الملحق ٤: وصف المادة الدراسية

MODULE DESCRIPTION FORM

وصف المادة الدراسية(الاحياء المجهرية)

فصل دراسي اول

Module Information معلومات المادة الدراسية					
Module Title	**microbiology**			**Module Delivery**	
Module Type	**C**			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☒ **Tutorial** ☒ **Practical**	
Module Code	**VET304**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level		Third	**Semester of Delivery**		1
Administering Department		Type Dept. Code….	**College**	Type College Code……	
Module Leader	Nawres norri jaber		**e-mail**	E-mail: nawres.norri@uobasrah.edu.iq	
Module Leader's Acad. Title		Professor	**Module Leader's Qualification**		Ph.D.
Module Tutor	Ali balbool tlayea		**e-mail**	E-mail: ali.tlayea@uobasrah.edu.iq	
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date		----/----/2024	**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	**Midterm Exam**	1hr	10% (10)	7	LO # 1-7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. understand the basic structure and role of microorganisms. 2. recognize microbes that cause diseases in animals. 3. learn simple laboratory methods for studying microbes. 4. apply microbiology knowledge in veterinary practice.
Module LearningOutcomes مخرجات التعلم للمادة الدراسية	**Learning microbiology typically results in a set of knowledge, skills, and values that the student acquires by the end of the course experience. Outstanding outcomes include:** 1. Enable students to understand the fundamentals of microbiology and infectious agents. 2. Provide students with practical experiences in microbiology through laboratory work. 3. Understand the role of microorganisms in animal health and disease. 4. Be able to apply microbiological concepts in veterinary diagnosis and prevention. 5. Develop skills in identifying, analyzing, and interpreting
Indicative Contents المحتويات الإرشادية	• **Introduction to microbiology** • **Bacteria** • **Viruses** • **Fungi** • **Host Interactions** • **Animal Pathogens** • **Laboratory Techniques** • **Sterilization & Disinfection** • **Applied Microbiology**

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	**The Disciplinary Approach for Microbiology** typically involves structuring the course and teaching methods around the core disciplines and scientific principles that underpin the study of microorganisms. This approach emphasizes a systematic, scientific exploration of microbes, integrating knowledge from biology, chemistry, and medicine. **Key Aspects of the Disciplinary Approach for Microbiology:** 1. **Foundational Sciences Integration** o Emphasize the role of anatomy, biochemistry, and molecular biology as foundational to understanding microbial structure and function. o Use principles from chemistry and physics to explain microbial growth, metabolism, and interaction with the host. 2. **System-Based Study** o Organize content around major groups of microorganisms (bacteria, viruses, fungi) to provide a comprehensive understanding of their biology and pathogenicity. o Highlight the role of microbes in animal health and disease. 3. **Experimental and Laboratory Focus** o Incorporate laboratory exercises and experiments to reinforce theoretical knowledge through practical application. o Use microbiological techniques, quantitative measurements, and data analysis to develop critical thinking and scientific inquiry skills. 4. **Clinical Relevance** o Connect microbiological concepts to veterinary diseases and preventive measures. o Include case studies and problem-solving sessions to apply knowledge in real-world scenarios. 5. **Progressive Complexity** o Start with microbial cell structure and metabolism, then build up to microbial interactions, pathogenicity, and antimicrobial strategies. 6. **Interdisciplinary Approach** o Encourage collaboration with related disciplines such as immunology, pathology, and pharmacology. o Promote understanding of how microbiology knowledge contributes to veterinary practice. 7. **Use of Modern Technology** o Utilize modern laboratory tools, computer simulations, and imaging techniques to visualize and analyze microbial processes.

	8. **Diagnosis and Therapy** o Teach diagnostic techniques and antimicrobial treatment options relevant to veterinary medicine. **Summary:** This traditional disciplinary approach provides a solid scientific foundation in microbiology while emphasizing laboratory skills, clinical relevance, and the application of knowledge to veterinary practice.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Information **معلومات المادة الدراسية**			
Module Title	**Immuniology**	**Module Delivery**	
Module Type	**C**	☒ **Theory** ☒ **Lecture** ☒ **Lab** ☒ **Tutorial** ☒ **Practical**	
Module Code	**VET304**		
ECTS Credits	**5**		
SWL (hr/sem)	**125**		
Module Level	Third	**Semester of Delivery**	1
Administering Department	Type Dept. Code….	**College**	Type College Code……

Module Leader	Ali abood issa	**e-mail**	E-mail: ali.issa@uobasrah.edu.iq
Module Leader's Acad. Title	Professor	**Module Leader's Qualification**	Ph.D.
Module Tutor	Rana Adnan fayez	**e-mail**	E-mail: rana.fayez@uobasrah.edu.iq
Peer Reviewer Name	Name	**e-mail**	E-mail
Scientific Committee Approval Date	----/----/2024	**Version Number**	1.0

Module Information
معلومات المادة الدراسية

Module Title	General Biology	**Module Delivery**	
Module Type	**B**	☒ **Theory** ☒ **Lecture** ☒ **Lab** ☒ **Tutorial** ☒ **Practical**	
Module Code	**VET101**		
ECTS Credits	**5**		
SWL (hr/sem)	**200**		
Module Level	First	**Semester of Delivery**	1
Administering Department	Type Dept. Code….	**College**	Type College Code……
Module Leader	Nawres norri jaber	**e-mail**	E-mail: nawres.norri@uobasrah.edu.iq
Module Leader's Acad. Title	Professor	**Module Leader's Qualification**	Ph.D.
Module Tutor	Ali balbool tlayea	**e-mail**	E-mail: ali.tlayea@uobasrah.edu.iq
Peer Reviewer Name	Name	**e-mail**	E-mail
Scientific Committee Approval Date	----/----/2024	**Version Number**	1.0

Module Information معلومات المادة الدراسية					
Module Title	Biorisk Management			**Module Delivery**	
Module Type	**C**			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☒ **Tutorial** ☒ **Practical**	
Module Code	**VET104**				
ECTS Credits	**5**				
SWL (hr/sem)	**75**				
Module Level	First		**Semester of Delivery**	1	
Administering Department	Type Dept. Code….		**College**	Type College Code……	
Module Leader	Murtakab younis odeed		**e-mail**	E-mail: murtakab.obeed@uobasrah.edu.iq	
Module Leader's Acad. Title	Professor		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Tamadher mohammed krebit		**e-mail**	E-mail: tamadher.krebit@uobasrah.edu.iq	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	----/----/2024		**Version Number**	1.0	

Module Information معلومات المادة الدراسية					
Module Title	English language			**Module Delivery**	
Module Type	**B**			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☒ **Tutorial** ☒ **Practical**	
Module Code	**VET102**				
ECTS Credits	**5**				
SWL (hr/sem)	**50**				
Module Level		First	**Semester of Delivery**		1
Administering Department		Type Dept. Code….	**College**	Type College Code……	
Module Leader	Hassan mohammed jasim		**e-mail**	E-mail: Hassan.mohammed@uobasrah.edu.iq	
Module Leader's Acad. Title		Professor	**Module Leader's Qualification**		Ph.D.
Module Tutor	Haider rasheed alrafas		**e-mail**	E-mail: haider.alrafs@uobasrah.edu.iq	
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date		----/----/2024	**Version Number**		1.0

وصف المادة الدراسية (الاحياء المجهريه)

فصل دراسي ثاني

Module Information معلومات المادة الدراسية					
Module Title	**Systematic Bacteriology and Mycolog**			**Module Delivery**	
Module Type	**C**			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☒ **Tutorial** ☒ **Practical**	
Module Code	**VET309**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level		Third	**Semester of Delivery**		2
Administering Department		Type Dept. Code….	**College**	Type College Code……	
Module Leader	Prof.Dr Mohammed hasan khudor		**e-mail**	E-mail: mohammed.khudor@uobasrah.edu.iq	
Module Leader's Acad. Title		Professor	**Module Leader's Qualification**		Ph.D.
Module Tutor	Prof.Dr. Alyaa sabti jasim		**e-mail**	E-mail: alyaa.jasim@uobasrah.edu.iq	
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date		----/----/2024	**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	1hr	10% (10)	7	LO # 1-7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Module Information
معلومات المادة الدراسية

Module Title	**Veterinary Virology**	**Module Delivery**	
Module Type	**C**	☒ **Theory** ☒ **Lecture** ☒ **Lab** ☒ **Tutorial** ☒ **Practical**	
Module Code	**VET303**		
ECTS Credits	**5**		
SWL (hr/sem)	**125**		

Module Level	Third	**Semester of Delivery**	2
Administering Department	Type Dept. Code….	**College**	Type College Code……
Module Leader	Prof.Dr Ali abood issa	**e-mail**	E-mail: ali.assi@uobasrah.edu.iq
Module Leader's Acad. Title	Professor	**Module Leader's Qualification**	Ph.D.
Module Tutor	Prof.Dr. Rana adeen fayez	**e-mail**	E-mail: rana.fayez@uobasrah.edu.iq
Peer Reviewer Name	Name	**e-mail**	E-mail
Scientific Committee Approval Date	----/----/2024	**Version Number**	1.0

اسم المادة : General microbiology
المرحلة : Third class رمز الدرس : vet304
عدد الساعات النظرية : 3
عدد الساعات العملية : 2
اسم التدريسي : د.نورس نوري ود. علي بلبول ود.هناء خليل ود. رشا منذر ود. جلال ياسين ود. باسل عبد الزهرة

مفردات المادة :
المواضيع النظرية :

First Semester

NO	Theoretical Subjects	Hours
1	Introduction & History of Microbiology	3
2	Structure of the Prokaryotic Cell	3
3	Bacterial Genetics	3
4	Microbial Growth & Nutrition, Microbial Metabolism	3
5	Control of Microbial Growth	3
6	Genus: Staphylococcus and Genus : Pseudomonas Genus : Burkholderia	3
7	Genus: Streptococcus and Genus: Clostridium	3
8	genus: Corynebacterium Rhodococcus equi and Genus : Moraxella Bovis Genus : Manheimia	3
9	Genus: Arcanobacterium Genus: Nocardia Genus: Dermatophilus	3
10	Spirochaetes Genus: Leptospira and Genus: Borrelia Genus: Listeria	3
	Total Hours	**30**

اسم التدريسي : د.علياء سبتي ود. حسان محمد ود. مرتقب يونس و د.نورس نوري ود. علي بلبول ود.هناء خليل ود. رشا منذر ود. جلال ياسين ود. باسل عبد الزهرة

مفردات المادة :
المواضيع العملية :

First Semester

NO	Practical Subjects	Hours
1	**Safety in the microbiology laboratory**	**2**
2	**Sterilization and disinfection**	**2**
3	**Bacteriological media and Isolation :prossing of specimen for isolation**	**2**
4	**Colony morphology and Bacterial motlity**	**2**
5	**Bacterial staining : simple stain , Gram stain**	**2**
6	**Negative and capsule stain and Measurement of bacteria growth : total count**	**2**
7	**Antibiotic test**	**2**
8	**Laboratory diagnostics of veterinary important agents from genera Staphylococcus and Sterptococcus and coagulase**	**2**
9	**Laboratory diagnostics of veterinary important agents from genera Leptospira, Borrelia,Listeria**	**2**
10	**Laboratory diagnostics of veterinary important agents from genera Arcanobacterium,nocardia,Dermatophilus**	**2**
	Total Hours	**20**

اسم المادة: **مناعة** المرحلة:**Third Class**

عدد الساعات النظرية: 2

عدد الساعات العملية : 2 رمز الدرس : 306

اسم التدريسي :د. محمد حسن و د. فوزيه علي ود. علي عبود ود. رنا عدنان و.د حيدر رشيد

مفردات المادة :

المواضيع النظرية :

First Semester

NO	Theoretical Subjects	Hours
1	**1. Historical Perspective and terminology** (immune, immunity, susceptibility, immunology, immune system, non-specific immunity, specific immunity) **2. Factors of the innate (nonspecific) immunity** **a. anatomic (physical)barriers** (skin and mucous membrane, etc..), **b. physiological (chemical) barriers** (secretions, low pH, and other chemical mediators) **c. Cellular defenses** (phagocytic cell) **d. Inflammatory barriers, fever, molecular defenses** (complement, interferon)	**4**

	e. Acute phase proteins (IL-6, CRP, lectins) **3.Phagocytosis (definition)** **4. Cells involved in phagocytosis (**monocytes, neutrophils, macrophages, dendritic cells) **5. Stages of phagocytosis** (chemotaxis, adherence and ingestion, digestion and killing, disposal) **5. Extracellular killing** **6. Outcome of phagocytosis** (killing of antigen only, killing of phagocytic cell, killing of antigen and phagocytic cell, killing neither of them)**.**	
2	**1. Antibodies (definition)** **1. Humoral Immune Response (definition)** **2. Primary and secondary immune responses** (definition and differences) **3. Types of responses according to types of antigens** (T-independent and T-dependent) **4. Cell cooperation in the antibody response** (role of B-cells, T-cells, and APC) **5. Regulation of the response.**	**2**
3	**1. Antibodies (definition)** **1. Humoral Immune Response (definition)** **2. Primary and secondary immune responses** (definition and differences) **3. Types of responses according to types of antigens** (T-independent and T-dependent) **4. Cell cooperation in the antibody response** (role of B-cells, T-cells, and APC) **5. Regulation of the response.**	**2**
4	**1. Basic structure of immunoglobulin** (fine structure, immunoglobulin domains, variable-region domains, hypervariable regions, constant-region domains, hinge region) **2. Deducing antibody structure** (papain, pepsin, mercaptoethanol reduction and alkylation) **3. Antibody classes** (IgM, IgG, IgA, IgE, IgD) **and biological activities** **4. Immunoglobulin mediated effector functions or consequences** (opsonization, activation of complement, ADCC, transcytosis) **5. Antigenic determinants on immunoglobulin** (isotypes, allotypes, idiotypes) **6. Monoclonal antibodies** (production and clinical uses of monoclonal antibodies).	**2**
5	**1. Antigens** **2. Immunogenicity** (immunogens) versus **antigenicity** (antigens) **3. Factors influencing immunogenicity (**foreignness, molecular size weight, chemical composition or complexity, susceptibility to antigen processing and presentation) **4. Contribution of the biological system to immunogenicity** (genotype of the recipient animal, immunogen dosage and route of administration, adjuvants) **5. Epitopes** **6. Haptens and the study of antigenicity.**	**2**
6	**1. Major Histocompatibility Complex (MHC)(definition)** **2. General organization and inheritance of the MHC** **3. Location and function of MHC regions:** Class I MHC genes, Class II MHC genes, Class III MHC genes **4. MHC haplotypes.**	**2**

	5. Congenic MHC mouse strains. **6. MHC molecules and genes.** **7. Organization of Class I and Class II genes.** **8. regulation of MHC expression and cellular distribution of MHC molecules** (Class-I restriction and Class-II restriction) **9. MHC and immune responsiveness** **10. MHC and disease susceptibility** **11. self-MHC-restriction of T-cells**	
7	**1. Cellular Immune Response (definition)** **2. Types of T-cells** (T_H1, T_H2, T_C, T_S, T_{DTH}) **3. Cellular interaction required for the generation of the response** **4. The role of MHC.** **5. Differences between humoral and cellular immune responses**	**2**
8	**1. Immunopathology (Tolerance and autoimmunity)** **2. Proposed mechanisms for induction of autoimmunity** (release of sequestered antigens, molecular mimicry, mimicry between MBP and viral peptides, inappropriate expression of Class-II MHC molecules, polyclonal B-cell activation) **3. Organ-specific autoimmune diseases (**direct cell damage, stimulating or blocking auto-antibodies) **4. Systemic autoimmune diseases** (direct cell damage or blocking auto-antibodies) **5. treatment of autoimmune diseases** (current therapies and therapeutic approaches	**2**
9	**1. Tumor and cancer immunology (definitions)** **2. Oncogenes and cancer induction (conversion of proto-oncogenes to oncogenes)** **3. Factors inducing cancer (physical, chemical, biological)** **4. Viral oncogenes.** **5. Current chemotherapy and radiotherapy.** **6. The recent experimental immunotherapeutic treatment**	**2**
10	**1. Immunization and Vaccination (definitions)** **2. Passive (natural, artificial) and active (natural and artificial) immunizations** **3. Vaccines and immunization procedures** (killed and attenuated antigens, toxoid, subunit vaccine, peptide vaccine, etc..) **4. The use of adjuvants** **5. Current progresses in vaccinations and usage of the recent approaches**	**2**
11	**1. Immunopathology (Immunodeficiency, definition):** **2. Types of immunodeficiency (primary-congenital and secondary-acquired immunodeficiency diseases), (nonspecific, specific, and combined immunodeficiency diseases)** **3. Acquired Immune Deficiency Syndrome (AIDS)** **4. Progression of HIV diseases and AIDS. Who gets AIDS, and how?** **5. Immunotherapy of immunodeficiencies.**	**2**

12	**1. Immunopathology (Transplantation immunology)** **2. Immunologic basis of graft rejection** **3. Specificity and memory of the rejection response** (autograft acceptance, first-set rejection, second-set rejection) **4. Types of grafts** (autograft, isograft, allograft, and xenograft) **4. Role of cell-mediated response** **5. Transplantation antigens and tissue typing** **6. Mechanisms involved in graft- versus- host (HVG) rejection** **7. Clinical manifestation of graft rejection** (hyperacute, acute, chronic) **8. Graft-versus -host rejection (GVH)**(e.g., bone marrow transplantation) **9. General immunosuppressive therapy** (mitotic inhibitors, corticosteroids, cyclosporine A, FK506, and Rapamycin, total lymphoid irradiation) **10. Specific immunosuppressive therapy** (Immunotherapy by using immunotherapeutic agents)	**4**
	Total Hours	**28**

اسم التدريسي : د. محمد حسن و د. فوزيه علي ود. علي عبود ود. رنا عدنان و.د حيدر رشيد **و د. تماضر محمد و م. ندى صالح**

مفردات المادة :
المواضيع العملية :

NO	Practical Subjects	Hours
1	**Introduction toimmunology labs Biosafety**	2
2	**Basicserologiclaboratorytechniques** **Procedures manual, blood specimen preparation, types of specimens tested, inactivation of complement, pipettes ,graduated pipettes, serologic pipettes, inspection anduse‹(pipettingtechniques (manual pipettes, automatic pipettes)‹ dilutions(dilutingspecimens,dilutionfactor,singledilutions,serialdilutions), antibody testing, antibody titer, case study questions, critical thinking group discussion questions, procedure: serial dilution, laboratory highlights, review questions.**	2
3	**Laboratory animals.** **Maintainingtheanimals,theirdietsandnutrition,inoculatingtheanimalswith antigens, bleeding the animals for sample collection.**	2
4	**Antigens and Immunoglobulin** **Preparation,separation and preservation**	2
5	**Hemagglutination&Agglutinationassay**	2

6	**NeutralizationTest.**	2
7	**ELISA TEST**	2
8	**Macrophageactivity;Bacterialphagocytosis**	2
9	**Complementfixation**	2
10	**Precipitationmethods**	2
11	**Moleculartechniques**	2
12	**Immunofluorescenceassay**	2
13	**Cellseparationmethods**	2
14	**ElectrophoresistechniquesSDS-PAGE**	2
	Total Hours	**28**

اسم المادة: General Biology

المرحلة:**First Class**

عدد الساعات النظرية: 3

عدد الساعات العملية :2 رمز الدرس : 101

اسم التدريسي :د. نادية و د. نورس نوري و د. علي بلبول ود. علياء د. تماضر محمد

مفردات المادة :

المواضيع النظرية :

NO	Practical Subjects	Hours
1	Introduction and definitions of terms	3
2	Origin of life	3
3	Characteristics of living organisms	3
4	Kingdoms of the living world	3
5	Kingdom: Monera (prokaryotic)	3
6	Kingdom: Protista (Eukaryotic)	3
7	Phylum: Sarcomastigophora	3
8	Subphylum: Vertebrata (Chordata) Class: Amphibia (frog)	3
9	Living organisms	3
10	Comparison between Prokaryotic and Eukaryotic cells	3

11	Mitosis and Meiosis	3
12	Types of living tissues	3
13	General characters of bacteria and viruses	3
14	Nucleic acid types and functions	3
	Total Hours	**42**

اسم التدريسي د. نادية و د. نورس نوري و د. علي بلبول ود. علياء د. تماضر محمد ود. حيدر رشيد وم. ندى صالح ود. اسراء محسن

مفردات المادة :
المواضيع العملية :

NO	Theoretical Subjects	Hours
1	Laboratory Equipment	**2**
2	The Microscope	**2**
3	The Cell: Structure of cell & function	**2**
4	Kingdom Monera/ Prokaryote/Bacteria	**2**
5	Kingdom Protista/ Eukaryote (unicellular)/ Mastigophora	**2**
6	Kingdom Protista / Eukaryote(unicellular)/ Sarcodena , Ciliophora ,Sporozoa	**2**
7	Kingdom Animalia (multicellular) Invertebrates / Coelenterata / Hydra	**2**
8	Kingdom Animalia (multicellular) Invertebrates Nematoda/Ascaris , Ancylostoma	**2**
9	Kingdom Animalia (multicellular) Invertebrates Trematoda/Fasciola,Schistosom	**2**
10	Kingdom Animalia (multicellular) Invertebrates Cestoda/Taenia	**2**

11	Kingdom Animalia / vertebrates / Frog , Fish	**2**
12	Cell Division: Binary Fission, Mitosis and Meiosis	**2**
13	Bacterial staining	**2**
14	Type of tissue	
	Total Hours	**28**

اسم المادة: Biorisk Management

المرحلة:ا**First Class**

عدد الساعات النظريه :2

اسم التدريسي د. مرتقب يونس و د. تماضر محمد

رمز المادة: 104

مفردات المادة :

المواضيع النظرية :

NO	Practical Subjects	Hours
1	Introduction: Definitions & Concepts Risk, Hazard, Biorisk, Biosafety, and Biosecurity.	2
2	Biological Materials (Bacteria, Viruses, Fungi, Parasites, Prions, Zoonotic pathogens, Toxins).	2
3	Personal protective equipment (PPE). Types of PPE, Route of exposure to pathogens	2
4	Laboratory safety symbols and hazard signs.	2
5	Risk groups and Biosafety Levels.	2
6	Biosafety cabinet classes: Design, Operation, use and misuse.	2
7	Standard Microbiology Techniques and Safety	2
8	Safe use of (pipettes, centrifuges, homogenisers, shakers, blenders, sonicators and ampoules containing infectious materials).	2
9	Collection, handling and transport of diagnostic specimens.	2
10	Decontamination and waste disposal.	2
11	Working with potentially infected animals. General considerations.	2
12	Hazardous chemicals (Routes of exposure, storage of chemicals, general rules regarding chemical incompatibilities.	2

13	Toxic effects of chemicals, Explosive chemicals, Chemical spills, Compressed and liquefied gases).	2
14	Preparedness and response to Chemical and Biological accidents: - In the Laboratories. - In the field.	2
	Total Hours	**28**

اسم المادة: English language

المرحلة:ا**First Class**

عدد الساعات النظريه :2

اسم التدريسي د. حيدر رشيد و د. حسان محمد

رمز المادة: 102

مفردات المادة :

المواضيع النظرية :

NO	Practical Subjects	Hours
1	English Alphabetic, Parts of Speech ,Sentences .	2
2	Clauses & Phrases, Sentence Types	2
3	Nouns, Countable Nouns , Spelling Rules for Plurals	2
4	Definite & Indefinite Articles , few/little, another/the other, other/others	2
5	Pronouns, Object Pronouns , Reflexive Pronouns , Relative Pronouns	2
6	Verbs, Auxiliary (Helping) Verbs, Verb to BE ,	2
7	Verb to DO , Verb to HAVE	2
8	Modals, Transitive & Intransitive Verbs, Non-Action Verbs, Irregular Verbs	2
9	Active & Passive	2
10	Gerunds & Infinitives	2
11	Active & Passive ,	2
12	MEDICAL TERMINOLOGY	2
13	WRITING basic	2
14	WRITING Reports	2
	Total Hours	**28**

Second Semester

اسم المادة : **Systematic Bacteriology and Mycolog**
المرحلة : Third class رمز الدرس : vet304
عدد الساعات النظرية : 3
عدد الساعات العملية : 2
اسم التدريسي : د.نورس نوري ود. علي بلبول ود.هناء خليل ود. رشا منذر ود. جلال ياسين ود. علياء سبتي و د.محمح حسن و د. باسل عبد الزهرة

مفردات المادة :
المواضيع النظرية :

NO	Practical Subjects	Hours
1	Genus: ***Pasteurella*** • *Pasteurella multocida*	**3**
2	Family: Enterobacteriaceae- General features and classification Genus: ***Escherichia*** • *Escherichia coli* Genus: ***Salmonella*** • Nomenclature of *Salmonella, Salmonella enterica* and its subspecies • *Salmonella Typhimurium* • *Salmonella Choleraesuis* • *Salmonella Pullorum* • *Salmonella Gallinarum*	**3**
3	Family: Enterobacteriaceae Genus: ***Klebsiella*** • *Klebsiella pneumoniae* Genus: ***Proteus*** • *Proteus vulgaris* • *Proteus mirabilis* Genus: ***Yersinia*** • *Yersinia pestis* • *Yersinia pseudotuberculosis* • *Yersinia enterocolitic*	**3**
4	Erysipelothrix:, ***E. insidiosa,*** ***Bacteriods*** (non-spore forming anaerobic bacteria), Fusobacterium and Bacteriods nodosus	**3**
5	Genus: ***Brucella*** Brucella abortus	**3**

	Brucella meligensis *Short description of* B. canis and B. suis	
6	Genus: ***Taylorella*** • *Taylorella equigenitalis*	**3**
7	Genus: Clostridium • Types of Clostridia – Histotoxic, Neurotoxic, Enteropathogenic etc. • *Clostridium chauvoei* *Clostridium perfringens* • *Clostridium tetani* • *Clostridium botulinum* • *Short description of other Clostridia*	**3**
8	Genus: Mycobacterium • Mycobacterium tuberculosis • Mycobacterium bovis • Mycobacterium avium • Mycobacterium avium subsp. Paratuberculosis	**3**
9	Genus: ***Mycoplasma*** • *General characters of* Mycoplasma • Mycoplasma mycoides *subsp. Mycoides* • Mycoplasma mycoides *subsp. Mycoides* *Mycoplasma capricolum subsp. Capripneumoniae* • *Mycoplasma gallisepticum* • *Short description of other species of Mycoplasma*	**3**
10	Rickettsia and Chlamydia	**3**
11	Genus: ***Bacillus***	**3**
12	Mycology	**3**
13	Mycology	**3**
14	Mycology	**3**
	Total Hours	**42**

اسم التدريسي : د.علياء سبتي ود. حسان محمد ود. مرتقب يونس و د.نورس نوري ود. علي بلبول ود.هناء خليل ود. رشا منذر ود. جلال ياسين ود. باسل عبد الزهرة

مفردات المادة :
المواضيع العملية :

First Semester

NO	Practical Subjects	Hours
1	Laboratory diagnostics of veterinary important agents from genera ***Rickettsia and Chlamydia*** and oxidase test	**2**
2	Laboratory diagnostics of veterinary important agents from	**2**

	genera ***Mycobacterium*** and catalase test	
3	Laboratory diagnostics of veterinary important agents from genera Streptococcus	**2**
4	Laboratory diagnostics of veterinary important agents from genera ***Mycoplasma*** and indol production test	**2**
5	Laboratory diagnostics of veterinary important agents from genera ***Bacillus*** and urase test	**2**
6	Laboratory diagnostics of veterinary important agents from genera Clostridium and citrate utilization test	**2**
7	Laboratory diagnostics of veterinary important agents from genera ***Salmonella spp, E coli, Proteus, Shigella, Klebsiella and other members of Enterobacteriaceae*** (growth on EMB and MacConkey agar)	**2**
8	Laboratory diagnostics of veterinary important agents from genera ***Pseudomonas*** and gelatin hydrolysis test	**2**
9	Laboratory diagnostics of veterinary important agents from genera ***Brucella*** and Campylobacter and starch hydrolysis test	**2**
10	Laboratory diagnostics of veterinary important agents from genera Taylorella and Haemophilus and methy red vogas proskauer test	**2**
11	Laboratory diagnostics of veterinary important agents of mycotic infections: Listeria, Leptospira and Modified CAMP **test**	**2**
12	Laboratory diagnostics of veterinary important agents of mycotic infections: Dermatophytes, Aspergillus, Candida albicans, Histoplasma	**2**
	Total Hours	**24**

اسم المادة :Veterinary Virology
المرحلة :Third Class
عدد الساعات النظرية : 2
عدد الساعات العملية : 2 رمز المادة:303
اسم التدريسي : د. علي عبود ود. رنا عدنان ود. فوزيه ود. حيدر رشيد ود. تماضر محمد

مفردات المادة :
المواضيع النظرية :

NO	Theoretical Subjects	Hours
1	Virus definition, the importance of virology • Virus architecture, Morphology, and structure of animal viruses • The function and the value of each part of the virus	2
1	Properties of animal viruses • Physical, chemical and biological properties of animal viruses • Viral classification	2
3	Replication of animal viruses • Steps of viral replication • Strategies of viral replication in different virus **families**	2
4	Viral genetics • Mutation, recombination and genetic reassortment • Oncogenic viruses	2
5	Antiviral drugs • Mechanism of action of different antiviral agents • Antiviral uses in veterinary medicine	2
7	Adenoviridae, Papillomaviridae	2
8	Herpesviridae, Poxviridae	2
9	Picornaviridae, Orthomyxoviridae, Paramyxoviridae	2
10	Coronaviridae, Reoviridae, Retroviridae	2
11	Parvoviridae, Circoviridae, Asfaviridae	2
12	Rhabdoviridae, Birnaviridae, Bornaviridae	2
13	Bunyaviridae, Togaviredae, Astroviridae	2
	Total Hours	**26**

اسم التدريسي : د. علي عبود ود. رنا عدنان ود. فوزيه ود. حيدر رشيد ود. تماضر محمد

مفردات المادة :
المواضيع العملية :

NO	Theoretical Subjects	Hours
1	• **Overview about diagnostic methods in veterinary virology** • **Collection and preservation of viral specimens**	4
2	• **Sample Preparation for Virus Isolation** • **Cultivation of Viruses in Laboratory Animals**	2
3	• **Cultivation of Viruses in Chicken Embryos**	2
4	• **Preparation of Cell Culture** • **Cultivation of Viruses in Cell Culture**	4
5	• **Recognition of viral growth in cell culture (Cytopathic effect (CPE) and Hemadsorbtion)**	2
6	• **Electron microscopy**	2
7	• **Hemagglutination tests** • **Hemagglutination inhibition tests**	2
8	• **Neutralization technique**	2
9	• **Polymerase Chain Reaction (PCR)**	2
10	• **ELISA test**	2
11	• **Immunofluorescence**	2
12	• **Viral Titration Techniques (Plaque assay and Endpoint Method)**	2
	Total Hours	**28**

Grading Scheme مخطط الدرجات				
Group	**Grade**	**التقدير**	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A -** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks with decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.