. Description Preparation Date: 8/3/2024
5. Available Attendance Forms: In-Person/Theoretical + Practical
6. Number of Credit Hours (Total) / Number of Units (Total) 2/2

7. Course administrator's name (mention all, if more than one name)
Name: Ali Hussein Khudhair Aldujaily Email: Alih.aldujaily@uokufa.edu.iq
8. Course Objectives

Course Objectives	**- Basic knowledge of genetic theories and veterinary genetics,** **- understanding scientific methods for studying genetics, and modern molecular methods.** **- Knowledge of important genetically transmitted diseases and the selection of high-productivity strains in field animals**
9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** A1- Teaching students laboratory analyzes related to blood. A2- Teaching students the rules of pathological laboratory diagnosis. A3- Training students to link results to clinical signs and how to derive results.

	A4- Providing consultations and training laboratory staff for veterinary institutions in the governorate. **B - Skills:** B1- The student is introduced to the basic methods of studying veterinary hematology. B2- Enabling the student to perform all examinations related to blood and biochemical imaging. B3- The student analyzes the main components of blood. B4- The student can express his opinion on diagnosing blood-related diseases. **C - Values:** C1- The learner provides assistance to his friends in class and team work. C2- The learner practices volunteer work with full awareness and understanding. C3- The student tries to maintain mutual respect and respect between himself and his classmates Mutual exchange with the educational family at the college C4- The student can become familiar with professional ethics and the relationship with educators, and the motivation is moral and emotional.

10. Course Structure (First semester)

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

1-2	3	Understanding, knowledge	The process of manufacturing red and white blood cells and platelets	Theoretical + practical lectures	Exams
3-4	3	Understanding, knowledge	Count red and white blood cells and platelets	Theoretical + practical lectures	Exams
5-6	3	Understanding, knowledge	Hemoglobin and packed cell volume	Theoretical + practical lectures	Exams
7	3	Understanding, knowledge	Hemostasis	Theoretical + practical lectures	Exams
8	3	Understanding, knowledge	Bone marrow examination	Theoretical + practical lectures	Exams
9-11	3	Understanding, knowledge	Clinical biochemistry	Theoretical + practical lectures	Exams

12-13	3	Understanding, knowledge	Liver function test	Theoretical + practical lectures	Exams
14-15	3	Understanding, knowledge	Kidney function test	Theoretical + practical lectures	Exams
Course Structure (Second semester)					
1-2	3	Understanding, knowledge	Clinical parasitology	Theoretical + practical lectures	Exams
3-4	3	Understanding, knowledge	Acid base balance	Theoretical + practical lectures	Exams
5-7	3	Understanding, knowledge	Milk examination	Theoretical + practical lectures	Exams

8-10	3	Understanding, knowledge	Rumen fluid examination	Theoretical + practical lectures	Exams
11-13	3	Understanding, knowledge	Clinical microbiology	Theoretical + practical lectures	Exams
14-15	3	Understanding, knowledge	Clinical biochemistry	Theoretical + practical lectures	Exams
		Understanding, knowledge	Clinical immunology	Theoretical + practical lectures	Exams
11.					3 Understanding knowledge
1. Daily exams. **2. Midterm and final exams.** **3. Participation grades for discussion questions on the topics of study.** **4. Grades for homework and reports.**					
12. Learning and Teaching Resources					

Required textbooks (curricular books, if ar	Brooks, M. B., Harr, K. E., Seelig, D. M., Wardrop, K. J., & Weiss, D. J. (Eds.). (2022). Schal Veterinary Hematology
Main references (sources)	Cowell, R. L. (2004). *Veterinary clinical pathology secrets*. Elsevier Health Sciences.
Recommended books and references (scientific journals, reports...)	**Animal Genetics - Wiley Online Library**
Electronic References, Websites	**Manual on meat inspection for developing countries.** **https://www.fao.org/3/t0756e/T0756E00.htm#TOC**

Course Description Form Epidemiology

1. Course Name: Epidemiology
2. Course Code: VEC4119
3. Semester / Year: Semester
4. Description Preparation Date: 8/3/2024
5. Available Attendance Forms: In-Person/Theoretical + Practical
6. Number of Credit Hours (Total) / Number of Units (Total) 2/2
7. Course administrator's name (mention all, if more than one name)
Name: Abd amer abd hatem Email: Alih.aldujaily@uokufa.edu.iq
8. Course Objectives

Course Objectives	**- Basic knowledge of genetic theories and veterinary genetics,** **- understanding scientific methods for studying genetics, and modern molecular methods.** **- Knowledge of important genetically transmitted diseases and the selection of high-productivity strains in field animals**
9. Teaching and Learning Strategies	
Strategy	**1A - Knowledge:** A1- Teaching students laboratory analyzes related to blood. A2- Teaching students the rules of pathological laboratory diagnosis. A3- Training students to link results to clinical signs and how to derive results. A4- Providing consultations and training laboratory staff for veterinary institutions in the governorate. **B - Skills:** B1- The student is introduced to the basic methods of studying veterinary hematology. B2- Enabling the student to perform all examinations related to blood and biochemical imaging. B3- The student analyzes the main components of blood. B4- The student can express his opinion on diagnosing blood-related diseases.

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Course Structure (Second semester)					
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