



Republic of IRAQ

Ministry of Higher Education Scientific Research

Wasit University

College of Veterinary Medicine

Scientific Department: Department of Veterinary Medicine

Academic or professional Programme: Bachelor of Veterinary Medicine

Final Degree or Certificate: Bachelor of Veterinary Medicine and Surgery

Study System: Bologna

Preparation Date: July 2026

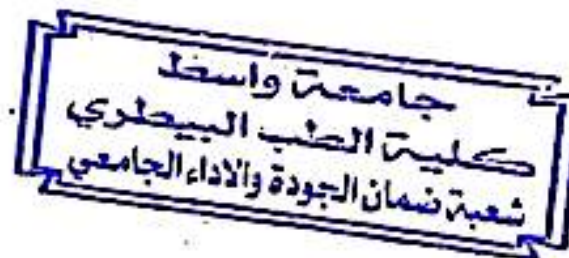
Reviewed by the University Quality Assurance and Academic Performance Division

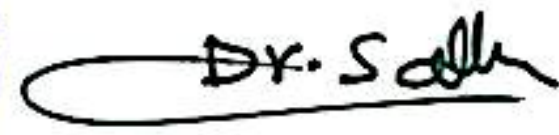
Asst.prof.Dr. Zaid Mohsen Atallah

Director of the University Quality Assurance and Academic Performance Division


Asst. Prof.

Dr. Jabbar Jassim Hamady
Vice Dean




Professor

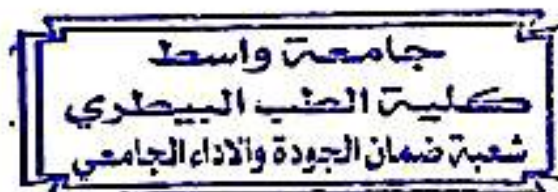
Dr. Sattar Rashed Suhail
Dean



جمهورية العراق
وزارة التعليم العالي والبحث العلمي
جامعة واسط
كلية الطب البيطري
القسم العلمي / قسم الطب البيطري
البرنامج الاكاديمي او المهني: بكوريوس طب بيطري
الشهادة النهائية: بكوريوس في الطب والجراحة البيطرية
النظام الدراسي: بولونا
تاريخ اعداد الوصف: 2026/7/

دقق الملف من قبل
شعبة ضمان الجودة والاداء الجامعي
ا.م.د. زيد محسن عطالله
مدير شعبة ضمان الجودة والاداء الجامعي


الاستاذ الدكتور
ستار راشد سهيل
العميد




ا.م.د. جبار جاسم حمادي
معاون العميد للشؤون العلمية

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Laboratory Equipments
Week 2	The Microscope
Week 3,	The Cell: Structure of cell & function
Week 4	Kingdom Monera/ Prokaryote/Bacteria
Week 5	Kingdom Protista/ Eukaryote (unicellular)/ Mastigophora
Week6	Kingdom Protista / Eukaryote(unicellular)/ Sarcodena , Ciliophora ,Sporozoa
Week 7	Kingdom Animalia (multicellular) Invertebrates / Coelenterata / <i>Hydra</i>
Week8	Kingdom Animalia (multicellular) Invertebrates Nematoda/Ascaris , Ancylostoma
Week 9	Kingdom Animalia (multicellular) Invertebrates Trematoda/Fasciola,Schistosoma
Week10	Kingdom Animalia (multicellular) Invertebrates Cestoda/Taenia
Week 11,	Kingdom Animalia / vertebrates / Frog , Fish
Week12	Cell Division: Binary Fission, Mitosis and Meiosis
Week 13	Types of tissues
Week14	Bacterial staining
Week 15	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	General biology 2021	yes
Recommended Texts	Concepts of biology	No
Websites		

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Informationمعلومات المادة الدراسية			
Module Title	Animal Management		Module Delivery
Module Type	C		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	VET103		
ECTS Credits	7		
SWL (hr/sem)	175		
Module Level	UGI	Semester of Delivery	1
Administering Department	Public health	College	Veterinary Medicine
Module Leader	Mohammad Abdul Hamza	e-mail	
Module Leader's Acad. Title	Assist. Lec.	Module Leader's Qualification	M.Sc.
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	1/6/2026	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1-To develop skills and understanding of Animal Behavior and Welfare 2- Develop skills of Animal Management 3- Learning the Legal and Ethical Consideration.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Students learn about animal behavior, psychology, and welfare. 2. Course cover topics related to animal health, nutrition, and veterinary care. 3. Learning about the proper handling, housing, and breeding of animals, as well as understanding the importance of environmental enrichment. 4. Students are typically educated about relevant laws and regulations governing animal care and management, as well as ethical considerations related to the treatment of animals. 5. Develop management and leadership skills necessary for supervising staff, managing facilities, and overseeing animal-related programs.
Indicative Contents المحتويات الإرشادية	Breeding of horses: age of puberty, sexual maturity, signs of oestrous, signs of pregnancy, diagnosis of pregnancy, signs of birth, care of new – born animals, system of weaning, care and management of pregnant mare, care and management of the stallion (stud). Origin of the horses from animal kingdom. Feeding and watering Farm animal health and diseases Signs of health in animals (pulse rate, respiration rate, body temperature, condition of the skin appetite, defecation, urination, animal postures, routes of drug administration. Breeding of cattle: (age of puberty , sexual maturity , signs of oestrous, signs of pregnancy, diagnosis of pregnancy , signs of birth, calving (parturition) , care of new – born calf, systems of weaning, care of dams , care of bull (stud), milking process. Breeding of sheep and goat : (age of puberty , sexual maturity , signs of oestrous, signs of pregnancy, diagnosis of pregnancy , signs of birth, calving (parturition) , care of new – born calf, systems of weaning, care of dams , care of bull (stud), milking process.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	This module has several components that include lectures, individual and group assignments, field visits and e-learning platforms. The basic practical supports lecture topics while at the same time refining and expanding their critical thinking skills. This will be achieved through classes and interactive tutorials. The other strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, all mandatory assignments have to be submitted within the deadlines to be admitted to the exams.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	97	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6.46
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10%(10)	5 & 10	LO#1,2,4and 5
	Assignments	2	10%(10)	2 & 11	LO#4,6,9,and10
	Projects / Lab.	1	10%(10)	continuous	All
	Report	1	10%(10)	13	LO#3,4and 5
Summative assessment	Midterm Exam	1hr	10%(10)	7	LO#1-3
	Final Exam	3hr	50%(50)	16	all
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Description and identification of farm animals
Week 2	Equine behavior
Week 3	Equine and foal care
Week 4	Calf and cattle management
Week 5	Cattle production
Week 6	Cattle behavior
Week 7	Goat management
Week 8	Sheep management
Week 9	Buffaloes management
Week 10	Camel management
Week 11	Buffaloes and camel behavior

Week 12	Management of Animal reproduction 1
Week 13	Management of Animal reproduction 2
Week 14	Wild animals 1
Week 15	Wild animals 2
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: External parts of Cattle
Week 2	Lab 2: External parts Equine
Week 3,	Lab 3: Control and restrains of cattle
Week 4	Lab 4: Control and restrain of equine
Week 5	Lab 5: Age estimation in equine
Week 6	Lab 6: Age estimation in cows, sheep and goat
Week 7	Lab 7: Methods casting
Week 8	Lab 8: Signs of health
Week 9	Lab 9: Drug administration
Week 10	Lab 10: Milking
Week 11,	Lab 11: Body score condition
Week 12	Lab 12: Animal Grooming
Week 13	Lab 13: Animal housing
Week 14	Lab 14: Animal examination
Week 15	Lab 15: Farm practices

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	AL-Wahab,R. and Bryant,M.J. Animal production. Col,H.H. and Ronning,M. Animal Agriculture.	Yes
Recommended Texts	Miller,W.C. practical Animal Husbandry.	Yes
Websites		

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية أداره المخاطر البايولوجية / المرحلة الأولى

Module Information			
معلومات المادة الدراسية			
Module Title	Biorisk management		Module Delivery
Module Type	C		☒ Theory Lecture Lab Tutorial Practical Seminar
Module Code	VET104		
ECTS Credits	3		
SWL (hr/sem)	75		
Module Level	1 st	Semester of Delivery	
Administering Department	Microbiology	College	Veterinary Medicine
Module Leader	Isa Swadi Toulali	e-mail	iswadi@uowasit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	PH.D/Microbiology
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	1/6/2026	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	- To know(Biohazards)which including all hazard(agents) originated from biological processes of living organisms that is harmful to humans , Like (viruses, Bacteria, Parasites, Fungi, Foreign toxins). - Controlling of Exposure to Biological Hazards
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	- To enhance the student's competence in using a variety of references or books related to biorisk management
Indicative Contents المحتويات الإرشادية	Structured exercises will be provided to reinforce the theoretical material and familiarise students with all laboratory techniques.

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	Students will study specialist vocabulary in the context of biohazards

Student Workload (SWL)			
الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	18	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	1
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	57	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10%(10)	2,5,8	LO#1,2,13 and 14
	Assignments	2	10%(10)	3,13	LO#4,6,9,and 10
	Projects / Lab.	1	10%(10)	Continuous	
	Report	1	10%(10)	13	
Summative assessment	Midterm Exam	1hr	10%(10)	8	LO#5,8 and 10
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري		
	Material Covered	H
Week 1	Introduction : Definitions& Concepts Risk, Hazard, Biorisk, Biosafety, and Biosecurity.	1
Week 2	Biological Materials (Bacteria, Viruses, Fungi, Parasites, Prions, Zoonotic pathogens, Toxins).	1
Week 3	Personal protective equipment(PPE). Types of PPE, Route of exposure of pathogens.	1
Week 4	Laboratory safety symbols and hazard signs.	1
Week 5	Risks groups and Biosafety Levels.	1
Week 6	Biosafety cabinet classes: Design, Operation, use and misuse.	1
Week 7	Standard Microbiology Techniques and Safety.	1
Week 8	Safe use of (pipettes, centrifuge, homogenizers, shakers, blenders, and sonicators, ampoules containing infectious materials).	1
Week 9	Collection, handling and transport of diagnostic specimens.	1
Week 10	Decontamination and waste disposal.	1
Week 11	Working with potentially infected animals. General considerations.	1
Week 12	Hazardous chemicals (Routes of exposure, storage of chemicals, general rules regarding chemical incompatibilities,	1
Week 13	Toxic effects of chemicals, Explosive chemicals, Chemical spills, Compressed and liquefied gases).	1
Week 14	Preparedness and response to Chemical, Biological accidents: - In the Laboratories. - In the field.	1
Week 15	First aid and emergency response in the Laboratories.	1
Week 16	Preparatory week before the final Exam	

Delivery Plan (Weekly Lab. Syllabus) المنهاج الأسبوعي للمختبر لا يوجد	
	Material Covered
Week 1	
Week 2	
Week 3,	
Week 4	
Week 5	
Week6	
Week 7	
Week8	
Week 9	
Week10	
Week 11,	
Week12	
Week 13	
Week14	
Week 15	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	General biology 2021	yes
Recommended Texts	Concepts of biology	No
Websites		

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

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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	English Language		Module Delivery	
Module Type	B		✓ Theory Lecture Quizzes Seminar Open book Report	
Module Code	UOW102			
ECTS Credits	2			
SWL (hr/sem)	50			
Module Level	1 st	Semester of Delivery		1
Administering Department	Public health	College	Veterinary Medicine	
Module Leader	Huda Ridha		e-mail	hridha@uowasit.edu.iq
Module Leader's Acad. Title	Asst.Prof.	Module Leader's Qualification		M.Sc.
Module Tutor			e-mail	
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	1/6/2026	Version Number		1.0

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	- Observation and perception. - Analysis and interpretation. - Conclusion and evaluation. - Preparation and evaluation.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Upon successful completion of this course, the student will be able to do the following: - 1- Read modern sources. 2- Keeping up with the times and reading English books in the field of veterinary medicine.
Indicative Contents المحتويات الإرشادية	The instructive content includes the following: - 1- Explaining the scope of sentence formation in the English language. 2- Description of speaking tenses. 3- Explaining how to speak and write (punctuation) 4- Understanding the basic concepts of the specialty in English.

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	Teaching methods use of data show devices and smart board Learning methods encouraging students to read external sources and urging them to be self-reliant.

Student Workload (SWL)			
الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10%(10)	5 and 10	LO#1, #2 and #10, # 11
	Seminar	2	10%(10)	6 and 12	LO #3, #4 and #6, #7
	Open book	1	10%(10)	Continuous	All
	Report	1	10%(10)	13	LO#5,#8 and #10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO#1 - #7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Correct sentence structures
Week 2	Correct sentence structures
Week 3	Correct sentence structures
Week 4	Correct grammatical forms
Week 5	Correct grammatical forms
Week 6	Correct grammatical forms
Week 7	Develop and extensively use reading strategies
Week 8	Midterm examination
Week 9	Develop and extensively use reading strategies
Week 10	Proper punctuation
Week 11	Proper punctuation
Week 12	Proper punctuation
Week 13	Use English basic sentence structure
Week 14	Use English basic sentence structure
Week 15	Use English basic sentence structure
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	English Grammar Headway	yes
Recommended Texts	Veterinary medicine books	yes
Websites	BBC Learning English British Council	No

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Skeleton Anatomy		Module Delivery	
Module Type	C		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	Vet102			
ECTS Credits	8.00			
SWL (hr/sem)	200 hr/sem			
Module Level	UGI	Semester of Delivery		1
Administering Department	Anatomy and Histology	College	Veterinary Medicine	
Module Leader	Ali Mahdi Ethaeb		e-mail	Ali.aetheeb@uowasit.edu.iq
Module Leader's Acad. Title	Assistant Professor		Module Leader's Qualification	
Module Tutor	Ali Mahdi Ethaeb		e-mail	Ali.aetheeb@uowasit.edu.iq
Peer Reviewer Name	Ahmed M. Abid alridha		e-mail	ahmed.surgery.vet@uowasit.edu.iq
Scientific Committee Approval Date	1/6/2026	Version Number	1.0	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	N/A	Semester	
Co-requisites module	N/A	Semester	

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	- Study of the anatomy of different animals. - To knowledge the skeleton forms, structures, topography, and the functional interaction of the tissues and organs that comprise the body.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Enabling the student to give the required knowledge regarding macroscopic anatomy of different apparatus, systems and organs of animal species. 2. Identify and describe the location of all organs and anatomical structures. 3. Identify the anatomical structures and terminology used in anatomy that describes the organs of the animal's body. 4. Enabling the student to recognize the anatomical structures that make up each organ of the animal's body and their varieties and compare them between animals according to their structure. 5. Providing the student with knowledge of how to differentiate natural structures from the unnatural, which he will study in the following years.
Indicative Contents المحتويات الإرشادية	In addition to theoretical lectures containing scientific figures and tables, the course includes a practical laboratory that provides handling of samples of bones of different animals or skeletons (comparative anatomy).

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	1. Presenting the theoretical and practical lectures. 2. Scientific discussion and tests during the lectures. 3. Participate students in identifying and understand the bones and skeleton of the animal body.

Student Workload (SWL)			
الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	93	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	107	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	7.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	200		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10%	4, 8, 12	LO #1, #2 and #5
	Assignments	2	10%	5, 9	LO #3, #4
	Projects / Lab.	1	10%	continuous	All
	Report	2	10%	7, 12	LO #5
Summative assessment	Midterm Exam	1hr	10%	1-8	All
	Final Exam	3hr	50%	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to anatomy
Week 2	General osteology/ Skeleton
Week 3	Development & Growth of the bones
Week 4	Vertebral column(Thoracic, lumbar vertebrae and sacrum)/Ribs and sterium
Week 5	Bones of thoracic limb / Bones of Bones of thoracic limb with comparison with comparison
Week 6	Hoof (The hoof in horse and claw of the ox)
Week 7	Review
Week 8	examination
Week 9	Skull/Neural part (Cranium, neurocranium)
Week 10	Skull/Facial part (Facies, viscerocranium)
Week 11	General syndesmology (arthrology)
Week 12	Joints of thoracic limb (fore limb)
Week 13	Joints of the pelvic limb (hind limb)/ Joint and ligaments of vertebra
Week 14	Review
Week 15	examination

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to anatomy / topographic and descriptive terms
Week 2	Vertebral column
Week 3,	Bones of thoracic limb/Humerus and comparative anatomy
Week 4	Radius and ulna with comparison
Week 5	Carpal bones in horse and metacarpal and phalanges bones
Week 6	Review
Week 7	Practical examination
Week 8	Comparative anatomy of the pelvic bone
Week 9	Comparative anatomy of the femur
Week 10	Comparative anatomy of the tibia and fibula
Week 11,	Tarsus and metatarsal bone in horse
Week 12	Digits and hoof
Week 13	Skull/Neural part (Cranium, neurocranium)/ Facial part (Facies, viscerocranium)
Week 14	Review
Week 15	Practical examination

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Textbook of Veterinary Anatomy: By K. M. Dyce, W. O. Sack and C. J. G. Wensing.	√
Recommended Texts	Veterinary Anatomy of Domestic Mammals: Textbook and Colour Atlas: by König HE, Liebich HG.	√
Websites	www.researchgate.net , www.google.com , www.google.com	

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Democracy and Human rights		Module Delivery	
Module Type	B		✓ Theory Lecture Quizzes Seminar Open book Report	
Module Code	UOW104			
ECTS Credits	2			
SWL (hr/sem)	50			
Module Level	1 st	Semester of Delivery		1
Administering Department	Public health	College	Veterinary Medicine	
Module Leader	Ebtihal Abdul Sahib Abdul Rahman		e-mail	
Module Leader's Acad. Title	Asst. Lect	Module Leader's Qualification		M.Sc.
Module Tutor			e-mail	
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	1/6/2026	Version Number	1.0	

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

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. يتعلم الطالب خلال السنة الدراسية أساسيات حقوق الإنسان والديمقراطية ما حقوقه كيف يدافع عنها بالطرق القانونية وماهي ضماناتها الداخلية والدولية. 2. استحضار المعرفة في مجال الديمقراطية وأنواع أنظمتها وأثرها على حقوق الإنسان 3. تنمية شخصية الطالب وتعزيز وعيهم في الأنظمة السياسية الديمقراطية وتفصيلها وكيفية تطبيقها على أرض الواقع وأهمية أن يكون فعال في المجتمع من خلال احترامه لحقوق الآخرين ومعرفة أن الحقوق والحريات تنتهي عند بداية حقوقهم وحرياتهم ويؤدي واجباته بدال من اكتساب الحقوق فقط. 4. تعزيز ثقافة السالم القائمة على العدل والمساواة.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. تمكين الطالب من معرفة أساسيات الدفاع عن حقوقه وحقوق الآخرين بعد معرفتها ومعرفة أهميتها له وللمجتمع بصورة عامة وأيضاً معرفه كل شخص حدود حقوقه وحريته 2. تمكين الطالب في المشاركة السياسية وذلك من خلال معرفته بأهمية مشاركته في الانتخابات وتأثير هذه المشاركة على سير الانتخابات وتشكيل السلطة فيما بعد. 3. معرفة الطالب ضمانات حقوقه وحرياته وماهي مصادرها . 4. معرفة الفرق بين الحقوق والحريات . 5. تمكين الطالب من معرفة ماهي المفهوم العلمي للديمقراطية وماهي جذورها وانواعها واشكالها . 6. يتعلم الطالب كيف يؤثر النظام الديمقراطي على حقوق الإنسان وماهي العالقة بينها . 7. ادراك الطالب ضرورة ان يكون مواطن فعال في المجتمع ايضاً معرفه شروط الناخب وشروط المرشح للانتخابات . 8. معرفة أنظمة الانتخابات وايهما افضل . 9. فهم الطالب للقانون الدولي لحقوق الإنسان وايضاً معرفة مختصرة عن المنظمات الدولية والية عملها كالأمم المتحدة ومنظمة الصليب الأحمر وغيرها
Indicative Contents المحتويات الإرشادية	الجزء الأول - تعريف حقوق الإنسان وحقوق الإنسان في الحضارات القديمة (تعريف الحق وتعريف الإنسان ومعرفة أهمية حقوق الإنسان بالنسبة للإنسان والمجتمع أيضاً دراسة حقوق الإنسان في الحضارات كالحضارة المصرية والعراقية واليونانية والرومانية) (4ساعات) الجزء الثاني معرف حقوق الإنسان في الأديان السماوية وأهمها الإسلام مصادر حقوق الإنسان تتضمن (مصادر دولية كإعلان العالمي لحقوق الإنسان والعهدان الدوليان والمصادر الإقليمية التي تشمل الاتفاقيات الإقليمية كالاتفاقية الأوروبية والأمريكية والدستور) (2ساعة)

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	1. زيادة وعي الطالب بأهمية معرفه حقوقه وواجباته اتجاه المجتمع وعالقة حقوق الإنسان بالنظام الديمقراطي 2. ثقافة عامة في مجموعة من المجالات ومنها المجال القانوني والسياسي والاجتماعي ورفع ثقة الطالب بنفسه من خلال ربط المادة النظرية بالواقع العملي
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	1.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10%(10)	5 and 10	LO#1, #2,#3 and #6, #7,#8
	Assignments	2	10%(10)	2 and 12	LO #3, #4 and #6, #7
	Projects	1	10%(10)	13	LO #7, #8
	Report	1	10%(10)	14	LO #5, #8 and #9
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO#1 - #7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	محاضرة تعريفية عن المادة واهميتها
Week 2	تعريف الحق والانسان وحقوق الانسان واهمية حقوق الانسان ,حقوق الانسان في الدين الإسلامي والحضارات القديمة
Week 3	مصادر حقوق الانسان الدولية والإقليمية والمحلية
Week 4	ضمانات حقوق الانسان الدستورية والقانونية وضمانات حقوق الانسان على الصعيد الدولي
Week 5	ضمانات حقوق الانسان في الإسلام و دور المنظمات الإقليمية في حماية حقوق الانسان
Week 6	خصائص حقوق الانسان وتعريف الحريات العامة وانواعه والمقارنة بينها وبين الحقوق . القانون الدولي لحقوق الانسان والقانون الدولي الإنساني ومنظمة الصليب الأحمر
Week 7	امتحان نصف الفصل
Week 8	مستقبل حقوق الانسان وسبل تطويرها
Week 9	العولمة وحقوق الانسان
Week 10	تعريف الديمقراطية وتطورها التاريخي ومبادئها . الديمقراطية بين العالمية والخصوصية . اشكال الديمقراطية / الديمقراطية المباشرة.
Week 11	الديمقراطية شبه المباشرة والديمقراطية التمثيلية / اركان النظام التمثيلي / اشكال النظام التمثيلي
Week 12	المجلس النيابي وانواعه / الانتخاب وشروطه / هيئة الناخبين
Week 13	تنظيم عملية الانتخاب / تحديد الدوائر الانتخابية / القوائم الانتخابية / المرشحو/ الحملة الانتخابية / التصويت
Week 14	نظم الانتخابات.
Week 15	علاقة الديمقراطية بحقوق الانسان وكيفية التأثير والتأثر فيما بينها
Week 16	الامتحان النهائي

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	حقوق الانسان والطفل والديمقراطية / تأليف ماهر صالح علاوي ورياض عزيز هادي وعلي عبد الرزاق محمد واخرون / العاتك / بيروت / 2009	yes
Recommended Texts	عباس الدليمي / حقوق الانسان الفكر والممارسة فخري رشيد ,صالح ياسين /المنظمات الدولية / العاتك لصناعة الكتاب / بغداد عصام العطية / القانون /الدولي العام / المكتبة القانونية /بغداد2012	yes
Websites		

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Informationمعلومات المادة الدراسية				
Module Title	Poultry Management		Module Delivery	
Module Type	C		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	VET108			
ECTS Credits	5			
SWL (hr/sem)	125			
Module Level	UGI	Semester of Delivery		2
Administering Department	Public health	College	Veterinary Medicine	
Module Leader	Sattar Rashed Suhail		e-mail	Sattarrashid@uowasit.ed.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	PH.D/General Pathology	
Module Tutor	Sahar Abdul hasan Daej		e-mail	sabdulhasan@uowasit.edu.iq
Peer Reviewer Name		e-mail		
Scientific Committee Approval Date		Version Number		

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	Understanding in the field of veterinary increasing the student's knowledge about management, care of poultry, housing, rearing, egg incubation, reproduction, poultry breeds, brooding of domestic fowl.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1-Explain the biological and physiological aspects of poultry species. 2-Design and manage poultry housing and equipment to meet welfare and production standard. 3- Develop and implement nutrition plans for various poultry species 4- Apply principle of biosecurity and hygiene in poultry operation 5- Evaluate the economic viability of different poultry production system.
Indicative Contents المحتويات الإرشادية	Structured exercises will be provided to reinforce the theoretical material and familiarize students with all laboratory techniques.

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	Theoretical lectures Work in laboratories Educational pictures and posters Seminars in college Training courses in the field of veterinary management

Student Workload (SWL)			
الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	77	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	5.13
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10%(10)	3,9	LO#1,2,13and 14
	Assignments	2	10%(10)	2,14	LO#4,6,9,and10
	Projects / Lab.	1	10%(10)	continuous	
	Report	1	10%(10)	12	
Summative assessment	Midterm Exam	1hr	10%(10)	8	LO#5,8,and 10
	Final Exam	3hr	50%(50)	16	all
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Poultry Industry in Iraq and Terminology.
Week 2	Poultry Health Management.
Week 3	Biology of the chickens.
Week 4	Egg structure and Hygiene; Factors affecting egg production.
Week 5	Artificial Hatching and Hatcheries.
Week 6	Poultry houses Design.
Week 7	Nutrition and Rations Formation.
Week 8	Chick brooding.
Week 9	Management of Breeder, Broiler and Layer chickens.
Week 10	Poultry management in hot climate.
Week 11	Management of Ostrich, turkey ,duck and geese.
Week 12	Biosecurity in poultry industry.
Week 13	Vaccination Management.
Week 14	Poultry waste management.
Week 15	Introduction to poultry management.

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Classification of poultry.
Week 2	Phenotypes of poultry.
Week 3,	Egg Storage-Disinfection and Fumigation.
Week 4	Sexing and sex-linked traits.
Week 5	Poultry Equipment's
Week 6	Feeding formulation and Calculations of feed components in rations.
Week 7	Anatomy of avian digestive system.
Week 8	Anatomy of avian respiratory system.
Week 9	Anatomy of immune system Introduction to immunology.
Week 10	Anatomy of avian circulatory system.
Week 11,	Disinfection of poultry Houses and Hatcheries.
Week 12	Vaccination programs.
Week 13	Lighting and Systems for poultry.
Week 14	Ventilation Systems for poultry.
Week 15	Visiting of poultry farm

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Poultry Science/Poultry Nutrition and Management	Yes
Recommended Texts	Poultry Health- A Guide for Professionals	Yes
Websites	https://www.routledge.com/Animal-Husbandary-Regained-The-Place-of-Farm-Aimal-in-Sustainable-Agriculture/Webster/p/book/9781849714211	

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 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.				

MODULE DESCRIPTION FORM

Module Information			
معلومات المادة الدراسية			
Module Title	Animal Husbandry		Module Delivery
Module Type	C		☒ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	VET123		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGI	Semester of Delivery	
Administering Department	Public health	College	Veterinary Medicine
Module Leader	Zaid Muhsen Alsadoon	e-mail	zaidalsadoon@uowasit.edu.iq
Module Leader's Acad. Title	Assist Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Zaid Muhsen Alsadoon	e-mail	zaidalsadoon@uowasit.edu.iq
Peer Reviewer Name	Basm Mohammed	e-mail	
Scientific Committee Approval Date	1/06/2026	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. Learn the history, breed characteristics, and behavior of common pets (dogs, cats, birds, small mammals) 2. Gain knowledge on maintaining health, identifying diseases, and implementing vaccinations and preventive care for various pets. 3. Understand the nutritional needs and feeding practices for dogs, cats, birds, and small animals to promote health and longevity. 4. Develop skills in safely handling and restraining pets, minimizing stress during examinations or treatment. 5. Understand the reproductive cycles of dogs and cats, and learn best practices for breeding, pregnancy care, and neutering. 6. Learn how to create safe, comfortable, and hygienic living environments for pets, and ensure proper daily care and grooming.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks. 1. Students will identify common breeds of dogs, cats, birds, and small mammals, and understand their feeding, housing, grooming, and care needs. 2. Students will recognize the importance of vaccinations, understand diseases transmitted from pets to humans, and learn how to prevent them. 3. Students will demonstrate safe handling and restraint techniques for various pets, ensuring their well-being during care. 4. Students will compare and apply techniques for managing the reproduction of dogs and cats, including breeding and behavioral aspects. 5. Students will understand pet communication, analyze common behavioral problems, and develop solutions for house training and behavior correction. 6. Students will create care plans for pets, covering life stages from vaccination schedules to feeding and health maintenance, ensuring long-term welfare.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. This course is designed to provide Veterinary students with basic knowledge about pet care (dogs, cats, birds, fish, guinea pigs, rabbits) and the essentials of keeping these animals healthy and happy. Students will learn about animal breeds, health management, behavioral understanding, feeding, grooming, vaccination, and reproduction management. Total hrs = 33 = SSWL - (Exam hrs) = 125 - 3= 122 hr (Time table hrs x 15 weeks)

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the discussion, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and video activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	92	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6.13
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #8, #9
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #10 and #11
Summative assessment	Midterm Exam	2hr	20% (20)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
2h / week	Material Covered

Week 1	History and Breeds
Week 2	Animal health of pet animal
Week 3	Animal health of pet birds
Week 4	Animal Handling and methods of restrain
Week 5	Management of Reproduction in Dogs
Week 6	Management of Reproduction in Cats
Week 7	Pet feeding
Week 8	Pet bird feeding
Week 9	Housing
Week 10	Age estimation
Week 11	Vaccination
Week 12	Pet Communication and Behavior
Week 13	Guinea pig management
Week 14	Rabbits pet animals
Week 15	Pet bird general care
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1- Small Animal Care and Management 4th Edition	Yes
Recommended Texts	Veterinary Guide for Animal Owners: Caring for Cats, Dogs, Chickens, Sheep, Cattle, Rabbits and More, 2nd Edition	Yes
Websites	https://www.audible.com/cat/Home-Garden/Pets-Animal-Care-Audiobooks/18573724011	

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Muscular Anatomy		Module Delivery
Module Type	C		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	Vet102		
ECTS Credits	9.00		
SWL (hr/sem)	225 hr/sem		
Module Level	UGI	Semester of Delivery	
Administering Department	Anatomy and Histology	College	College of Veterinary Medicine
Module Leader	Ali Mahdi Ethaeb	e-mail	Ali.aetheeb@uowasit.edu.iq
Module Leader's Acad. Title	Assist. Prof. Dr.	Module Leader's Qualification	Ph.D.
Module Tutor	Ali Mahdi Ethaeb	e-mail	Ali.aetheeb@uowasit.edu.iq
Peer Reviewer Name	Ahmed M. Abid alridha	e-mail	ahmed.surgery.vet@uowasit.edu.iq
Scientific Committee Approval Date	1/6/2026	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	N/A	Semester	
Co-requisites module	N/A	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	- Study of the anatomy of different animals. - Covering all branches of anatomy to illustrate the important basic information that supports other veterinary sciences disciplines. - To knowledge the muscles forms, structures, topography, and the functional interaction of the tissues and organs that comprise the body. - Study of endocrine glands, their classification, parts and anatomical structures.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Identify the major muscles of the body and their attachments. 2. Describe the structure and function of different muscle types (e.g., skeletal, cardiac, smooth). 3. Explain the principles of muscle contraction and relaxation. 4. Analyze the role of the muscular system in various physiological processes (e.g., movement, respiration, circulation). 5. Identify and describe the major endocrine glands and their locations in the body, and explain their role in the endocrine system. 6. Identify and describe the anatomical structures of the male reproductive system (including the testes, epididymis, vas deferens, accessory genital glands, and penis) and understand their functions. 7. Identify and describe the anatomical structures of the female reproductive system (including the ovaries, oviducts, uterus, vagina, and vulva) and understand their functions.
Indicative Contents المحتويات الإرشادية	In addition to theoretical lectures containing scientific figures and tables, the course includes a practical laboratory that provides handling of samples of muscles of different animals (comparative anatomy).

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1. Presenting the theoretical and practical lectures. 2. Scientific discussion and tests during the lectures. 3. Participate students in identifying and understand all muscles of the animal body.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	93	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	132	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	8.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	225		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	10%	3, 6, 8, 10, 12	LO #1,2,3 and 5
	Assignments	2	10%	12, 14	LO # 2,4 and 7
	Projects / Lab.	5	10%	2, 4, 6, 8, 10	LO# 6 and 7
	Report	2	10%	5, 10	LO #4 and 5
Summative assessment	Midterm Exam	1	10%	8	LO # 1-7
	Final Exam	1	50%	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
	Material Covered
Week 1	Myology: Types of muscles
Week 2	structures, action
Week 3	accessory structures associated with skeletal muscles
Week 4	nerves and vessels supply
Week 5	Muscles of the limbs
Week 6	Muscles of the thoracic and abdomen
Week 7	Muscles of the thoracic and abdomen
Week 8	examination
Week 9	Muscles of the head and neck

Week 10	Endocrine glands Pituitary gl.
Week 11	Hypothalamus gl.
Week 12	pineal body
Week 13	Thyroid and parathyroid gl.
Week 14	adrenal gl.
Week 15	examination

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to anatomy of muscles and accessory structures associated with skeletal muscles
Week 2	Muscles of the head and neck
Week 3,	Muscles of the head and neck
Week 4	Muscles of the thoracic limb
Week 5	Muscles of the thoracic limb
Week 6	Muscles of the thoracic limb
Week 7	Review
Week 8	Practical examination
Week 9	Muscles of the pelvic limb
Week 10	Muscles of the pelvic limb
Week 11,	Muscles of the pelvic limb
Week 12	Muscles of the thoracic and abdomen
Week 13	Muscles of the thoracic and abdomen
Week 14	Review
Week 15	Practical examination

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Textbook of Veterinary Anatomy: By K. M. Dyce, W. O. Sack and C. J. G. Wensing.	✓
Recommended Texts	Veterinary Anatomy of Domestic Mammals: Textbook and Colour Atlas: by König HE, Liebich HG.	✓
Websites	www.researchgate.net , www.google.com , www.google.com	

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Computer		Module Delivery
Module Type	B		☒ Theory Lecture ☒ Lab Tutorial Practical Seminar
Module Code	UOW103		
ECTS Credits	3		
SWL (hr/sem)	75		
Module Level	1 st	Semester of Delivery	
Administering Department	Public Health	College	Veterinary Medicine
Module Leader	Huda Ridha Hashim	e-mail	hridha@uowasit.edu.iq
Module Leader's Acad. Title	Assistant Professor	Module Leader's Qualification	M.Sc. Chemical Engineering
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	1/6/2026	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	none	Semester	
Co-requisites module	Computer science – second level	Semester	2

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. To gain the necessary understanding of the basics of computing and information technology required in personal and professional life. 2. To develop the necessary skills to solve problems using computers 3. To understand the computer hardware and software 4. To gain an understanding of the basic computer components 5. To understand the basics of networks and the internet.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. To recognize the basic computer components and how they work together. 2. To recognize various input and output devices in a computer. 3. To understand different storage types in the computer. 4. To recognize various application software 5. To understand the role of the operating system in the computer. 6. To be able to use the internet for web browsing, email, etc. 7. To be able to use the Windows operating system for everyday needs. 8. To be able to use word processing and spreadsheet software. To understand cloud based software such as Google Sheets, Docs, and Gmail
Indicative Contents المحتويات الإرشادية	Structured exercises will be provided to reinforce the theoretical material and familiarize students with all techniques.

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	When teaching computer science, must make the lessons fun, teach students to work together, and take risks. Make sure you use the right language with your lessons. There is no need to use cute words in place of the real thing. Also, let students do the work themselves so they learn important lessons.

Student Workload (SWL)			
الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	12	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	0.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment التقييم التكويني	Quizzes	1	10%(10)	2,5,8	LO#1,2,13 and 14
	Assignments مهام	2	10%(10)	3,13	LO#4,6,9,and 10
	Projects / Lab.	2	10%(10)	Continuous	
	Report	1	10%(10)	12	
Summative assessment	Midterm Exam	1hr	10%(10)	8	LO#5,8 and 10
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to computer: - concepts of hardware and software with their components, concept of computing, Data and information connecting Input- Output devices and peripherals to CPU.
Week 2	Computer Components: - computer portions, Hardware parts, I/O Units Memory types.
Week 3	Computer Components (Cont.) :- Basic CPU components, computer ports , personal computer, personal computer (Features and Types)
Week 4	Operating system and Graphical User Interface GUI:- Operating System , Basic of Common Operating Systems, The User Interface, using Mouse Techniques
Week 5	Operating system and Graphical User Interface GUI (Cont.): - Use of common Icons , status Bar , Using menu and menu – selection, concept of folders and Directories, opening and closing of different Windows , Creating Short cuts.
Week 6	Word processing: - Word processing Basics, basic features of word processors opening and closing of documents text creation and manipulation formatting text and paragraphs using templates for document creation.
Week 7	Word processing (Cont.): - creating and managing tables, utilizing styles and themes, spell check and grammar tools using, Headers and Footers.
Week 8	Spread Sheet: - Introduction to spreadsheet software, creating and formatting worksheets sorting and filtering data, using Formulas and Functions.
Week 9	Spread sheet (Cont.) :- Using formulas and functions , Using pivot tables for data analysis , data validation and error checking , data visualization : creating charts and Graphs
Week 10	Presentation software: - introduction to presentation software overview of popular presentation tools, creating a new presentation, using templates and themes, inserting and formatting text and images, transition and animation effects.
Week 11	Presentation software (cont.): - using speaker notes and timers, advanced features: hyperlinks and action buttons, troubleshooting common presentation issues, future trends in presentation technology.
Week 12	Introduction to internet and Web Browsers:- Computer networks Basic, LAN, WAN, Concept of internet and its applications, connecting to internet.
Week 13	Introduction to internet and Web Browsers (Cont.): - world wide web, web browsing software's search engines, understanding URL, Domain, name, IP Address.
Week 14	Communications and Emails: - basics of electronic mail, getting an email account, sending and receiving emails, accessing sent emails using emails, document collaboration.
Week 15	Introduction to cloud computing and services: - definition of cloud computing and its concept, cloud-based office suites (office 365 and google workspace), google Docs, Google Sheets, Google Drive, Google Meet.

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Introduction to computer: - concepts of hardware and software with their components, concept of computing, Data and information connecting Input- Output devices and peripherals to CPU.
Week 2	Computer Components: - computer portions, Hardware parts, I/O Units Memory types.
Week 3,	Computer Components (Cont.) :- Basic CPU components, computer ports , personal computer, personal computer (Features and Types)
Week 4	Operating system and Graphical User Interface GUI:- Operating System , Basic of Common Operating Systems, The User Interface, using Mouse Techniques
Week 5	Operating system and Graphical User Interface GUI (Cont.): - Use of common Icons , status Bar , Using menu and menu – selection, concept of folders and Directories, opening and closing of different Windows , Creating Short cuts.
Week6	Word processing: - Word processing Basics, basic features of word processors opening and closing of documents text creation and manipulation formatting text and paragraphs using templates for document creation.
Week 7	Word processing (Cont.): - creating and managing tables, utilizing styles and themes, spell check and grammar tools using, Headers and Footers.
Week8	Spread Sheet: - Introduction to spreadsheet software, creating and formatting worksheets sorting and filtering data, using Formulas and Functions.
Week 9	Spread sheet (Cont.) :- Using formulas and functions , Using pivot tables for data analysis , data validation and error checking , data visualization : creating charts and Graphs
Week10	Presentation software: - introduction to presentation software overview of popular presentation tools, creating a new presentation, using templates and themes, inserting and formatting text and images, transition and animation effects.
Week 11,	Presentation software (cont.): - using speaker notes and timers, advanced features: hyperlinks and action buttons, troubleshooting common presentation issues, future trends in presentation technology.
Week12	Introduction to internet and Web Browsers:- Computer networks Basic, LAN, WAN, Concept of internet and its applications, connecting to internet.
Week 13	Introduction to internet and Web Browsers (Cont.): - world wide web, web browsing software's search engines, understanding URL, Domain, name, IP Address.
Week14	Communications and Emails: - basics of electronic mail, getting an email account, sending and receiving emails, accessing sent emails using emails, document collaboration.
Week 15	Introduction to cloud computing and services: - definition of cloud computing and its concept, cloud-based office suites (office 365 and google workspace), google Docs, Google Sheets, Google Drive, Google Meet.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Graham Brown, David Watson, "Cambridge IGCSE Information and Communication Technology" 3 rd Edition (2020)	yes
Recommended Texts	الخضر علي الخضر بحث "أساسيات الحاسوب" 2016 الدكتور عادل عبد النور, "مدخل الى عالم الذكاء الاصطناعي" 2005	No
Websites		

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Arabic Language		Module Delivery
Module Type	B		☒ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	UOW101		
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	1 st	Semester of Delivery	
Administering Department	Public Health	College	Veterinary Medicine
Module Leader	Hayam Rabbeeh Fadhal	e-mail	hayam.rabbeeh.fadhal@uowasit.edu.iq
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	M.Sc.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	1/6/2026	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1- إتقان قواعد اللغة العربية و الحد من الأخطاء الإملائية والنحوية. ٢ - تعزيز مهارات التعبير اللغوي والقراءة من دون لحن. ٣-تحقيق الدقة في استعمال التراكيب المختلفة. ٤-التمكن من الإعراب الصحيح. ٥-كتابة نصوص أكاديمية وأدبية.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1-التمكن من التراكيب النحوية المعقدة . 2- استعمال النحو في النصوص الأدبية . 3- القدرة على معرفة الاخطاء اللغوية وتصويبها . ٤ – تعريف الطلبة بمزايا اللغة.
Indicative Contents المحتويات الإرشادية	شرح مفهوم النحو وأهميته في اللغة العربية، مع بيان دوره في صحة اللغة وتوضيح المعنى الدقيق للجملة. التعريف بالميزان الصرفي والحروف القمرية والحروف الشمسية وأحكام كتابة الهمزة وعلامات الترقيم واقسام الكلام والمبتدأ والخبر والنواسخ فضلا عن بيان القيم الانسانية في الشعر الجاهلي.

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	هي الاستراتيجيات المستعملة من قبل عضو الهيئة التدريسية لتطوير تعليم وتعلم الطالب وهي خطط يتم إتباعها للوصول إلى أهداف التعلم. أي تصف جميع الأنشطة الصفية و اللاصفية لتحقيق نتائج التعلم ، ومنها: 1-اللقاء والمناقشة والاستقصاء 2- العصف الذهني والاختبارات العلمية 3- مجموعة متنوعة من اساليب التدريس

Student Workload (SWL)			
الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

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

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	ساعتين / شرح عرضي / من سورة البقرة (٢٦٠-٢٦٣) / الحديث النبوي مكارم الأخلاق / محاضرة نظري / اختبار يومي
Week 2	ساعتين / شرح عرضي / قصيدة عنتره بن شداد / محاضرة نظري / اختبار يومي ومناقشات
Week 3	ساعتين / شرح عرضي / الميزان الصرفي / الجموع في اللغة العربية / اختبار يومي ومناقشات
Week 4	ساعتين / الحروف الشمسية والحروف القمرية / محاضرة نظري / الاختبار يومي ومناقشات
Week 5	ساعتين / شرح عرضي / أحكام كتابة علامات الترقيم / محاضرة نظري / اختبار يومي
Week 6	ساعتين / شرح عرضي / أحكام كتابة الهمزة / محاضرة نظري / اختبار يومي ومناقشات
Week 7	ساعتين / شرح عرضي / منهج مدرستي العين والاساس / محاضرة نظري / اختبار يومي ومناقشات
Week 8	ساعتين / شرح عرضي / معاني الألفاظ الغريبة في القرآن / محاضرة نظري / اختبار يومي ومناقشات
Week 9	ساعتين / شرح عرضي / القيم الإنسانية في الشعر الجاهلي / محاضرة نظري / اختبار يومي ومناقشات
Week 10	ساعتين / شرح عرضي / أقسام الكلام / محاضرة نظري / اختبار يومي ومناقشات
Week 11	ساعتين / شرح عرضي / المعرفة والنكرة / محاضرة نظري / اختبار يومي ومناقشات
Week 12	ساعتين / شرح عرضي / المبتدأ والخبر / محاضرة نظري / اختبار يومي ومناقشات
Week 13	ساعتين / شرح عرضي / النواسخ / محاضرة نظري / اختبار يومي ومناقشات
Week 14	ساعتين / شرح عرضي / الفاعل والناصب عنه / محاضرة نظري / اختبار يومي ومناقشات
Week 15	ساعتين / شرح عرضي / علم البيان / محاضرة نظري / اختبار يومي ومناقشات

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1- التطبيق النحوي، عبدة الراجحي . 2- شرح ابن عقيل على ألفية ابن مالك، محمد محي الدين عبد الحميد 3- كيف تتعلم الاعراب، يوسف عطا الطريفي.	yes
Recommended Texts		No
Websites	المراجع الإلكترونية ، مواقع الانترنت	

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	General Chemistry		Module Delivery
Module Type	B		☒ Theory Lecture ☒ Lab Tutorial Practical Seminar
Module Code	VET105		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1 st	Semester of Delivery	
Administering Department	Department of physiology and pharmacology	College	Veterinary Medicine
Module Leader	Tamara Hmed Ahmed	e-mail	tahmed@uowasit.edu.iq
Module Leader's Acad. Title	Assist Professor	Module Leader's Qualification	PH.D/Biology/Zoology /Animal physiology
Module Tutor	Estabraq Abdulkadhim Naser	e-mail	Istabraq324@uowasit.edu.iq
Peer Reviewer Name	Duaa Rasool Muhsen	e-mail	DuaaRasool@uowasit.edu.iq
Scientific Committee Approval Date	1/6/2026	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Related	Semester	
Co-requisites module	Related	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1- To develop problem-solving skills and understand the basics of general chemistry 2- This course deals with the basic concepts of general chemistry. 3- Understanding the issues of the laws of classical analysis. 4- To study biomolecules (such as proteins, amino acid, sugars, and lipids), their applications and interactions in the body.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Identify the basic principles of chemical analysis. 2. Mention the different terms associated with chemistry. 3. Discuss the interactions of acids, bases, and salts 4. Introducing the laws of molality and molarity chemistry 5. Discuss the classification of carbohydrate , protein ,lipid ,fatty acid and amino acid
Indicative Contents المحتويات الإرشادية	-Structured exercises will be provided to reinforce the theoretical material and familiarise students with all laboratory techniques. -How to deal with hazardous and non-hazardous chemicals inside the laboratory, and how to use special tools for dealing with chemicals and wearing special gowns, gloves and masks, to maintain the safety of laboratory workers.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Students will study specialist vocabulary in the context of chemistry and identify all types of living things Encouraging student participation in the subject, while at the same time refining and developing thinking and practical skills. This will be achieved through classroom, interactive tutorials and by looking at type experiments that involve some of the basic interactions in chemistry.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	78	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	5.2
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	1	10%(10)	3,6,9	LO#1,2,13 and 14
	Assignments	2	10%(10)	2,14	LO#4,6,9,and 10
	Projects / Lab.	2	10%(10)	Continuous	
	Report	1	10%(10)	12	
Summative assessment	Midterm Exam	1hr	10%(10)	8	LO#5,8 and 10
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Atom and Types of bonds
Week 2	Preparation of solutions, molarity and molality
Week 3	Aldehydes and ketones, Alcohols, carboxylic acids, amines and amides
Week 4	Classification and Functions of Carbohydrates
Week 5	Monosaccharides and Disaccharides
Week 6	Derivatives of Monosaccharides
Week 7	Polysaccharides
Week 8	Classification and Functions of Lipids
Week 9	Fatty Acids
Week 10	Lipoproteins
Week 11	General Nature of Amino Acids and Classification of Amino Acids
Week 12	Modified or Nonstandard Amino Acids
Week 13	Properties of Amino Acids and Biologically Important Peptides
Week 14	Definition, Classification of Proteins
Week 15	Functions and properties of proteins
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	General Instruction
Week 2	Preparation of solutions : solid substances
Week 3,	Preparation of solutions : liquid substances
Week 4	Saponification
Week 5	Preparation of aspirin
Week6	Qualitative analysis of carbohydrates: general test of carbohydrates
Week 7	Reducing properties of sugars
Week8	Polysaccharide tests
Week 9	Qualitative analysis of proteins
Week10	Specific color reactions of amino acids
Week 11,	Emulsification
Week12	Qualitative analysis of lipids
Week 13	Tests for fatty acids
Week14	Tests for cholesterol
Week 15	Acid number
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	General, Organic, and Biochemistry. 9th Edition (2022) Katherine Denniston et al., McGraw Hill / Medical Publisher.	Yes
	Biochemistry by Pankaja Naik (Author), 6th edition (2022), Jaypee Brothers Medical Publishers Pvt Ltd.	
Recommended Texts	Harper's Illustrated Biochemistry, 32nd Edition (2023) by Peter J. Kennelly (Author), Kathleen M. Botham (Author), Owen McGuinness (Author). McGraw Hill / Medical Publisher.	No
Websites	https://themedicalbiochemistrypage.org/	

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Basic Biochemistry		Module Delivery
Module Type	C		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	VET204		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGII	Semester of Delivery	
Administering Department	Physiology, Biochemistry and Pharmacology	College	Veterinary Medicine
Module Leader	Mohammed Salih Alwan Hayyaw	e-mail	msalih@uowasit.edu.iq
Module Leader's Acad. Title	Asst.Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Asst.prof. Jabbar Jassim Hamady Asst.prof. Tammara Hamed Ahmed	e-mail	jhamady@uowasit.edu.iq tahmed@uowasit.edu.iq
Peer Reviewer Name	Astabriq abid alkadim Dua Rasul	e-mail	
Scientific Committee Approval Date	1/6/2026	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	لا يوجد	Semester	
Co-requisites module	لا يوجد	Semester	

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. To understand cell biochemistry, vitamins, and hormones. 2. To develop problem solving skills and understanding of principles of advanced biochemistry. 3. The course deals with the basic concept of organelles biochemistry, enzymology, water and lipid soluble vitamins and main hormones in animal body. 4. This course includes biochemical basis of enzymes and their reactions inside animal body.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. The main objective is to teach students the basics of advanced cellular biochemistry and its relationship to other sciences from the molecular and cellular levels in various body systems. 2. Classify water soluble and lipid soluble vitamins 3. Recognize enzymes and their mechanism of action 4. Classify hormones with their chemical nature. 5. Identify the mechanism of action and function of hormones
Indicative Contents	Indicative content includes the following: <u>Part A – Cell Biochemistry</u>

المحتويات الإرشادية	• Principles of cell biochemistry and Biochemical function of cell organelles[SSWL=4 hrs] <u>Part B – Vitamins</u> • Definition and Classification of Vitamins (water soluble and fat soluble) [SSWL=6 hrs] <u>Part C – Enzymes</u> • Definition • Cofactors (Coenzyme and Activator) • How Enzymes Work • Mechanism of Enzyme Action and Enzyme Classification • Specificity of Enzyme Action • Factors Affecting the Velocity of Enzyme Reaction • Enzyme Kinetics • Enzyme Inhibition Allosteric Enzyme • Isoenzyme • Clinical Significance of Enzymes [SSWL=10 hrs] <u>Part D- Hormones</u> • Classification of Hormones and mechanism of it. • Mechanism of Hormone Action at Cytosolic or Nuclear Level • Cell Membrane Receptor Mechanism of Hormone action • Hormones of pituitary, pancreas, thyroid, adrenal, and gonads [SSWL=10 hrs] [Total hrs = 30]
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Encouraging the student's commitment to attendance and active participation in lectures and taking daily, semester and final theoretical and practical exams. Using educational and technological means, and the modern method in teaching the subject and referring to practical training examples. Discussion is used in lectures as an effective means of delivering the study material to students and keeping up with the latest methods, approaches and modern trends in the teaching process.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	10% (10)	2,4, 6, 8, 10	LO #1, #2, #3, #4
	Activities	1	10% (10)	9	LO #3, #4, #5
	practical.	1	10% (10)	Continuous	All
	project	1	10% (10)	12	LO #1, #2 and #3, #4
Summative assessment	Midterm Exam	1hr	10% (10)	10	LO #1-#4
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Principles of cell biochemistry and cell function of the organelles
Week 2	Carbohydrate Metabolism... part 1
Week 3	Carbohydrate Metabolism...part 2
Week 4	Carbohydrate Metabolism...part 3
Week 5	Metabolism Bioenergetics regulation
Week 6	Kreb's cycle, Function and regulation
Week 7	Enzyme Classification and Mechanism of Enzyme Action
Week 8	Specificity of Enzyme Action, Enzyme Kinetics and Enzyme Inhibition
Week 9	Amino acids and Proteins classification, mechanism function
Week 10	Amino acids and Proteins metabolism
Week 11	Classification of Hormones and mechanism of action
Week 12	Hormones function
Week 13	Vitamins...part 1
Week 14	Vitamins ...part 2
Week 15	Exam
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	General instruction ,Carbohydrates
Week 2	General qualitative test
Week 3	Unknown of carbohydrates
Week 4	glycogens
Week 5	Proteins : Fibros proteins
Week 6	Separation of albumin and globin by precipitation
Week 7	Glycoprotein
Week 8	Phosphoprotein : Enzymes
Week 9	Amyolytic activity of amylase
Week 10	Effect of pH on amylase activity.
Week 11	Effect of temperature on amylase activity
Week 12	Urine: Physical properties of urine
Week 13	Normal and abnormal constituents of urine
Week 14	Unknown of urine
Week 15	Exam
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Biochemistry by <u>Pankaja Naik</u> (Author), 6th edition (2022), Jaypee Brothers Medical Publishers Pvt Ltd.	Yes
Recommended Texts	Harper's Illustrated Biochemistry, 32nd Edition (2023) by <u>Peter J. Kennelly</u> (Author), <u>Kathleen M. Botham</u> (Author), <u>Owen McGuinness</u> (Author). McGraw Hill / Medical Publisher.	Yes
Websites	https://themedicalbiochemistrypage.org/	

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Ba 'ath regime crimes		Module Delivery	
Module Type	B		✓ Theory Lecture Quizzes Seminar Open book Report	
Module Code	UOW205			
ECTS Credits	2			
SWL (hr/sem)	50			
Module Level	UGII	Semester of Delivery		1
Administering Department	Public health	College	Veterinary Medicine	
Module Leader	Ebtihal Abdul Sahib Abdul Rahman		e-mail	
Module Leader's Acad. Title	Asst. Lect	Module Leader's Qualification		M.Sc.
Module Tutor			e-mail	
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	1/6/2026	Version Number	1.0	

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	التعرف والاطلاع على مجموعة من الجرائم التي ارتكبتها حزب البعث البائد والمنحل بحق أبناء الشعب العراقي ومن مختلف المكونات لأطيافه ولتأسيس وعي للطلبة لرفض جميع أشكال الظلم والتسلط لهذه الأنظمة والمطالبة بجميع الحقوق المدنية والسياسية
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. أن يعرف الطالب مفهوم الجريمة وأنواعها، مع بيان مفهوم الجرائم الدولية وجرائم الإبادة الجماعية والجرائم ضد الإنسانية . 2. أن يتعرف الطالب على أبرز الجرائم والانتهاكات التي ارتكبتها نظام البعث في العراق خلال فترة حكمه . 3. أن يفسر الطالب الجرائم المرتكبة بحق الشعب العراقي في ضوء قانون المحكمة الجنائية العراقية العليا لعام 2005 . 4. أن يميز الطالب بين أنواع الجرائم التي ارتكبتها النظام البعثي، وتصنيفها وفق الأطر القانونية والوطنية والدولية . 5. أن يحلل الطالب الآثار السياسية والاجتماعية والنفسية والاقتصادية والبيئية المترتبة على تلك الجرائم . 6. أن يتعرف الطالب على جرائم الإبادة الجماعية والتهجير القسري والقتل والتعذيب والاعتقال والاختفاء القسري والمقابر الجماعية . 7. أن يوضح الطالب موقف النظام البعثي من المكونات الدينية والقومية والاجتماعية للشعب العراقي . 8. أن يفسر الطالب أثر السياسات القمعية للنظام في المجتمع العراقي، وانعكاساتها على حقوق الإنسان والحريات العامة . 9. أن يتعرف الطالب على دور الوثائق والشهادات والمقابر الجماعية والأدلة التاريخية في توثيق الجرائم وإثباتها .
Indicative Contents المحتويات الإرشادية	• نشأة نظام البعث وسياساته . • أبرز الجرائم والانتهاكات . • جرائم الإبادة والتهجير والاعتقال والتعذيب . • المقابر الجماعية والأسلحة المحرمة . • توثيق الجرائم والعدالة الانتقالية .

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	1. استراتيجياتية التعليم تخطيط المفهوم التعاوني. 2. استراتيجياتية التعليم العصف الذهني. 3. استراتيجياتية التعليم سلسلة الملاحظات

Student Workload (SWL)			
الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	1.1
Total SWL (h/sem)	50		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10%(10)	5 and 10	LO#1, #2,#3 and #6, #7,#8
	Assignments	2	10%(10)	2 and 12	LO #3, #4 and #6, #7
	Projects	1	10%(10)	13	LO #7, #8
	Report	1	10%(10)	14	LO #5, #8 and #9
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO#1 - #7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	مفهوم الجرائم واقسامها
Week 2	ما هي اقسام الجرائم
Week 3	انواع الجرائم الدولية
Week 4	القرارات الصادرة من المحكمة الجنائية العليا
Week 5	الجرائم النفسية والاجتماعية
Week 6	اثار الجرائم النفسية
Week 7	موقف النظام البعثي من الدين
Week 8	انتهاكات القوانين العراقية
Week 9	بعض قرارات الانتهاكات السياسية والعسكرية لنظام البعث
Week 10	اماكن السجون والاحتجاز لنظام البعث
Week 11	الجرائم البيئية لنظام البعث
Week 12	جرائم المقابر الجماعية
Week 13	التلوث الحربي والاشعاعي وانفجار الالغام
Week 14	احداث الانتفاضة الشعبانية وعلاقتها بالمقابر الجماعية
Week 15	الية جريمة التطهير العرقي والمذهبي
Week 16	الامتحان النهائي

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	• الاعتماد على المناهج المقررة الصادرة من الوزارة	yes
Recommended Texts	1- ارشيف مؤسسة الشهداء 2- ارشيف مؤسسة السجناء	yes
Websites		

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
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Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
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Note: Marks 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	General Physiology		Module Delivery
Module Type	C		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	VET203		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	UGII	Semester of Delivery	
Administering Department	Physiology, Biochemistry and Pharmacology	College	Veterinary Medicine
Module Leader	Mohammed Salih Alwan Hayyaw	e-mail	
Module Leader's Acad. Title	Asst.Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Yaareb J. Mousa	e-mail	yarub204@uomosul.edu.iq
Peer Reviewer Name	Ashwaq A. Hasan	e-mail	dr.ashwaqah@uomosul.edu.iq
Scientific Committee Approval Date	1/6/2026	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	To understand the fundamental concepts of veterinary physiology across different animal species. - To explore the mechanisms of homeostasis and physiological processes in animals. - To develop skills in analyzing physiological data and understanding experimental results in veterinary contexts. - To examine the interrelationships between different physiological systems in various animals. - To understand the physiological basis of diseases and disorders in animals.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	- Recognize the basic structure and function of major physiological systems in various animal species. - Describe the mechanisms of homeostasis and the role of feedback loops in animals. - Explain the physiological processes involved in cell communication and cell physiology. - Interpret physiological data from veterinary studies and relate it to theoretical knowledge. - Demonstrate an understanding of experimental approaches in veterinary physiology.

	6. Discuss the physiological adaptations of animals to different environmental challenges.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following: <u>Part A: Cell physiology</u> [SSWL= 6 hrs] <u>Part B: Neuron, skeletal muscle, cardiac muscle and smooth muscle physiology.</u> [SSWL= 6 hrs] <u>Part C: Autonomic Nervous System.</u> [SSWL= 3 hrs] <u>Part D: Blood composition and physiology, lymph and cerebrospinal fluid functions.</u> [SSWL= 6 hrs] <u>Part E: Cardiovascular physiology.</u> [SSWL= 6 hrs] <u>Part F: Respiratory physiology.</u> [SSWL= 6 hrs] <u>Part G: Digestive system.</u> [SSWL= 6 hrs] <u>Part H: Ruminant stomach.</u> [SSWL= 6 hrs] Total hours: 45 h

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The teaching strategy will focus on interactive lectures, practical lab sessions, and problem-solving tutorials, specifically tailored to veterinary cases. Students will engage in group discussions, case studies involving animal, and hands-on experiments with veterinary physiological principles.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	10% (10)	2,4, 6, 8, 10	LO #1, #2 and #3, #4
	Activities	1	10% (10)	1-15	All
	Practical	1	10% (10)	Continuous	All
	Project	1	10% (10)	12	LO #1, #2 and #6
Summative assessment	Midterm Exam	1hr	10% (10)	10	LO #1 - #6
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المناهج الاسبوعي النظري	
	Material Covered
Week 1	Cell physiology (Part 1+2)
Week 2	Neuron Physiology (Part 1 + 2)
Week 3	Muscle Physiology (Part 1+2)
Week 4	Physiology of the Autonomic Nervous System
Week 5	Blood Physiology (Part 1)
Week 6	Blood Physiology (Part 2)
Week 7	Blood + Cardiovascular Physiology (Part 1)
Week 8	Cardiovascular Physiology (Part 1 +2)
Week 9	Cardiovascular Physiology (Part 2)
Week 10	Respiratory Physiology (Part 1)
Week 11	Respiratory Physiology (Part 2)
Week 12	Physiology of the Digestive system (Part 1)
Week 13	Physiology of the Digestive system (Part 2)
Week 14	Ruminant stomach (Part 1)
Week 15	Ruminant stomach (Part 2)
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المناهج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to apparatus and instrument, and how to write a report.
Week 2	Muscle and nerve: Introduction to electrophysiology using kymograph. The frog sciatic nerve and gastrocnemius muscle preparation. Simple muscle twitch
Week 3	Effect of temperature on the course of muscular contraction, Effect of prolonged exercise (fatigue).
Week 4	Effect of strength of stimulus on muscular contraction. Effect of repeated stimulus on muscular contraction. (Tetanus) , Effect of two repeated stimuli on muscle contraction
Week 5	Cardiovascular system /Preparation of the frog heart, Sequence of the heartbeat.
Week 6	The pacemaker of the heart.
Week 7	Blood Methods of obtaining blood, Preparation and separation of serum.
Week 8	The red blood cell count.
Week 9	The total white cell count & Differential WBCs count.
Week 10	Estimation of hemoglobin. Erythrocyte sedimentation rate. Packed cell volume. Platelets count, The Wintrobe erythrocyte indexes .
Week 11	Blood groups (types). The Rh group. Coagulation time, Bleeding time.
Week 12	Avian blood tests: RBC and WBC counts.
Week 13	Avian blood tests: Hb and DLC.
Week 14	Erythrocyte osmotic fragility test
Week 15	Lung volumes (measurement of respiratory volume spirometry), Measurement of pulmonary ventilation and respiratory movements.
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1. Klein, T.B. G. (2012). Cunningham's Textbook of Veterinary Physiology-E-Book: Cunningham's Textbook of Veterinary Physiology-E-Book. Elsevier Health Sciences. 2. Guyton. A.C. and Hall,J.E. (2022). Textbook of Medical Physiology. 14th ed. Elsevier.	Yes
Recommended Texts	1. Reece, W.O ; Erickson, H.H. ; Goff, J. P., and Uemura, E. E. .(2015). Dukes' physiology of domestic animals. John Wiley & Sons. 2. Ganong, W. F. (2019). Review of Medical Physiology. 26thed. Large Medical Books/McGraw-Hill Medical Publishing Division. USA . 3. McDonald, D. V. M. (2003). Veterinary endocrinology and reproduction, 2nd ed., Lea and Febiger. 4. Colin, G.C .(2015) . Sturkie , s Avian Physiology . 6th ed . New York. Heideberge.Barlin . Springer .Verlag.	No
Websites	https://vetbooks.ir/textbook-of-veterinary-physiology/	

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	Animal Nutrition		Module Delivery	
Module Type	C	☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar		
Module Code	VET205			
ECTS Credits	3.00			
SWL (hr/sem)	75			
Module Level	UGII			Semester of Delivery
Administering Department	Public health	College	Veterinary Medicine	
Module Leader	Mohammad Abdul Hamza	e-mail		
Module Leader's Acad. Title	Assist. Lec.	Module Leader's Qualification		M.Sc
Module Tutor		e-mail		
Peer Reviewer Name		e-mail		
Scientific Committee Approval Date	1/06/2026	Version Number	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		Semester	
Co-requisites module		Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	A-Knowledge and Understanding A1.Study of the animal's need for energy and protein for growth, sustainability and production A2.Study of analytical components of feed materials A3.- Study of the formation of relationships and methods of calculating them. B. Subject-specific skills B1.Teaching the skills of analyzing animal food and feed materials B2.Teaching the skills of forming relationships and animal needs B3.Teaching the skills of calculating ratios to form relationships
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Describe the basic principles of animal nutrition, including the role and importance of carbohydrates, proteins, fats, vitamins, and minerals. Identify the digestive systems of various animal species (e.g., ruminants, monogastrics, avians) and explain how anatomical differences influence their nutritional requirements. Evaluate the nutritional requirements of different animals at various stages of growth, reproduction, and production (e.g., lactation, fattening). Formulate balanced rations and diets for different types of animals using nutritional tables and feed formulation software or techniques. Analyze common feedstuffs used in animal diets and assess their nutritional value, digestibility, and economic viability. Discuss the impact of nutrition on animal health and productivity, including common nutritional deficiencies and disorders.

Indicative Contents

المحتويات الإرشادية

1. Introduction to Animal Nutrition

- Importance of nutrition in animal health and production
- Overview of nutritional science and terminology

2. Nutrients and Their Functions

- Carbohydrates, proteins, fats/lipids
- Vitamins and minerals
- Water: the overlooked nutrient

3. Digestive Systems of Animals

- Monogastric (e.g., pigs, horses)
- Ruminant (e.g., cattle, sheep, goats)
- Avian (e.g., poultry)
- Hindgut fermenters (e.g., rabbits, horses)

4. Feedstuffs and Nutrient Sources

- Roughages, concentrates, and supplements
- Forages, silage, grains, oilseeds, by-products
- Feed classification and evaluation

5. Nutrient Requirements

- Maintenance, growth, reproduction, lactation, and work
- Species-specific and life-stage nutrition
- NRC (National Research Council) or local nutrient guidelines

6. Feed Formulation and Ration Balancing

- Principles of ration formulation
- Use of software and manual calculation methods
- Reading and interpreting feed labels

7. Nutritional Disorders and Deficiencies

- Common issues: bloat, ketosis, milk fever, rickets
- Causes, symptoms, prevention, and treatment

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.

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
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	12	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	0.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction and importance of nutrition of farm animals
Week 2	Water and its functions, regulation and comparative use
Week 3 , 4	Carbohydrate Metabolism
Week 5	Protein and nucleic acids Metabolism
Week 6	Lipid, function, types, Metabolism
Week 6	Vitamin, types , function
Week 7	Minerals , types, function
Week 8	1st Exam
Week 9	Evaluation of food: digestibility, Energy content of foods and partition
Week 10	

Week 11	Feeding maintenance and growth: Ruminants, Rabbits, Poultry.
Week 12	
Week 13	Nutritional problems related to nutrition
Week 14	
Week 15	Metabolism
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week1	Using the nutrition laboratory
	Feedstuff approximate analysis
Week2	Feedstuff approximate analysis
Week3	How take sample for analysis
Week 4	Moisture determination in feedstuff green roughage,, milk, meat and egg
Week5	determination of ash
Week 6	Determination of silica
Week 7	Determination of crude protein
Week 8	First Exam
Week 9	Determination of ether extract
Week 10	Determination N.F.E by chemical method
Week 11	Determination of gross energy by chemical method
Week 12	Determination of gross energy by bomb calorimeter
Week 13- 14	The digestion trials: How to make standard ration for farm animals
Week 15	Second Exam

Learning and Teaching Resources مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Animal nutrition/ 2002by Peter McDonald and Richard Alan Edwards	
Recommended Texts		
Websites		

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 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.				

MODULE DESCRIPTION FORM

Module Information			
معلومات المادة الدراسية			
Module Title	Basic Histology		Module Delivery
Module Type	C		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	VET202		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGII	Semester of Delivery	
Administering Department	Anatomy and Histology	College	College of Veterinary Medicine
Module Leader	Ali Mahdi Ethaeb	e-mail	Ali.aetheeb@uowasit.edu.iq
Module Leader's Acad. Title	Assist. Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Ali Mahdi Ethaeb	e-mail	Ali.aetheeb@uowasit.edu.iq
Peer Reviewer Name	Bayda hady Raheem	e-mail	Bydahady462@gmail.com
Scientific Committee Approval Date	01/06/2026	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	The module objectives of basic histology typically aim to provide students with a foundational understanding of tissue structure and function at the microscopic level. Here are some common objectives you might encounter in a basic histology course: 1. Introduction to Histology and Microscopy: - Understand the importance of histology in the context of anatomy, physiology, and medicine. - Learn to properly use a light microscope to observe tissues. - Understand the preparation techniques of tissue samples for microscopic examination (e.g., fixation, sectioning, staining). 2. Identification of Tissue Types: - Identify the four basic tissue types: epithelial, connective, muscle, and nervous tissue. - Learn to recognize their structure, composition, and function under the microscope. - Understand the histological features that distinguish these tissues from one another. 3. Understanding Tissue Architecture: - Describe the cellular composition and organization of tissues. - Understand how the extracellular matrix (ECM) contributes to tissue function, especially in connective tissue. 4. Study of Specialized Tissues and Organs: - Learn the histology of specific organs and systems (e.g., digestive, respiratory, circulatory systems). - Understand how histological features correlate with organ functions. 5. Developmental and Functional Aspects of Tissues: - Understand how tissues develop from embryonic layers and their functional adaptations. - Learn about tissue regeneration, repair, and changes due to disease or injury.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Module Learning Outcomes (MLOs) for Basic Histology Faculty of Veterinary Medicine – 2nd Year By the end of this module, students should be able to 1. Knowledge and Understanding - Describe the basic structure and function of animal cells, tissues, and organs at the microscopic level. - Identify the four primary tissue types (epithelial, connective, muscle, and nervous) and their subtype. - Explain the histological features of major organs and systems (e.g., digestive, respiratory, circulatory, urinary, reproductive). - Relate histological structure to physiological function in different animal species. 2. Practical Skills - Properly use a light microscope to examine histological slides - Recognize and differentiate between normal histological structures in stained tissue sections (e.g., H&E, special stains).

	-Accurately draw and label histological specimens. -Compare histological variations among common domestic animals (e.g., ruminants, carnivores, equines). 3. Professional and Communication Skills -Present histological findings orally or in written reports using appropriate terminology. -Collaborate effectively in laboratory settings for slide analysis. -Utilize histological references (e.g., atlases, digital databases) for self-directed learning. 4. Integration with Other Disciplines -Link histological concepts to gross anatomy, physiology, and pathology. - Apply histology knowledge to veterinary diagnostics and research.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Theoretical and Practical Identification of Farm Animals: Types of bones: long, short, flat, and irregular, Bone development and growth ossification processes his indicative content provides a comprehensive framework for the course, ensuring students gain both theoretical knowledge and practical skills in skeletal veterinary anatomy. Total hrs = 63 = SSWL - (Exam hrs) = 125- 3 = 122 hr (Time table hrs x 15 weeks)

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the discussion, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of laboratory classes involving some sampling activities that are interesting to the students.

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
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
2h / week	Material Covered
Week 1	Introduction & Cytology
Week 2	Introduction & Cytology
Week 3	Epithelium & Glandular tissue
Week 4	Connective tissue/ Cartilage and bone
Week 5	Connective tissue/ Cartilage and bone
Week 6	Blood and myeloid tissue
Week 7	Blood and myeloid tissue
Week 8	Nervous tissue
Week 9	Nervous tissue
Week 10	Muscular tissue
Week 11	Respiratory system
Week 12	Respiratory system
Week 13	Respiratory system
Week 14	Lymphatic system
Week 15	Lymphatic system

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Laboratory guiding.
Week 2	Cytology.
Week 3	Epithelial tissue.
Week 4	Epithelial tissue.
Week 5	Connective tissue
Week 6	Connective tissue
Week 7	Bone and cartilage.
Week 8	Bone and cartilage.
Week 9	Blood cells
Week 10	Muscular tissue
Week 11	Nervous tissue
Week 12	Respiratory system.
Week 13	Lymphatic system
Week 14	Sensory organs & Skin
Week 15	Practical exam.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1- Color text book of histology. 2- Basic histology. 3- Color Atlas of Veterinary Histology, William J. Bacha Jr., Linda M. Bacha 4- Dellmann's textbook veterinary histology and atlas. 5- Textbook of veterinary histology, Don A. Samuelson.	Yes
Recommended Texts	Junqueira's Basic Histology: Text and Atlas, Anthony L. Mescher	Yes
Websites		

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 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.				

MODULE DESCRIPTION FORM

Module Information			
معلومات المادة الدراسية			
Module Title	Visceral anatomy		Module Delivery
Module Type	C		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	VET201		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	UGII	Semester of Delivery	
Administering Department	Anatomy and Histology	College	Veterinary Medicine
Module Leader	Ali Mahdi Ethaeb	e-mail	Ali.aetheeb@uowasit.edu.iq
Module Leader's Acad. Title	Assist. Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Ali Mahdi Ethaeb	e-mail	Ali.aetheeb@uowasit.edu.iq
Peer Reviewer Name	Ahmed M. Abid alridha	e-mail	ahmed.surgery.vet@uowasit.edu.iq
Scientific Committee Approval Date	01/06/2026	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية

Module Objectives for Veterinary Visceral Anatomy outline the broader educational goals of the course, focusing on foundational knowledge, comparative anatomy, and clinical applications for different animal species. Below is a structured list of Module Objectives tailored for veterinary medicine.

Module Objectives: Veterinary Visceral Anatomy

By the end of this module, students should achieve the following:

1. Foundational Knowledge

- Develop a comprehensive understanding of the gross anatomical structure of visceral organs (digestive, respiratory, urinary, and reproductive systems) in major domestic species.
- Compare and contrast species-specific anatomical variations (e.g., ruminant vs. monogastric digestive systems, avian vs. mammalian respiratory systems).

2. Functional & Clinical Correlations

- Relate the anatomy of visceral organs to their physiological functions (e.g., digestion, respiration, excretion, reproduction).
- Identify clinically significant anatomical landmarks for veterinary procedures (e.g., trocarization in bloat, catheterization, surgical approaches).
- Recognize how developmental anomalies (e.g., atresia coli, persistent right aortic arch) affect organ function in animals.

3. Practical & Diagnostic Skills

- Accurately identify and dissect visceral structures in cadavers of different species (e.g., canine, bovine, equine).
- Interpret diagnostic imaging (radiographs, ultrasound, CT) to locate and assess visceral organs.
- Apply knowledge of neurovascular supply to visceral systems in surgical and medical contexts.

4. Comparative & Applied Veterinary Anatomy

- Explain the evolutionary and functional adaptations of visceral systems across species (e.g., foregut fermenters vs. hindgut fermenters).
- Correlate anatomical differences with common veterinary disorders (e.g., GDV in dogs, hardware disease in cattle, colic in horses).
- Understand the topographical relationships of visceral organs for safe and effective clinical interventions.

5. Professional & Academic Integration

- Integrate visceral anatomy knowledge with veterinary physiology, pathology, surgery, and internal medicine.

	- Develop problem-solving skills to diagnose and treat visceral-related conditions in clinical practice. - Communicate anatomical concepts effectively in a veterinary team setting.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Visceral Anatomy typically focuses on the internal organs (viscera) of the body, their structure, relationships, and functions. Below are some common Module Learning Outcomes (MLOs) for a Visceral Anatomy course: Module Learning Outcomes (MLOs) for Veterinary Visceral Anatomy By the end of the module, students should be able to: - Describe and compare the gross anatomy of visceral organs (e.g., digestive, respiratory, urinary, reproductive systems) across common domestic species (e.g., ruminants, carnivores, equines, swine, birds). - Identify and locate key visceral structures in different species using prosected specimens, imaging (radiographs, ultrasound), and anatomical models. - Explain species-specific variations in visceral anatomy (e.g., ruminant stomach compartments, avian respiratory system, carnivore vs. herbivore intestinal differences). - Correlate anatomical structures with physiological functions, such as digestion in monogastrics vs. ruminants, or gas exchange in avian vs. mammalian lungs. - Apply knowledge of neurovascular supply to visceral organs and its clinical significance (e.g., surgical approaches, organ dysfunction). - Recognize clinically relevant anatomical landmarks for procedures such as rumenocentesis, urinary catheterization, or reproductive examinations.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Theoretical and Practical Identification of Farm Animals: Types of bones: long, short, flat, and irregular, Bone development and growth ossification processes his indicative content provides a comprehensive framework for the course, ensuring students gain both theoretical knowledge and practical skills in skeletal veterinary anatomy. Total hrs = 78 = SSWL - (Exam hrs) = 150 - 3 = 147 hr (Time table hrs x 15 weeks)

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the discussion, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of laboratory classes involving some sampling activities that are interesting to the students.

Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	4 and 14	LO #1, #2 and #8, #19
	Assignments	1	10% (10)	5	LO #3,4
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	10	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
2hrs./week	Material Covered
Week 1	Female genital system
Week 2	Female genital system
Week 3	Male genital system
Week 4	Male genital system
Week 5	Urinary system
Week 6	Urinary system
Week 7	Digestive system
Week 8	Digestive system
Week 9	Digestive system
Week 10	Digestive system
Week 11	Digestive system

Week 12	Respiratory system
Week 13	Respiratory system
Week 14	Respiratory system
Week 15	Female genital system

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Ovaries with their ligaments, Uterine tube (oviduct), Uterus, Vagina, Vestibule, Vulva, all with comparison.
Week 2	Scrotum, testis, epididymis, ductus deferens (vas deferens, spermatic cord, urethra, accessory genital gland, penis, all with comparison.
Week 3	Kidney with comparison, ureter, urinary bladder with its ligaments, urethra.
Week 4	Dissection of the oral cavity with its contents.
Week 5	Salivary glands, mastication muscles, and soft palate muscles.
Week 6	Hyoid bones and muscles.
Week 7	Dissection of the pharynx.
Week 8	Esophagus and stomach with comparison.
Week 9	Small and large intestine with comparison.
Week 10	Liver and its ligaments with comparison.
Week 11	Nasal cavity with its contents with comparison.
Week 12	Laryngeal cartilages and muscles.
Week 13	Trachea, Pleura, and diaphragm.
Week 14	Two lungs with comparison.
Week 15	Review

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Veterinary anatomy by Dyce-Wensing,2010	Yes
Recommended Texts	Anatomy of domestic animals by RGetty	Yes
Websites		

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Computer		Module Delivery
Module Type	B		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	UOM103		
ECTS Credits	3		
SWL (hr/sem)	75		
Module Level	UGII	Semester of Delivery	
Administering Department	Public health	College	Veterinary Medicine
Module Leader	Huda Ridha Hashim	e-mail	hridha@uowasit.edu.iq
Module Leader's Acad. Title	Assistant professor	Module Leader's Qualification	M.Sc.
Module Tutor		e-mail	
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	1/06/2026	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	The student will have an introduction about: 1- How computer networks are connecting and working and what are network security basics. 2- Computer (software and hardware) troubleshooting. 3- Advantages of using the internet such as E-commerce. 4- Artificial intelligence history: techniques, ethics and challenges.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	The student will have a basic knowledge of the following: 1. Computer networks basics and threats. 2. E-commerce and its advantages. 3. Hardware and software problems 4. Artificial intelligence history 5. Artificial intelligence applications in daily life 6. Artificial intelligence ethics and challenges.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. The course will provide the following: - Security and networking [SSWL= 2hour] - E-commerce SSWL= [2 hour] - Computer troubleshooting SSWL= [4 hour] - Introduction to AI SSWL= [4 hour] - AI in our daily life SSWL= [4 hour] - AI applications SSWL= [6 hour] - AI and Society SSWL= [2 hour] - AI challenges SSWL= [2 hour] - AI Future SSWL= [2 hour] Total hrs = 30= (Time table 2 hr x 15 weeks)- theoretical Total hrs = 30 = (Time table 2 hr x 15 weeks)- practical

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1. Combination of theoretical lectures and practical applications of given concepts in those lectures. 2. Quizzes and homework.

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
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	12	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	0.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

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

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Security and Networking
Week 2	E-commerce
Week 3	Computer troubleshooting (hardware and software problems)
Week 4	Computer troubleshooting (tools for diagnosing and resolving issues)
Week 5	Introduction to AI (history and techniques)
Week 6	Introduction to AI (challenges and ethical considerations)
Week 7	AI in our daily life
Week 8	AI in smartphone and virtual assistant
Week 9	Applications of AI (educational and healthcare)
Week 10	Applications of AI (finance and marketing)

Week 11	Applications of AI (transportation)
Week 12	AI and society
Week 13	Ethical challenges of AI
Week 14	Future of AI (future trends)
Week 15	Future of AI (emerging technologies)
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Security and Networking
Week 2	E-commerce
Week 3	Computer troubleshooting (hardware and software problems)
Week 4	Computer troubleshooting (tools for diagnosing and resolving issues)
Week 5	Introduction to AI (history and techniques)
Week 6	Introduction to AI (challenges and ethical considerations)
Week 7	AI in our daily life
Week 8	AI in smartphone and virtual assistant
Week 9	Applications of AI (educational and healthcare)
Week 10	Applications of AI (finance and marketing)
Week 11	Applications of AI (transportation)
Week 12	AI and society
Week 13	Ethical challenges of AI
Week 14	Future of AI (future trends)
Week 15	Future of AI (emerging technologies)

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1- الخضر علي الخضر بحث، "اساسيات الحاسوب" ٢٠١٦ 2- الدكتور عادل عبد النور، "مدخل الى الذكاء الاصطناعي" ٢٠٠٥	لا
Recommended Texts		
Websites	Coursera.org, udemy.com	

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Biochemistry		Module Delivery
Module Type	Core		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	VET207		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGII	Semester of Delivery	
Administering Department	Physiology, Biochemistry and Pharmacology	College	Veterinary Medicine
Module Leader	Mohammed Salih Alwan Hayyaw	e-mail	msalih@uowasit.edu.iq
Module Leader's Acad. Title	Asst.Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Asst.prof. Jabbar Jassim Hamady Asst.prof. Tammara Hamed Ahmed	e-mail	jhamady@uowasit.edu.iq
Peer Reviewer Name	Astabriq abid alkadim Dua Rasul	e-mail	
Scientific Committee Approval Date	1/9/2025	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	لا يوجد	Semester	
Co-requisites module	لا يوجد	Semester	

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. To understand cell biochemistry, vitamins, and hormones. 2. To develop problem solving skills and understanding of principles of advanced biochemistry. 3. The course deals with the basic concept of organelles biochemistry, enzymology, water and lipid soluble vitamins and main hormones in animal body. 4. This course includes biochemical basis of enzymes and their reactions inside animal body.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. The main objective is to teach students the basics of advanced cellular biochemistry and its relationship to other sciences from the molecular and cellular levels in various body systems. 2. Classify water soluble and lipid soluble vitamins 3. Recognize enzymes and their mechanism of action 4. Classify hormones with their chemical nature. 5. Identify the mechanism of action and function of hormones
Indicative Contents	Indicative content includes the following: Part A – lipid metabolism == [SSWL=10 hrs]

المحتويات الإرشادية	Part B – Hormones and enzymes mechanism, function and metabolism=[SSWL=8 hrs] Part C – nucleic acid • Structure of Nucleic acids , Types of Nucleic acids , Replication of DNA , RNA synthesis , transcription , Translation/Protein synthesis , The Genetic code. [SSWL=10 hrs] Part D- exam [SSWL=2 hrs] [Total hrs = 30]
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Encouraging the student's commitment to attendance and active participation in lectures and taking daily, semester and final theoretical and practical exams. Using educational and technological means, and the modern method in teaching the subject and referring to practical training examples. Discussion is used in lectures as an effective means of delivering the study material to students and keeping up with the latest methods, approaches and modern trends in the teaching process.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	10% (10)	2,4, 6, 8, 10	LO #1, #2, #3, #4
	Activities	1	10% (10)	9	LO #3, #4, #5
	practical.	1	10% (10)	Continuous	All
	project	1	10% (10)	12	LO #1, #2 and #3, #4
Summative assessment	Midterm Exam	1hr	10% (10)	10	LO #1-#4
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Lipid metabolism... part 1
Week 2	Lipid metabolism... part 2
Week 3	Lipid metabolism... part 3
Week 4	Lipid metabolism... part 4
Week 5	Antioxidant and oxidative stress
Week 6	Hormones and enzymes mechanism, function and metabolism ..part 1
Week 7	Hormones and enzymes mechanism, function and metabolism.. part 2
Week 8	Hormones and enzymes mechanism, function and metabolism.. part 3
Week 9	Hormones and enzymes mechanism, function and metabolism.. part 3
Week 10	Nucleic acid ... part 1
Week 11	Nucleic acid ... part 2
Week 12	Nucleic acid ... part 3
Week 13	Nucleic acid ... part 4
Week 14	Nucleic acid ... part 5
Week 15	Exam
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Photometric methods in biochemical analysis (Spectrophotometer Components)
Week 2	Determinate of serum total lipid, cholesterol, HDL, LDL, VLDL and bilirubin
Week 3	Renal function test Determinate of serum urea, uric acid, creatinine
Week 4	Liver function test
Week 5	Determinate of serum total protein, Calibration curve of protein and amylase activity
Week 6	Determinate of serum total calcium, inorganic phosphate and vitamin D
Week 7	Determinate of enzymatic method for glucose
Week 8	Test of male reproductive hormone (testosterone, inhibin, androgen, FSH & LH)
Week 9	Test of female reproductive hormone (estrogen, progesteron, inhibin, androgen, FSH & LH)
Week 10	Elisa kit diagnosis
Week 11	Histochemistry kit diagnosis
Week 12	PCR –method diagnosis
Week 13	PCR –method diagnosis
Week 14	Real time –PCR Method diagnosis
Week 15	Real time –PCR Method diagnosis
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Biochemistry by <u>Pankaja Naik</u> (Author), 6th edition (2022), Jaypee Brothers Medical Publishers Pvt Ltd.	Yes
Recommended Texts	Harper's Illustrated Biochemistry, 32nd Edition (2023) by <u>Peter J. Kennelly</u> (Author), <u>Kathleen M. Botham</u> (Author), <u>Owen McGuinness</u> (Author). McGraw Hill / Medical Publisher.	Yes
Websites	https://themedicalbiochemistrypage.org/	

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Systemic Physiology		Module Delivery
Module Type	Core		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	VET209		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	UGII	Semester of Delivery	
Administering Department	Physiology, Biochemistry and Pharmacology	College	Veterinary Medicine
Module Leader	Mohammed Salih Alwan Hayyaw	e-mail	msalih@uowasit.edu.iq
Module Leader's Acad. Title	Asst.Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Asst.prof. Jabbar Jassim Hamady Asst.prof. Tammara Hamed Ahmed	e-mail	jhamady@uowasit.edu.iq
Peer Reviewer Name	Mohammed Telal Ala Ziad Kukiz	e-mail	
Scientific Committee Approval Date	1/9/2025	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	To understand the fundamental concepts of veterinary physiology across different animal species. 1. To explore the mechanisms of homeostasis and physiological processes in animals. 2. To develop skills in analyzing physiological data and understanding experimental results in veterinary contexts. 3. To examine the interrelationships between different physiological systems in various animals. 4. To understand the physiological basis of diseases and disorders in animals.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Recognize the basic structure and function of major physiological systems in various animal species. 2. Describe the mechanisms of homeostasis and the role of feedback loops in animals. 3. Explain the physiological processes involved in cell communication and cell physiology.

	4. Interpret physiological data from veterinary studies and relate it to theoretical knowledge. 5. Demonstrate an understanding of experimental approaches in veterinary physiology. 6. Discuss the physiological adaptations of animals to different environmental challenges.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following: <u>Part A:</u> Central Nervous system physiology [SSWL= 6 hrs] <u>Part B:</u> Endocrine system Physiology [SSWL= 9hrs] <u>Part C:</u> Reproductive system (male and female) Physiology. [SSWL= 12hrs] <u>Part D:</u> Renal physiology [SSWL= 12 hrs] <u>Part E:</u> Acid base balance Physiology. [SSWL= 2 hrs] Total hours: 45 h

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The teaching strategy will focus on interactive lectures, practical lab sessions, and problem-solving tutorials, specifically tailored to veterinary cases. Students will engage in group discussions, case studies involving animal, and hands-on experiments with veterinary physiological principles.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	10% (10)	2,4, 6, 8, 10	LO #1, #2 and #3, #4
	Activities	1	10% (10)	1-15	All
	Practical	1	10% (10)	Continuous	All
	Project	1	10% (10)	12	LO #1, #2 and #6
Summative assessment	Midterm Exam	1hr	10% (10)	10	LO #1 - #6
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Central Nervous system physiology (Part 1)
Week 2	Central Nervous system Physiology (Part 2)
Week 3	Endocrine system Physiology (Part 1)
Week 4	Endocrine system Physiology (Part 3)
Week 5	Endocrine system Physiology (Part 3)
Week 6	Reproductive system (male and female) Physiology (Part 1)

Week 7	Reproductive system (male and female) Physiology (Part 2)
Week 8	Reproductive system (male and female) Physiology (Part 3)
Week 9	Reproductive system (male and female) Physiology (Part 4)
Week 10	Reproductive system (male and female) Physiology (Part 5)
Week 11	Renal system Physiology (Part 1)
Week 12	Renal system Physiology (Part 2)
Week 13	Renal system Physiology (Part 3)
Week 14	Renal system Physiology (Part 4)
Week 15	Acid base balance Physiology
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المناهج الأسبوعي للمختبر	
	Material Covered
Week 1	Sensory system physiology
Week 2	Acetylcholine effects on frog heart beats and sensory system
Week 3	Adrenalin and Acetylcholine effect on sensory of (eye, tongue, ear)
Week 4	Estimation of acetylcholine and adrenaline
Week 5	Estimation male reproductive hormone regulation of testis
Week 6	Evaluation of seminal quality.
Week 7	Concentration of spermatozoa count
Week 8	Estrous cycle of the rat and small animals
Week 9	Estimation of estrogen, progesterone, FSH & LH for Estrous cycle regulation
Week 10	Ovariectomy (oophorectomy) in rat.
Week 11	General examination of urine
Week 12	Renal Clearance
Week 13	Estimation of urea, uric acid, creatinine and protein
Week 14	Estimation urine sugar, crystal, protein, RBC, WBC
Week 15	Estimation urine acid and base balance
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1. Klein, T.B. G. (2012). Cunningham's Textbook of Veterinary Physiology-E-Book: Cunningham's Textbook of Veterinary Physiology-E-Book. Elsevier Health Sciences. 2. Guyton. A.C. and Hall, J.E. (2022). Textbook of Medical Physiology. 14th ed. Elsevier.	Yes
Recommended Texts	1. Reece, W.O ; Erickson, H.H. ; Goff, J. P., and Uemura, E. E. (2015). Dukes' physiology of domestic animals. John Wiley & Sons. 2. Ganong, W. F. (2019). Review of Medical Physiology. 26th ed. Large Medical Books/McGraw-Hill Medical Publishing Division. USA . 3. McDonald, D. V. M. (2003). Veterinary endocrinology and reproduction, 2nd ed., Lea and Febiger. 4. Colin, G.C (2015) . Sturkie , s Avian Physiology . 6th ed . New York. Heideberge.Barlin . Springer .Verlag.	No
Websites	https://vetbooks.ir/textbook-of-veterinary-physiology/	

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Applied Statistics		Module Delivery
Module Type	C		☒ Theory Lecture ☒ Lab Tutorial Practical Seminar
Module Code	VET210		
ECTS Credits	3		
SWL (hr/sem)	75		
Module Level	UGII	Semester of Delivery	
Administering Department	Public Health	College	Veterinary Medicine
Module Leader	Huda Ridha Hashim	e-mail	hridha@uowasit.edu.iq
Module Leader's Acad. Title	Assistant Professor	Module Leader's Qualification	M.Sc.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	01/06/2026	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. Introduce fundamental statistical concepts and methods that enable students to collect, summarize, analyze, and interpret data effectively. 2. Develop an understanding of probability theory as the foundation for statistical inference and decision-making. 3. Equip students with practical skills to apply statistical tools and techniques using real-life datasets relevant to their field of study. 4. Enable critical thinking by evaluating the appropriateness of statistical methods for different research questions and data types. 5. Foster problem-solving abilities through applying statistical reasoning to practical and theoretical problems. 6. Promote statistical literacy to interpret quantitative information, understand variability, and recognize the role of uncertainty in data analysis. 7. Prepare students for advanced courses or professional practice by building a solid foundation in descriptive and inferential statistics.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Explain key statistical concepts including population, sample, variables, probability, and distributions. 2. Summarize and present data using appropriate descriptive statistics (e.g., mean, median, standard deviation) and graphical methods (e.g., histograms, boxplots). 3. Apply probability rules and distributions (normal, binomial, etc.) to model random phenomena. 4. Perform statistical inference including estimation, confidence intervals, and hypothesis testing. 5. Conduct comparative analysis using methods such as t-tests, chi-square tests, correlation, and regression. 6. Interpret statistical results in context and evaluate the validity of conclusions drawn from data. 7. Use statistical software tools (e.g., SPSS, Excel, R, or Python) to analyze and visualize data. 8. Demonstrate critical thinking by selecting suitable statistical methods for different types of research problems.
Indicative Contents المحتويات الإرشادية	Structured exercises will be provided to reinforce the theoretical material and familiarize students with all techniques.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	When teaching computer science, must make the lessons fun, teach students to work together, and take risks. Make sure you use the right language with your lessons. There is no need to use cute words in place of the real thing. Also, let students do the work themselves so they learn important lessons.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	27	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	1.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment التقييم التكويني	Quizzes	2	10%(10)	2,5,8	LO#1,2,13 and 14
	Assignments مهام	1	10%(10)	3,13	LO#4,6,9,and 10
	Projects / Lab.	2	10%(10)	Continuous	
	Report	1	10%(10)	12	
Summative assessment	Midterm Exam	1hr	10%(10)	8	LO#5,8 and 10
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to statistic: - Basic concepts. Types Of the variables, Frequency and Frequency table
Week 2	Frequency and Frequency table: - (cont.)
Week 3	Distribution Shapes
Week 4	Measures of Central Tendency with examples for samples and frequency table
Week 5	Measures of Central Tendency (cont.)
Week 6	Measures of Dispersion
Week 7	Median and Mode
Week	Simple Regression and Correlation
Week 9	Elementary Probability Theory
Week 10	Elementary Probability Theory (cont.)
Week 11	Discrete Random Variables, Continuous probability distribution
Week 12	Chi square or χ^2 -distribution
Week 13	T- test
Week 14	Z- test
Week 15	Reviewing

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to statistic: - Basic concepts. Types Of the variables, Frequency and Frequency table
Week 2	Frequency and Frequency table: - (cont.)
Week 3,	Distribution Shapes
Week 4	Measures of Central Tendency with examples for samples and frequency table
Week 5	Measures of Central Tendency (cont.)
Week6	Measures of Dispersion
Week 7	Median and Mode
Week8	Simple Regression and Correlation
Week 9	Elementary Probability Theory

Week10	Elementary Probability Theory (cont.)
Week 11	Discrete Random Variables, Continuous probability distribution
Week12	Chi square or χ^2 -distribution
Week 13	T- test
Week14	Z- test
Week 15	Reviewing

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Statistics for Veterinary and Animal Science ,Aviva Petrie and Paul Watson, Blackwell publishing, second edition, 2006	no
Recommended Texts		
Websites	Khan academy, Coursera	

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 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.				

MODULE DESCRIPTION FORM

Module Information			
معلومات المادة الدراسية			
Module Title	Systemic Histology and Embryology		Module Delivery
Module Type	Core		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	VET208		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	UGII	Semester of Delivery	
Administering Department	Anatomy and Histology	College	College of Veterinary Medicine
Module Leader	Ali Mahdi Ethaeb	e-mail	Ali.aetheeb@uowasit.edu.iq
Module Leader's Acad. Title	Assist. Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Ali Mahdi Ethaeb	e-mail	Ali.aetheeb@uowasit.edu.iq
Peer Reviewer Name	Bayda hady Raheem	e-mail	Bydahady462@gmail.com
Scientific Committee Approval Date	01/09/2025	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	The module objectives of basic histology typically aim to provide students with a foundational understanding of tissue structure and function at the microscopic level. Here are some common objectives you might encounter in a systemic histology course: 1. Study the structure, composition, and function of the body organs and systems under the microscope. 2. Understanding the histological features that distinguish the tissues of the body organs and systems from one another. 3. Identification tissues and cellular composition and the organization of different parts of body systems. 4. Understand how histological features correlate with organ functions. 5. Understand how tissues develop from embryonic layers and their functional adaptations. 6. Describe the process of body system formation from fertilization to organ formation in different animals. 7. Learn about tissue regeneration, repair, and changes due to disease or injury.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Module Learning Outcomes (MLOs) for Basic Histology Faculty of Veterinary Medicine – 2nd Year By the end of this module, students should be able to 1. Knowledge and Understanding - Describe the basic structure and function of animal cells, tissues, and organs at the microscopic level. - Explain the histological features of major organs and systems (e.g., digestive, respiratory, circulatory, urinary, reproductive). -Relate histological structure to physiological function in different animal species. - Recognize the main stages of embryonic development, from fertilization to organ formation. - Recognize the growth of body tissues and systems, and relating them to their mature structure and function. 2. Practical Skills - Recognize and differentiate between normal histological structures in stained tissue sections (e.g., H&E, special stains). -Compare histological variations among common domestic animals (e.g., ruminants, carnivores, equines). 3. Professional and Communication Skills -Present histological findings orally or in written reports using appropriate terminology. -Collaborate effectively in laboratory settings for slide analysis. -Utilize histological references (e.g., atlases, digital databases) for self-directed learning. 4. Integration with Other Disciplines -Link histological and embryological concepts to gross anatomy, physiology, and pathology. - Apply histology and embryology knowledge to veterinary diagnostics and research.

Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Theoretical and Practical Identification of Farm Animals: -Digestive system. -Urinary system. -endocrinology -Male genital system. -Female genital system. -Sense organs -Embryology. Total hrs = 63 = SSWL - (Exam hrs) = 125- 3 = 122 hr (Time table hrs x 15 weeks)
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the discussion, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of laboratory classes involving some sampling activities that are interesting to the students. In addition to exams and reports.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	4 and 14	LO #1, #2 and #8, #19
	Assignments	1	10% (10)	6	LO #3,4
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	10	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
2h / week	Material Covered
Week 1	Digestive system
Week 2	Digestive system
Week 3	Urinary system
Week 4	Male genital system
Week 5	Male genital system
Week 6	Endocrinology
Week 7	Midterm Exam
Week 8	Female genital system
Week 9	Female genital system
Week 10	Sense organs
Week 11	Introduction to Embryology, Stages of Genetic Development, Fertilization and Gametogenesis.
Week 12	Formation of embryonic membranes, gastrulation and notochord formation, mesodermal differentiation, Innervation and Neural Development
Week 13	Cardiovascular System Development, Branchial Arches and pharyngeal pouches development
Week 14	Development of the digestive system, development of the urinary system, development of the reproductive system.
Week 15	Development of the respiratory system, development of the skeletal system, development of the lymphatic system.

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Tongue structure, lingual papillae.
Week 2	Salivary glands: parotid, sublingual, submaxillary, esophagus.
Week 3	Fundic gland region of stomach, pyloric gland region of stomach, rumen, reticulum, omasum.
Week 4	Small intestine: duodenum, jejunum, ileum, large intestine, recto anal canal.
Week 5	Liver, gallbladder, pancreas.
Week 6	Endocrine glands: hypophysis (pituitary gland)
Week 7	Adrenal gland (in human and horse), thyroid gland, parathyroid gland.
Week 8	Midterm Exam
Week 9	Urinary system: kidney, ureter, urinary bladder.
Week 10	Male genital system: testis, epididymis, vas deferens.
Week 11	Female genital system: ovary, corpus luteum, uterine tube (oviduct), uterus (secretory phase and proliferative phase).
Week 12	Eye: cornea, retina.
Week 13	Ear: cochlea, corti organ.
Week 14	Mammary gland (active and in active).
Week 15	Review

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1- Color text book of histology. 2- Basic histology. 3- Color Atlas of Veterinary Histology, William J. Bacha Jr., Linda M. Bacha 4- Dellmann s textbook veterinary histology and atlas. 5- Textbook of veterinary histology, Don A. Samuelson. 6- Veterinary Embryology, 2nd Edition, T. A. McGeady, P. J. Quinn, E. S. Fitzpatrick, M. T. Ryan, D. Kilroy, P. Lonergan	NOT ALL
Recommended Texts	Junqueira's Basic Histology: Text and Atlas, Anthony L. Mescher	NO
Websites		

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	English Language		Module Delivery
Module Type	B		Theory Lecture Quizzes Seminar Open book Report
Module Code	UOW1022		
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	UGII	Semester of Delivery	
Administering Department	Public health	College	Veterinary Medicine
Module Leader	Huda Ridha	e-mail	hridha@uowasit.edu.iq
Module Leader's Acad. Title	Asst.Prof.	Module Leader's Qualification	M.Sc.
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	1/6/2026	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	- Observation and perception. - Analysis and interpretation. - Conclusion and evaluation. - Preparation and evaluation.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Upon successful completion of this course, the student will be able to do the following: - 1- Read modern sources. 2- Keeping up with the times and reading English books in the field of veterinary medicine.
Indicative Contents المحتويات الإرشادية	The instructive content includes the following: - 1- Explaining the scope of sentence formation in the English language. 2- Description of speaking tenses. 3- Explaining how to speak and write (punctuation) 4- Understanding the basic concepts of the specialty in English.

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	Teaching methods use of data show devices and smart board Learning methods encouraging students to read external sources and urging them to be self-reliant.

Student Workload (SWL)			
الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10%(10)	5 and 10	LO#1, #2 and #10, # 11
	Seminar	2	10%(10)	6 and 12	LO #3, #4 and #6, #7
	Open book	1	10%(10)	Continuous	All
	Report	1	10%(10)	13	LO#5,#8 and #10
Summative assessment	Midterm Exam	2hr	10%(10)	7	LO#1 - #7
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Correct sentence structures
Week 2	Correct sentence structures
Week 3	Correct sentence structures
Week 4	Correct grammatical forms
Week 5	Correct grammatical forms
Week 6	Correct grammatical forms
Week 7	Develop and extensively use reading strategies
Week 8	Midterm examination
Week 9	Develop and extensively use reading strategies
Week 10	Proper punctuation
Week 11	Proper punctuation
Week 12	Proper punctuation
Week 13	Use English basic sentence structure
Week 14	Use English basic sentence structure
Week 15	Use English basic sentence structure
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	English Grammar Headway	yes
Recommended Texts	Veterinary medicine books	yes
Websites	BBC Learning English British Council	No

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
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	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 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.				

MODULE DESCRIPTION FORM

Module Information			
معلومات المادة الدراسية			
Module Title	Neural and vascular anatomy		Module Delivery
Module Type	Core		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	VET206		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	2	Semester of Delivery	
Administering Department		College	
Module Leader	Ali Mahdi Ethaeb	e-mail	Ali.aetheeb@uowasit.edu.iq
Module Leader's Acad. Title	Assist. Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Ali Mahdi Ethaeb	e-mail	Ali.aetheeb@uowasit.edu.iq
Peer Reviewer Name	Ahmed M. Abid alridha	e-mail	ahmed.surgery.vet@uowasit.edu.iq
Scientific Committee Approval Date	01/09/2025	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	The module for Veterinary Neural and Vascular Anatomy equips students to identify the macroscopic structures of the nervous and circulatory systems in domestic animals. It establishes the anatomical foundation for clinical procedures like blood sampling, nerve blocks, and neurological exams. Key Learning Objectives Gross Anatomical Identification: Accurately locate and identify the major arteries, veins, cranial nerves, and spinal nerves across domestic species (e.g., canines, equines, and bovines). Topographical Relationships: Understand how blood vessels and nerve networks interact with bones, muscles, and viscera to aid in diagnostics and surgery. Clinical Application: Apply anatomical knowledge to clinical procedures, including cardiac auscultation, venipuncture, epidurals, and targeted nerve blocks. Pathological Correlation: Trace nervous and vascular pathways to help locate neurological lesions and interpret clinical signs. Core Syllabus Topics Angiology (Vascular Anatomy): - Systemic and pulmonary circulation pathways. - Major arterial pathways: Aorta and its branching (carotid, femoral, and median arteries). - Major venous pathways: Vena cava systems, jugular veins, and the cephalic and saphenous veins. Neurology (Neural Anatomy): Central Nervous System (CNS): Brain, meninges, and spinal cord structures. Peripheral Nervous System (PNS): The 12 pairs of cranial nerves and spinal nerve plexuses. Autonomic Nervous System (ANS): Sympathetic and parasympathetic division
Module	The Module Learning Outcomes (MLOs) for veterinary neural and vascular anatomy focus

Learning Outcomes مخرجات التعلم للمادة الدراسية	on enabling students to identify complex nervous and circulatory networks, understand the relationship between structure and function, and apply this anatomical knowledge to clinical diagnostics and surgeries. Core Learning Outcomes Spatial Identification: Accurately identify and describe the gross morphology, origin, and pathway of major cranial and spinal nerves across domestic species (e.g., dogs, horses, ruminants). Vascular Mapping: Locate, trace, and distinguish the branching patterns of major arteries and veins supplying vital regions, including the head, limbs, and internal organs. Structure-Function Correlation: Relate the anatomical form of nervous and vascular tissues to their physiological functions, such as understanding blood supply limits or nerve innervations in. Clinical Application: Apply anatomical knowledge to safely perform clinical procedures (e.g., venipuncture, nerve blocks, epidurals) and localize neurological lesions during physical exams. Pathology Recognition: Differentiate normal vascular and neural structures from anatomical variations or developmental anomalies
Indicative Contents المحتويات الإرشادية	veterinary medicine, the indicative contents of neural (nervous) and vascular (circulatory) anatomy form a core foundation for understanding clinical diagnosis, surgery, and pathophysiology in domestic and wild animals. I. Vascular Anatomy (Angiology) The study of blood vessels and lymphatic systems, mapped comparatively across domestic species (e.g., dogs, horses, ruminants, and pigs): Heart & The Great Vessels: Structure and topography of the heart, pericardium, and primary branches of the aorta. Arterial Systems: The distribution of the systemic and pulmonary circulations, including the carotid/jugular systems, brachial arteries (forelimb), and femoral arteries (hindlimb). Venous Systems: Pathways of systemic return, including the cranial/caudal vena cava and specific venipuncture/catheterization sites (e.g., jugular, cephalic, and saphenous veins). Lymphatic Anatomy: Major lymph nodes, vessels, and the thoracic duct. II. Neural Anatomy (Neurology) The study of the central, peripheral, and autonomic nervous systems, essential for neurological examinations and nerve block techniques: Central Nervous System (CNS): Structure of the brain, spinal cord, and the ventricular system (cerebrospinal fluid circulation). Cranial Nerves: Identification, nuclei, and clinical deficits of the 12 pairs of cranial nerves. Peripheral Nervous System (PNS): Major spinal nerves and plexuses (e.g., brachial plexus, lumbosacral plexus) and their specific motor and sensory functions. Autonomic Nervous System (ANS): The sympathetic and parasympathetic pathways supplying visceral organs and blood vessels. III. Neurovascular Integration In clinical practice and dissection labs, these two systems are studied together as specialized units because nerves and blood vessels typically travel alongside each other: Neurovascular Bundles: The topographical relationship of nerves, arteries, and veins in the limbs and neck. Applied Anatomy: Surface landmarks for regional anesthesia, such as specific nerve blocks for dehorning or lameness diagnosis in large animals Vascular system (heart, aorta, artery, venous)..... [SSWL=12 hrs] Lymphatic vessels[SSWL=4 hrs] Central nervous system[SSWL=14 hrs] Total hrs = 78 = SSWL - (Exam hrs) = 150 - 3 = 147 hr (Time table hrs x 15 weeks)
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Veterinary neural and vascular anatomy is highly complex and relies on a multimodal approach.

	Modern veterinary education integrates active learning (dissection, peer instruction), 3D modeling (software, physical prints), diagnostic imaging (CT/MRI), and multimedia resources (flipped classrooms) to bridge abstract spatial networks with clinical applications. 1. Hands-On & Active Learning Cadaveric Dissection: Remains the gold standard. Students manually trace delicate cranial and spinal nerves and locate vital arteries and veins to understand three-dimensional pathways. Biodur E20 Epoxy Corrosion Casting: A resin is injected into animal vasculature, and the tissue is dissolved, leaving a durable, visible 3D replica of microvascular networks. Peer Instruction & Gamification: Tournament-style review questions and collaborative study techniques promote deeper understanding and active engagement. 2. Advanced Technology & 3D Visualization 3D Reconstructions: Software segments MRI and CT data to create dynamic, rotatable 3D images of complex structures like the canine brain. Simulators & Haptics: Educational models (such as handcrafted 3D canine abdominal arterial systems) allow students to practice catheter navigation and understand vascular branching in a risk-free environment. Virtual & Augmented Reality (VR/AR): AR superimposes volumetric holograms of nerve pathways and blood vessels onto physical animal models, clarifying topographical relationships without biohazards. 3. Medical Imaging & Clinical Correlation Cross-Sectional Anatomy: Instructors utilize MRI and CT scans to teach neurovascular structures exactly as they appear during live diagnostics. Lesion Localization (NeuroMaps): Learning is heavily case-based. Students use functional charts and interactive web tutorials to correlate nerve pathways and vascular irrigation directly with the neurological deficits observed in patients. 4. Self-Directed & Blended Learning Flipped Classrooms: Pre-lab videos, virtual flashcards, and dedicated online resources (e.g., Cornell's Veterinary Neuroanatomy video resources) are reviewed before class. This ensures laboratory time is maximized for practical identification rather than introductory lecturing. Sketching & Mapping: Sketching is a traditional but highly recommended study method, where students draw reliable diagrams of the pathways (like the brachial plexus or cranial blood supply) to reinforce spatial memor
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	10% (10)	2,4,6,8,10	LO #2, #4 ,6#8, #10
	ACTIVITIES	1-15	10% (10)		
	Projects	1	10% (10)	Continuous(	All
	PRACTICAL	1	10% (10)	6	6 and 15
Summative assessment	Midterm Exam	2hr	10% (10)	6	LO #1 - #6
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)		
المنهاج الاسبوعي النظري		
2hrs./week	Material Covered	
Week 1	Vascular system (heart, aorta, artery, venous) Part 1	
Week 2	Vascular system (heart, aorta, artery, venous) Part 1	
Week 3	Vascular system (heart, aorta, artery, venous) Part 1	
Week 4	Vascular system (heart, aorta, artery, venous) Part 1	
Week 5	Vascular system (heart, aorta, artery, venous) Part 1	
Week 6	Vascular system (heart, aorta, artery, venous) Part 1	
Week 7	Lymphatic vessels	
Week 8	Lymphatic vessels	
Week 9	Central nervous system: Structure of the brain, spinal cord, and the ventricular system (cerebrospinal fluid circulation).	
Week 10	Cranial Nerves: Identification, nuclei, and clinical deficits of the 12 pairs of cranial nerves..1	
Week 11	Cranial Nerves: Identification, nuclei, and clinical deficits of the 12 pairs of cranial nerves..2	
Week 12	Peripheral Nervous System (PNS): Major spinal nerves and plexuses (e.g., brachial plexus, lumbosacral plexus) and their specific motor and sensory functions.	
Week 13	Autonomic Nervous System (ANS): The sympathetic and parasympathetic pathways supplying visceral organs and blood vessels.	
Week 14	Neurovascular Bundles: The topographical relationship of nerves, arteries, and veins in the limbs and neck.	
Week 15	Applied Anatomy: Surface landmarks for regional anesthesia, such as specific nerve blocks for dehorning or lameness diagnosis in large anima	
Delivery Plan (Weekly Lab. Syllabus)		
المنهاج الاسبوعي للمختبر		
	Material Covered	
Week 1	Introduction & Cardiovascular System (Thorax & Neck)	
Week 2	The pericardium and chambers of the heart. Major blood vessels: Aorta, brachiocephalic trunk, and pulmonary arteries	
Week 3	Vascular Supply of the Limbs & Abdomen: Arterial and venous pathways of the thoracic limb (axillary, brachial, and median arteries).	
Week 4	Arterial and venous pathways of the pelvic limb (femoral, popliteal, and saphenous systems).	
Week 5	Vascular Supply of the Head, Neck & Viscera: Blood vessels of the head and neck (common carotid arteries, jugular veins, and cranial vena cava).	
Week 6	Vascular supply of the viscera: Celiac, cranial, and caudal mesenteric arteries and portal	
Week 7	Lymphatic system: Major lymph nodes, lymphatic vessels, and drainage pathways in domestic animals.	
Week 8	Week 14: Applied clinical anatomy: Nerve blocks, epidurals, and vascular access sites.	
Week 9	The Central Nervous System (CNS) & Membranes	
Week 10	The skull, vertebral canal, and the meninges (dura mater, arachnoid, pia mater).	
Week 11	Week 8: Gross morphology of the brain (cerebrum, cerebellum, brainstem) and the spinal cord.	
Week 12	Peripheral Nervous System (PNS): Cranial nerves (I to XII) and their foramina of exit.	
Week 13	Spinal nerves, the formation of the brachial and lumbosacral plexuses	
Week 14	Weeks 11–12: Autonomic Nervous System & Sense Organs: The Sympathetic and Parasympathetic divisions of the Autonomic Nervous System (ANS).	
Week 15	Anatomy of the eye (globe, chambers, vasculature, and cranial nerves II, III, IV, VI) and the ear	
Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Veterinary anatomy by Dyce-Wensing,2010	Yes
Recommended Texts	Anatomy of domestic animals by RGetty	Yes

الوصف الأكاديمي لمقررات فرع التشريح والأنسجة بولونيا 2026-2027

Websites				
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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Arabic Language		Module Delivery
Module Type	B		☒ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	UOW10112		
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	UGII	Semester of Delivery	
Administering Department	Public Health	College	Veterinary Medicine
Module Leader	Hayam Rabbeeh Fadhal	e-mail	hayam.rabbeeh.fadhal@uowasit.edu.iq
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	M.Sc.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	1/6/2026	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1- إتقان قواعد اللغة العربية و الحد من الأخطاء الإملائية والنحوية. ٢ - تعزيز مهارات التعبير اللغوي والقراءة من دون لحن. ٣-تحقيق الدقة في استعمال التراكيب المختلفة. ٤-التمكن من الإعراب الصحيح.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	١ - التمكن من التراكيب النحوية المعقدة . 2- استعمال النحو في النصوص الادبية . 3- القدرة على معرفة الاخطاء اللغوية وتصويبها . ٤ – تعريف الطلبة بمزايا اللغة.
Indicative Contents المحتويات الإرشادية	شرح مفهوم النحو وأهميته في اللغة العربية، مع بيان دوره في صحة اللغة وتوضيح المعنى الدقيق للجملة التعريف بالشعر الغربي وأهميته على مر العصور وفنون النثر فضلا عن المعرفة باعراب الفعل المضارع والمنصوبات وأحكام كتابة التاء والالف وتصريف الأسماء مع بيان اقسام علم البديع.

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	هي الاستراتيجيات المستعملة من قبل عضو الهيئة التدريسية لتطوير تعليم وتعلم الطالب وهي خطط يتم إتباعها للوصول إلى أهداف التعلم. أي تصف جميع الأنشطة الصفية و اللاصفية لتحقيق نتائج التعلم ، ومنها: 1-اللقاء والمناقشة والاستقصاء 2- العصف الذهني والاختبارات العلمية 3- مجموعة متنوعة من اساليب التدريب.

Student Workload (SWL)			
الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10%(10)	2,5,8	LO#1,2,13 and 14
	Assignments	2	10%(10)	3,13	LO#4,6,9,and 10
	Projects / Lab.	1	10%(10)	Continuous	
	Report	1	10%(10)	13	
Summative assessment	Midterm Exam	1hr	10%(10)	8	LO#5,8 and 10
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	ساعتان/ شرح عرضي / من سورة الإسراء الآيات (٢٣-٢٩) / من الحديث النبوي إتيان العمل/محاضرة نظري / اختبار يومي
Week 2	ساعتان / شرح عرضي / فنون النثر/ محاضرة نظري / اختبار يومي ومناقشات
Week 3	ساعتان / شرح عرضي / ابيات من قصيدة الشريف الرضي في رثاء والدته/ اختبار يومي ومناقشات
Week 4	ساعتان/ شرح عرضي/ ابيات من قصائد لابي العلاء المعري- الجواهري- السياب/ محاضرة نظري / اختبار يومي ومناقشة
Week 5	ساعتان / شرح عرضي / نصب الفعل المضارع وجزمه/ محاضرة نظري / اختبار يومي ومناقشات
Week 6	ساعتان/ شرح عرضي/المجرورات/ محاضرة نظري/اختبار يومي ومناقشات
Week 7	ساعتان / شرح عرضي / المنصوبات/ محاضرة نظري / اختبار يومي ومناقشات
Week 8	ساعتان/ شرح عرضي/ أحكام كتابة التاء (المفتوحة والمربوطة) محاضرة نظري/ اختبار يومي و مناقشات
Week 9	ساعتان/ شرح عرضي/أحكام كتابة الألف (الممدودة والمقصورة) / محاضرة نظري / اختبار يومي ومناقشات
Week 10	ساعتان / شرح عرضي / كتابة الضاد والطاء/ مراحل جمع اللغة/ محاضرة نظري / اختبار يومي ومناقشات
Week 11	ساعتين / شرح عرضي / معجمات الألفاظ والدلالة / محاضرة نظري / اختبار يومي ومناقشات
Week 12	ساعتان / شرح عرضي / من سورة يوسف (١-٧) / محاضرة نظري / اختبار يومي ومناقشات
Week 13	ساعتان / شرح عرضي / تصنيف الأسماء / محاضرة نظري / اختبار يومي ومناقشات
Week 14	ساعتان / شرح عرضي/ العدد وأحكامه / محاضرة نظري / اختبار يومي ومناقشات -
Week 15	ساعتان / شرح عرضي / منهج مدرستي المقاييس والصحاح/ محاضرة نظري / اختبار يومي ومناقشات
Week 16	ساعتان / شرح عرضي / علم البديع/ محاضرة نظري / اختبار يومي ومناقشات

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1- التطبيق النحوي، عبدة الراجحي . 2- شرح ابن عقيل على ألفية ابن مالك، محمد محي الدين عبد الحميد 3- كيف تتعلم الاعراب، يوسف عطا الطريفي	yes
Recommended Texts		No
Websites		

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	General pharmacology		Module Delivery
Module Type	Core		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	VET302		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGIII	Semester of Delivery	
Administering Department	Physiology, Biochemistry and Pharmacology	College	Veterinary Medicine
Module Leader	Mohammed Salih Alwan Hayyawi	e-mail	msalih@uowasit.edu.iq
Module Leader's Acad. Title	Asst.Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Asst.prof. Jabbar Jassim Hamady	e-mail	jhamady@uowasit.edu.iq
Peer Reviewer Name	Asst.prof. Jabbar Jassim	e-mail	
Scientific Committee Approval Date	1/6/2026	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	لا يوجد	Semester	
Co-requisites module	لا يوجد	Semester	

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	Drug Fundamentals: Explain the principles of Pharmacokinetics (what the body does to the drug) and Pharmacodynamics (what the drug does to the body) Therapeutic Application: Develop a framework for the rational selection, dosage, and administration of medications in various animal species. Safety & Toxicology: Equip students with the knowledge to recognize, treat, and prevent drug toxicities, adverse reactions, and poisonings. Public Health: Emphasize food safety, drug withholding periods, and the risks of antimicrobial resistance Expected Learning Outcomes By the end of this module, veterinary students will be able to: Comprehend Mechanisms: Analyze and describe the mechanism of action, absorption, metabolism, and excretion for all major drug classes (e.g., antimicrobials, NSAIDs, anesthetics, and autonomic nervous system drugs).

	• Apply Species Variations: Adapt therapeutic regimens while accounting for physiological or pathological differences between domestic animal species. • Calculate & Prescribe: Perform accurate pharmacological calculations (e.g., dosages, CRI rates) and formulate safe treatment plans. • Manage Hazards: Safely dispense and store veterinary drugs according to legal guidelines, while advising owners on proper administration and withdrawal period
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Pharmacokinetics & Dynamics: Analyze and explain how drugs are absorbed, distributed, metabolized, and excreted by the animal body (pharmacokinetics), and understand how they exert their effects at the cellular and organ levels (pharmacodynamics) 2. Therapeutics & Protocols: Design appropriate and rational pharmacological therapies for common and complex diseases across various species, including anesthesia and preventative measures. 3. Drug Interactions & Adverse Reactions: Predict potential drug-drug interactions and recognize species-specific adverse drug reactions or signs of toxicity. 4. Regulatory & Ethical Compliance: Apply knowledge of veterinary legislation regarding drug prescription, safe handling, maintaining inventory, and environmental impact. 5. Clinical Calculations & Formulation: Demonstrate proficiency in calculating accurate drug dosages based on body weight, fluid therapy, and formulating necessary therapeutic preparation
Indicative Contents المحتويات الإرشادية	Indicative content includes the following: Part A – principle of pharmacology [SSWL=6 hrs] Part B – Drugs acting on autonomic nervous system ..part 1 [SSWL=9 hrs] Part C – Drugs acting on central nervous system [SSWL=9 hrs] Part D- Autacoids and anti-inflammatory drugs [SSWL=10 hrs] Part E Drugs affecting on gastrointestinal function [SSWL=6 hrs] Part F Dermatopharmacology [SSWL=3 hrs] [Total hrs = 45]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Encouraging the student's commitment to attendance and active participation in lectures and taking daily, semester and final theoretical and practical exams. Using educational and technological means, and the modern method in teaching the subject and referring to practical training examples. Discussion is used in lectures as an effective means of delivering the study material to students and keeping up with the latest methods, approaches and modern trends in the teaching process.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	10% (10)	2,4, 6, 8, 10	LO #1, #2, #3, #4
	Activities	1	10% (10)	9	LO #3, #4, #5
	practical.	1	10% (10)	Continuous	All
	project	1	10% (10)	12	LO #1, #2 and #3, #4
Summative assessment	Midterm Exam	1hr	10% (10)	10	LO #1-#4
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Principles of pharmacology ..part 1
Week 2	Principles of pharmacology.. part 2
Week 3	Drugs acting on autonomic nervous system ..part 1
Week 4	Drugs acting on autonomic nervous system.. part 2
Week 5	Drugs acting on autonomic nervous system.. part 3
Week 6	Drugs acting on central nervous system... part 1
Week 7	Drugs acting on central nervous system... part 2
Week 8	Drugs acting on central nervous system... part 3
Week 9	Autacoids and anti-inflammatory drugs... part 1
Week 10	Autacoids and anti-inflammatory drugs... part 2
Week 11	Autacoids and anti-inflammatory drugs... part 3
Week 12	Drugs affecting on gastrointestinal function.. part 1
Week 13	Drugs affecting on gastrointestinal function.. part 2
Week 14	Dermatopharmacology
Week 15	Exam
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Metrology
Week 2	Nature and source of drugs
Week 3	Pharmaceutical preparations and drug forms
Week 4	Routes of drug administration
Week 5	Variations in drug response(species and individual)
Week 6	Microsomal enzymes activity induction and drug response
Week 7	Excretion of drugs
Week 8	Prescription writing
Week 9	Dispensing
Week 10	Action of drugs on the eyes
Week 11	Drugs and effects on the rabbit intestine 1
Week 12	Drugs and effects on the rabbit intestine2
Week 13	Drugs and effects on the rabbit uterus and ovary

Week 14	Drugs and effects on the rabbit uterus and ovary
Week 15	Exam
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Biochemistry by <u>Pankaja Naik</u> (Author), 6th edition (2022), Jaypee Brothers Medical Publishers Pvt Ltd.	Yes
Recommended Texts	Harper's Illustrated Biochemistry, 32nd Edition (2023) by <u>Peter J. Kennelly</u> (Author), <u>Kathleen M. Botham</u> (Author), <u>Owen McGuinness</u> (Author). McGraw Hill / Medical Publisher.	Yes
Websites	https://themedicalbiochemistrypage.org/	

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف مادة الطفيليات/ الفصل الاول

Module Information			
معلومات المادة الدراسية			
Module Title	Helminthology		Module Delivery
Module Type	C		☒ Theory Lecture ☒ Lab Tutorial Practical Seminar
Module Code	VET301		
ECTS Credits	5.00		
SWL (hr/sem)	125		
Module Level	UGIII	Semester of Delivery	
Administering Department	DOP	College	VM
Module Leader	Lect. Dr. Haider Hadi Kattoof	e-mail	haider.hadi@uowasit.edu.iq
Module Leader's Acad. Title	Assist Prof.	Module Leader's Qualification	Ph.D.
Module Tutor	Assist. Prof. Dr. Abbas Hassan Khlavy Assist. Prof. Dr. Zeid Muhsen Alsadoon Assist. Prof. Dr. Ola Abdulhussein Aggar	e-mail	abbashassan@uowasit.edu.iq Zaidalsadoon@uowasit.edu.iq oabdulhussien@uo.wasit.edu.iq
Peer Reviewer Name	Assist. Prof. Dr. Enas Mhihi Assist.Lect.Yas Abd Alkudher	e-mail	emhihi@uowasit.edu.iq YasAbd@uowasit.edu.iq
Scientific Committee Approval Date	21/05/2026	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1- Study of the clinical diagnosis of parasites by observing the pathological symptoms associated with parasitic infections. 2- Identify the most important morphological characteristics of parasites 3- Learn laboratory diagnostic methods of parasites in animal samples.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Learn the general classification of parasites. 2- Studying and distinguishing between different types of parasites. 3- Study the life cycles of each parasite 4- Learn laboratory diagnostic methods for parasitic diseases. 5- Learn how to prevent and treat parasitic diseases. 6- Identify the zoonotic parasites 7- Learn about mode of infection with parasites. 8- Learn about source of infection with parasites. 9- Learn some scientific terms related to parasites.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Introduction: scientific terms. Phylum: Platyhelminthes: Cestoda and Trematode Phylum: Nematelminths: Nematoda

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to theoretical lectures, practical training in the laboratory, seminars, reports, and assignments.

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
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 Evaluation					
تقييم المادة الدراسية					
As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	1,2,3,5,6,9
	Lab.	1	10% (10)	12	4
	Report	1	10% (10)	Continuous	All
	Seminars	1	10% (10)	Continuous	All
Summative assessment	Midterm Exam	2hr	10% (10)	8	All
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
Week	Material Covered
Week 1	Introduction & Definitions of Terms Effects of parasites on their hosts
Week 2	Transmission of parasite infestation, life cycle, Immunology
Week 3	Ascarididae(Toxocara ,Parascaris
Week 4	Heterakidae (Heteraks), Oxyuridae(Oxyuris),
Week 5	Strongylidae(Strongylus), Ancylostomatidae(Ancylostoma),
Week 6	Trichostrongylidae (Trichostrongylus,Ostertagia,)
Week 7	Haemonchus,Nematodirus, Dictyocaulidae(Dictyocaulus
Week 8	Metastrongylidae(Metastrongylus), Trichuridae(Trichuris), Trichinellidae(Trichinella)
Week 9	Spiruridae (Habronema), Fillariidae(Dirofilaria). Thelazia,
Week 10	Taeniidae,
Week 11	Anoplocephaliidae, Thysanosonidae,
Week 12	Davaineidae, Dipylidiidae, Hymenolepididae
Week 13	Mesocestoidae, Diphllobothriidae.
Week 14	Fasciolidae, Dicrocoelidae,
Week 15	Parmaphistomatidae, Schistosomatidae
Week 16	Final exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	Material Covered
Week 1	Laboratory diagnosis of parasitism
Week 2	Fasciola hepatica, Life cycle, Fasciola gigantica
Week 3	Dicrocoelium dendriticum, Paramphistomum cervi
Week 4	Schistoma (male, female) In copulation.eggs of S.mansoni, and S. japonicum and cercaria
Week 5	Moniezia expansa, (Mature egg, scolex), M. bendeni.Avitellina (mature and gravid), Thysaniezia (mature and gravid)
Week 6	Raillietina (mature and gravid) Scolex of R. tetragona, R. echinobothrida, R. cesticillus Dipylidium caninum (mature and gravid), Hymenolepis nana
Week 7	Taenia spp (eggs, mature, gravid and scolex) of T. pisiformis protoscolex of Coenurus cerebralis
Week 8	Echinococcus granulosus, protoscolex of Hydatid cyst Mesocystoides lineatus (mature and gravid),
Week 9	Parascaris equorum, Toxocara canis, Oxyuris equi, Hetrakis gallinarum,
Week 10	Strongylidae copulatory bursa, Strongylus vulgaris, S. equines,
Week 11	Ancylostoma caninum, Bunostomum sp
Week 12	Haemonchus contortus (male and female), Ostertagia (3 sp)
Week 13	Dictyocalus filarial (male)
Week 14	Habronema (male and female), Thelazia,)
Week 15	Trichinella spiralis (larval stage), Trichuris trichura

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	E.J.L.Soulsby.(1982).Helminths,Arthropods and Protozoa of domesticated animals	Yes
Recommended Texts	Boman.(1999).Georgis,Parasitology for Veterinarians	Yes
Websites		

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	General pathology		Module Delivery
Module Type	Core		☒ Theory ☒ Lab. Lecture Report Seminar
Module Code	VET305		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGIII	Semester of Delivery	
Administering Department	Public health	College	Veterinary Medicine
Module Leader	Sattar Rashed Suhail	e-mail	sattarrashid@uowsit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	PhD
Module Tutor	Ghaith Sabah Ta'imah	e-mail	ghaiths.alabedi@uowasit.edu.iq
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	18/05/2026	Version Number	1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		Semester	
Co-requisites module		Semester	

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	1. Areas of study include cellular adaptation of injury, necrosis, inflammation, wound healing and tumors. It forms the basis for the application of this knowledge to diagnose diseases in animals. 2. Adaptation to injury There are many external and internal stimuli that induce or exacerbate disease-related processes, including trauma, infection, poisoning, lack of blood flow, autoimmunity, inherited or acquired genetic damage, or development errors 3. Necrosis is the irreversible destruction of cells as a result of severe injury under a situation in which the cell is unable to activate the metabolic pathways necessary to survive or regulated decomposition. 4. Repair of tissues as seen in wound healing is raised by inflammation. The process may proceed even before the decay of the precipitated injury, by forming granular tissue. The healing process involves the proliferation of connective tissue cells, cells that form blood vessels as a result of hormonal growth signals. 5. Inflammation is a particularly complex and important reaction to tissue injury, and is especially important in the fight against infection. Acute infection is an undefined general response caused by tissue cells themselves, as well as specialized cells in the primary immune system and mechanisms previously developed for adaptive immunity. 6. Tumor formation, or “new growth,” is the multiplication of cells independently of any physiological process. The most common examples of tumors are benign tumors and cancers. Tumors are caused by genetic changes that cause cells to activate genetic programs incorrectly. Dysplasia is an early indicator of the process of tumor formation in tissues, characterized by persistently poorly variability forms of immature cells.
Module Learning Outcomes	1. Understanding the mechanisms of changes that take place during the disease at the cellular level 2. Study of pathogens 3. Diagnosis of diseases 4. Clarify the means of the body's response to damage and repair at the cellular level 5. Understanding in-kind pathological phenomena such as transformation, mutation, atrophy, hypertrophy and inflammation. 6. Scientific research

Indicative Contents المحتويات الإرشادية	General pathology is a fundamental discipline within medical and biological sciences that focuses on the mechanisms of disease. The contents typically covered in a general pathology course or textbook provide an in-depth understanding of how diseases develop, progress, and affect the body. Here's an outline of the indicative contents of general pathology: 1. Introduction to Pathology 2. Cell Injury and Cell Death 3. Inflammation 4. Tissue Repair and Regeneration 5. Hemodynamic Disorders 6. Immunopathology 7. Neoplasia 8. Genetic Disorders 9. Environmental and Nutritional Pathology
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Learning and Teaching Strategies
1. Theoretical lectures 2. Discussions and dialogues 3. Clinical cases and comparative studies 4. Presentations and educational videos 5. Laboratories and practical training 6. Field visits and research projects 7. Active learning and collaborative learning

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (hr/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (hr/w) الحمل الدراسي المنتظم للطالب أسبوعياً	4
Unstructured SWL (hr/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	Unstructured SWL (hr/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	4.13
Total SWL (hr/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Seminer	5	10% (10)	2,4, 6, 8, 10	LO #1, #2, #3, #4
	Quizzes	1	10% (10)	9	LO #3, #4, #5, #6
	Report	1	10% (10)	Continuous	All
	Assignment	1	10% (10)	12	LO #1, #2 and #3, #4
Summative assessment	Midterm Exam	1hr	10% (10)	10	LO #1-#4
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to pathology
Week 2	Mechanisms and Morphology of Cellular Injury, Adaptation
Week 3	Mechanisms and Morphology of Cellular Death
Week 4	Disturbance of Pigmentation (Jaundice/ Types and causes and formation of hemosiderin, melanin, and calcification/ types and causes)
Week 5	Inflammation (definition, causes, types of inflammatory cells, types of inflammation)
Week 6	Inflammation (definition, causes, types of inflammatory cells, types of inflammation)
Week 7	Healing and repair(Regeneration, Repair, Growth Factors, complications, bone healing)

Week 8	Med exam
Week 9	Disturbance of Circulation (Congestion and hemorrhage/ types and causes, thrombus and emboli: types and causes)
Week 10	Disturbance of Circulation (infarction, embolism edema / types and causes and shock)
Week 11	Diseases of Immunity (hyper sensitivity and immune tolerance, immune deficiency and Autoimmune diseases)
Week 12	Neoplasia and Tumor Biology (definition/ theories of origin, classification)
Week 13	Neoplasia and Tumor Biology (differentiation between benign and malignant tumors/ histological characters of tumors/ method of transmission, diagnosis)
Week 14	Genetic Disorders (Types of Genetic Disorder: Single-gene, chromosomal, multifactorial, Mechanisms of Genetic Diseases: Mutations, epigenetic changes, Molecular Basis of Genetic Diseases: Gene function, expression, and regulation)
Week 15	Environmental and Nutritional Pathology (Environmental Factors: Chemical agents, physical agents, radiation, Nutritional Disorders: Malnutrition, obesity, vitamin deficiencies, metabolic syndrome)

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Introduction to pathology
Week 2	Mechanisms and Morphology of Cellular Injury, Adaptation
Week 3	Mechanisms and Morphology of Cellular Death
Week 4	Disturbance of Pigmentation (Jaundice/ Types and causes and formation of hemosiderin, melanin, and calcification/ types and causes)
Week 5	Inflammation (definition, causes, types of inflammatory cells, types of inflammation)
Week 6	Inflammation (definition, causes, types of inflammatory cells, types of inflammation)
Week 7	Healing and repair(Regeneration, Repair, Growth Factors, complications, bone healing)
Week 8	Med exam
Week 9	Disturbance of Circulation (Congestion and hemorrhage/ types and causes, thrombus and emboli: types and causes)
Week 10	Disturbance of Circulation (infarction, embolism edema / types and causes and shock)
Week 11	Diseases of Immunity (hyper sensitivity and immune tolerance, immune deficiency and Autoimmune diseases)

Week 12	Neoplasia and Tumor Biology (definition/ theories of origin, classification)
Week 13	Neoplasia and Tumor Biology (differentiation between benign and malignant tumors/ histological characters of tumors/ method of transmission, diagnosis)
Week 14	Genetic Disorders (Types of Genetic Disorder: Single-gene, chromosomal, multifactorial, Mechanisms of Genetic Diseases: Mutations, epigenetic changes, Molecular Basis of Genetic Diseases: Gene function, expression, and regulation)
Week 15	Environmental and Nutritional Pathology (Environmental Factors: Chemical agents, physical agents, radiation, Nutritional Disorders: Malnutrition, obesity, vitamin deficiencies, metabolic syndrome)

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	PATHOLOGIC BASIS OF VETERINARY DISEASE (SIXTH EDITION 2017)	
Recommended Texts	ROBBINS AND COTRAN PATHOLOGIC BASIS OF DISEASE. Vinay Kumar and Abul K. Abbas()10th edition, 2018.	
Websites	http://pathology.class.kmu.edu.tw/ch01/Slide1.htm	

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية علم الإحياء المجهرية العام / المرحلة الثالثة

Module Information			
معلومات المادة الدراسية			
Module Title	General microbiology		Module Delivery
Module Type	C		☒ Theory Lecture ☒ Lab Tutorial Practical Seminar
Module Code	VET304		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGIII	Semester of Delivery	
Administering Department	Microbiology	College	Veterinary Medicine
Module Leader	Basim Mohammed Hanon Isa Swadi Toulali Zaid Al Safi	e-mail	bmohammed@uowasit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	PH.D/Microbiology
Module Tutor	Isa Swadi Toulali	e-mail	iswadi@uowasit.edu.iq
Peer Reviewer Name	Mohammed Ibrahim	e-mail	mibrahim@uowasit.edu.iq
Scientific Committee Approval Date	1/6/2026	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	Veterinary Microbiology: This involves the study of pathogenic and non-pathogenic bacteria and fungi that infect animals, as well as the study of viruses, their types, and the diseases they cause.-To learn characteristics of living organisms
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	-To enhance the student's competence in using a variety of references or books related to microbiology
Indicative Contents المحتويات الإرشادية	Structured exercises will be provided to reinforce the theoretical material and familiarise students with all laboratory techniques.

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	Students will study specialist vocabulary in the context of biology and identify all types of living things

Student Workload (SWL)			
الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
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 Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	1	10%(10)	3,6,9	LO#1,2,13 and 14
	Assignments	2	10%(10)	2,14	LO#4,6,9,and 10
	Projects / Lab.	2	10%(10)	Continuous	
	Report	1	10%(10)	12	
Summative assessment	Midterm Exam	1hr	10%(10)	8	LO#5,8 and 10
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)		
المنهاج الأسبوعي النظري		
	Material Covered	Hours
Week 1	Staphylococcus	2
Week 2	Streptococcus	2
Week 3	Corynebacterium	2
Week 4	Listeria	2
Week 5	Bacillus	2
Week 6	Clostridium	4
Week 7	Actinomyces and Nocardia	2
Week 8	Action bacillus	1
Week 9	Pasteurella	2
Week 10	Haemophilus	1
Week 11	Moraxella and Bordetella	2
Week 12	Pseudomonas (Burkholderia)	2
Week 13	Leptospira	2
Week 14	Campylobacter	2
Week 15	Brucella	2
Week 16	Preparatory week before the final Exam	

Delivery Plan (Weekly Lab. Syllabus)		
المنهاج الاسبوعي للمختبر		
	Material Covered	Hours
Week 1	Staphylococcus	2
Week 2	Streptococcus	2
Week 3,	Corynebacterium	2
Week 4	Rhodococcus,	2
Week 5	Bacillus	2
Week6	Clostridium andAnaerobic Condition	4
Week 7	Mycobacterium	2
Week8	Pasteurella	2
Week 9	Pseudomonas(Burkholderia)	2
Week10	Leptospira	2
Week 11,	Brucella	2
Week12	Enterbacteriaceae	2
Week 13	Enterbacteriaceae(E.Coli)	2
Week14	Enterbacteriaceae(salmonella)	2
Week 15	Enterbacteriaceae(shigella)	2

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Veterinary microbiology and microbial disease. P.J. Quinn et al., 2002. 2. Animal Microbiology Vol.2. Buxton & Fraser.1977. 3. Veterinary microbiology, Volume 2, M, I, Sawa, 1991. 4. Medical Microbiology . Jawetz . 2016.	yes
Recommended Texts	Concepts of microbiology	No
Websites	Veterinary medical journals published by Iraqi veterinary medical colleges	

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية لمادة الفيروسات/ المرحلة الثالثة

Module Information			
معلومات المادة الدراسية			
Module Title	Veterinary Virology		Module Delivery
Module Type	C		☒ Theory Lecture ☒ Lab Tutorial Practical Seminar
Module Code	VET303		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGIII	Semester of Delivery	
Administering Department	Microbiology	College	Veterinary Medicine
Module Leader	Isa Swadi Toulali	e-mail	iswadi@uowasit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	PH.D/Microbiology
Module Tutor	Isa Swadi Toulali	e-mail	iswadi@uowasit.edu.iq
Peer Reviewer Name	Mohammed Ibrahim	e-mail	mibrahim@uowasit.edu.iq
Scientific Committee Approval Date	1/6/2026	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1-Here is a concise breakdown of the standard academic aims and learning outcomes found in a virology module. 2-A virology module aims to equip students with a comprehensive understanding of viral structures, replication cycles, and their interactions with host immune systems. These objectives prepare students for careers in medicine, research, biotechnology, and public health.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	-To enhance the student's competence in using a variety of references or books related to virology
Indicative Contents المحتويات الإرشادية	A typical virology PDF covers the fundamental principles of virus structure, classification, replication, and their impact on host cells. Because viruses are non-cellular, obligate intracellular parasites, these resources primarily focus on how they function and spread

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	Students will study specialist vocabulary in the context of biohazards

Student Workload (SWL)			
الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
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 Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10%(10)	2,5,8	LO#1,2,13 and 14
	Assignments	2	10%(10)	3,13	LO#4,6,9,and 10
	Projects / Lab.	1	10%(10)	Continuous	
	Report	1	10%(10)	13	
Summative assessment	Midterm Exam	1hr	10%(10)	8	LO#5,8 and 10
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)		
المنهاج الاسبوعي النظري		
	Material Covered	Hours
Week 1	Introduction and Discovering of Viruses	2
Week 2	General Characteristics of Viruses, Nature and Structure	2
Week 3	Morphology and Chemistry of Viruses	2
Week 4	Virus Classification and Taxonomy	1
Week 5	Virus Multiplication and Propagation(replication)	3
Week 6	Viral genetics and Interaction Between Viruses	2
Week 7	Interferon and Viral Interference	2
Week 8	Viral Vaccines and Antiviral Drugs	2
Week 9	Bacteriophages	2
Week 10	Effect of Physical and Chemical Agents on Viruses	2
Week 11	Laboratory Diagnosis of Viral Infection	2
Week 12	Picornavirus and Caliciviridae	2
Week 13	Orthomyxoviridae	2
Week 14	Paramyxoviridae and Retroviridae	2
Week 15	Reoviridae and Birnaviridae	2
Week 16	Preparatory week before the final Exam	

Delivery Plan (Weekly Lab. Syllabus)		
المنهاج الاسبوعي للمختبر		
	Material Covered	Hours
Week 1	Collection and Preservation of Viral Samples	2
Week 2	Isolation and Preservation of Viruses	2
Week 3,	Propagation of Viruses in Egg Embryo	2
Week 4	Propagation of Viruses in Tissue Culture	2
Week 5	Haemagglutination Test of ND Virus	2
Week 6	Haemagglutination Inhibition Test of ND Virus	2
Week 7	Neutralization Test for ND Virus	2
Week 8	Methods of Virus Titration	2
Week 9	Physical Character of Viruses	2
Week 10	Chemical Character of Viruses	2
Week 11,	Collection and Preservation of Viral Samples	Hours
Week 12	Isolation and Preservation of Viruses	2
Week 13	Propagation of Viruses in Egg Embryo	3
Week 14	Propagation of Viruses in Tissue Culture	2
Week 15	Haemagglutination Test of ND Virus	2

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1. Veterinary microbiology and microbial disease. P.J. Quinn et al., 2000. 2. Animal Microbiology Vol.2. Buxton & Fraser. 1977. 3. Veterinary microbiology, Volume 2, M, I, Sawa, 1991. 4. Medical Microbiology . Jawetz . 2016.	yes
Recommended Texts	Anybody know good text books for virology?	No
Websites		

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية علم المناعة البيطري / المرحلة الثالثة

Module Information			
معلومات المادة الدراسية			
Module Title	Veterinary immunology		Module Delivery
Module Type	C		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	VET306		
ECTS Credits	3		
SWL (hr/sem)	75		
Module Level	UGIII	Semester of Delivery	
Administering Department	Microbiology	College	Veterinary Medicine
Module Leader	Basim Mohammed Hanon	e-mail	bmohammed@uowasit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	PH.D/Microbiology
Module Tutor	Isa Swadi Toulali	e-mail	iswadi@uowasit.edu.iq
Peer Reviewer Name	Mohammed Ibrahim	e-mail	mibrahim@uowasit.edu.iq
Scientific Committee Approval Date	1/6/2026	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The study of veterinary immunology aims to understand how the immune system works in animals and protects them from disease. This science is a cornerstone of veterinary medicine and has several main objectives, including: understanding immune responses: studying how the immune systems of animals (domestic and livestock) react and respond when exposed to various pathogens such as bacteria, viruses, and parasites; and developing vaccines: improving and developing vaccines and sera to enhance the protective immunity of herds and animals against epidemic diseases
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	-To enhance the student's competence in using a variety of references or books related to biology Veterinary immunology.
Indicative Contents المحتويات الإرشادية	Structured exercises will be provided to reinforce the theoretical material and familiarise students with all laboratory techniques.

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	Students will study specialist vocabulary in the context of biology and identify all types of living things

Student Workload (SWL)			
الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	12	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	0.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	1	10%(10)	3,6,9	LO#1,2,13 and 14
	Assignments	2	10%(10)	2,14	LO#4,6,9,and 10
	Projects / Lab.	2	10%(10)	Continuous	
	Report	1	10%(10)	12	
Summative assessment	Midterm Exam	1hr	10%(10)	8	LO#5,8 and 10
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)		
المنهاج الأسبوعي النظري		
	Material Covered	Hours
Week 1	Principle of immunity and immune response (specific and non-specific)	2
Week 2	Immunoglobulin: Structure, variation, Function and synthesis	2
Week 3	Immunology of T and B cells	2
Week 4	Complement: Nature, Function and pathways	2
Week 5	Cell mediated immunity, antigen recognition by T cells	2
Week 6	Immunological tolerance	2
Week 7	Types of Hypersensitivity, Mechanisms	2
Week 8	Auto-immunity	2
Week 9	Transplantation	2
Week 10	Principle of immunogenetics	2
Week 11	Immunoanaphylaxis reaction	2
Week 12	Immunity of infection	2
Week 13	Principle of immunity and immune response (specific and non-specific)	2
Week 14	Immunoglobulin: Structure, variation, Function and synthesis	2
Week 15	Immunology of T and B cells	
Week 16	Preparatory week before the final Exam	

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر		
	Material Covered	Hours
Week 1	Introduction to immunology labs	2
Week 2	Lab animals	2
Week 3,	Preservation of antigens and antibodies	2
Week 4	Separation of immunoglobulin	2
Week 5	Complement test	2
Week 6	Precipitation test	2
Week 7	Agglutination test	2
Week 8	Neutralization test	2
Week 9	Separation of lymphocytes from blood and lymph nodes	2
Week 10	Preparation of antigens	2
Week 11,	Leukocytes	2
Week 12	Phagocytosis	2
Week 13	Antibodies	2
Week 14	Vaccination	2
Week 15	Preparatory week before the final Exam	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Veterinary Immunology: An Introduction (Ian R. Tizard) Kuby Immunology (Jenni Punt, Sharon Stranford, etc.)	yes
Recommended Texts	Concepts of veterinary immunology	No
Websites		

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Genetics		Module Delivery
Module Type	Core		☒ Theory ☒ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	VET307		
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	UGIII	Semester of Delivery	
Administering Department	Public health	College	Veterinary Medicine
Module Leader	Astabriq abid alkadim Duea Rasul		e-mail
Module Leader's Acad. Title	Assist. Professor	Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	1/9/2025	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	This course aims to provide veterinary students with the basic principles of genetics and heredity and their applications in animal breeding and veterinary medicine. 1. To understand the historical development and basic concepts of genetics. 2. To explain chromosome structure and behavior during cell division. 3. To understand Mendelian and non-Mendelian inheritance. 4. To explain gene interaction, linkage and chromosomal mutations. 5. To introduce molecular genetics and population genetics. 6. To apply genetic principles in animal breeding and disease inheritance
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Upon successful completion of this module, students should be able to: 1. Explain the basic concepts of genetics and heredity. 2. Describe chromosome behavior during mitosis and meiosis. 3. Apply Mendelian laws to solve inheritance problems. 4. Analyze pedigrees using simple statistical methods. 5. Explain gene interaction and multiple alleles. 6. Distinguish sex-linked inheritance from autosomal inheritance. 7. Explain linkage, crossing over and genetic mapping. 8. Describe chromosomal mutations and their consequences. 9. Explain gene frequency and factors affecting populations. 10. Apply principles of selection and mating systems in animal breeding
Indicative Contents المحتويات الإرشادية	Part A: History of Genetics and Genetic Theories [SSWL = 2 hrs] Part B: Cell Structure and Chromosome Behavior [SSWL = 2 hrs] Part C: Mendelian Inheritance and its Modification [SSWL = 4 hrs] Part D: Genetics and Statistics in Pedigree Analysis [SSWL = 2 hrs] Part E: Gene Interaction and Multiple Alleles [SSWL = 4 hrs] Part F: Sex Determination, Linkage and Genetic Mapping [SSWL = 6 hrs] Part G: Chromosomal Mutations and Chemical Basis of Heredity [SSWL = 4 hrs] Part H: Population Genetics, Selection and Methods of Mating [SSWL = 6 hrs]

	Total hours = 30 h
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The teaching strategy focuses on interactive lectures, classroom discussions, problem-solving sessions, pedigree analysis and case studies in animal genetics. Students are encouraged to develop analytical thinking and apply genetic principles to veterinary and breeding applications

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	4	10%(10)	4, 6, 8, 10	LO #1, #2 and #3, #4
	Assignments	1	10%(10)	9	LO #5
	Projects	1	10%(10)	Continuous	All
	Report	1	10%(10)	13	All
Summative assessment	Midterm Exam	1hr	20% (10)	10	LO #1 - #5
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered

Week 1	Genetics History and Genetic Theories
Week 2	Cell Structure and Chromosome Behavior
Week 3	Mendelian Inheritance
Week 4	Modification of Mendelian Inheritance
Week 5	Genetics and Statistics in Pedigree Analysis
Week 6	Gene Interaction
Week 7	Multiple Alleles and Pseudoalleles
Week 8	Sex Determination and Sex-linked Inheritance
Week 9	Linkage and Crossing Over
Week 10	Genetic Mapping
Week 11	Chromosomal Mutations
Week 12	Chemical and Molecular Basis of Heredity
Week 13	Gene Frequency and Factors Affecting It
Week 14	Resemblance Between Relatives
Week 15	Selection and Methods of Mating
Week 16	Preparatory Week before Final Examination

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1. Klug, W. S., Cummings, M. R., Spencer, C. A., & Palladino, M. A. Concepts of Genetics. 13th Edition. Pearson, 2023. 2. Pierce, B. A. Genetics: A Conceptual Approach. 8th Edition. W. H. Freeman, 2023	Yes
Recommended Texts	1. Snustad, D. P. & Simmons, M. J. Principles of Genetics. 2. Griffiths, A. J. F., et al. An Introduction to Genetic Analysis. 3. Nicholas, F. W. Introduction to Veterinary Genetics	No
Websites	https://www.ncbi.nlm.nih.gov/books/ https://omia.org https://pubmed.ncbi.nlm.nih.gov	

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية لمادة التشخيصات المرضية/ المرحلة الثالثة

Module Information			
معلومات المادة الدراسية			
Module Title	Clinical pathology		Module Delivery
Module Type	C		☒ Theory Lecture ☒ Lab Tutorial Practical Seminar
Module Code	VET312		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	UGIII	Semester of Delivery	
Administering Department	Veterinary Internal Medicine and Preventive Medicine	College	Veterinary Medicine
Module Leader	Isa Swadi Toulali	e-mail	iswadi@uowasit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	PH.D/Microbiology
Module Tutor	Hassanein Abdul Hussein Jaafar	e-mail	
Peer Reviewer Name	Enas Mhihi Mutlak	e-mail	emhihi@uowasit.edu.iq
Scientific Committee Approval Date	1/6/2026	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	-The student will acquire the skill of analyzing samples. -The student will be able to correlate changes in blood components with the diagnosis of the presented medical condition. -The student will be proficient in using laboratory equipment and tools. -The student will be skilled in receiving patients and collecting appropriate samples for the suspected illness.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- The ability to become a veterinary surgeon 2- Proficiency in using laboratory equipment to examine samples for disease diagnosis 3- The readiness to work in specialized veterinary laboratories 4- The ability to be a researcher in the field of diagnostic laboratory work
Indicative Contents المحتويات الإرشادية	The course "Diagnostic Pathology" (Veterinary Clinical Pathology) is considered a fundamental and important subject in veterinary medicine colleges and is studied in the fourth year. It focuses on identifying characteristic (phenotypic) signs of accurate diagnostic laboratory results.

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
Strategies	Students will study specialist vocabulary in the context of biohazards

Student Workload (SWL)			
الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	4.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10%(10)	2,5,8	LO#1,2,13 and 14
	Assignments	2	10%(10)	3,13	LO#4,6,9,and 10
	Projects / Lab.	1	10%(10)	Continuous	
	Report	1	10%(10)	13	
Summative assessment	Midterm Exam	1hr	10%(10)	8	LO#5,8 and 10
	Final Exam	3hr	50%(50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)		
المنهاج الاسبوعي النظري		
	THEORETICAL Subject	Hours
Week 1	Introduction (terminology and concepts)	3
Week 2	Clinical haematology (leukocytes and erythrocytes)	3
Week 3	Bone marrow examination	3
Week 4	Platelets function abnormalities & diagnosis of bleeding disorders	3
Week 5	Clinical biochemistry, Basic principles, to talportion,	3
Week 6	Ketones,urea,enzymology,minerallevels.	3
Week 7	MetabolicprofiletestingandS.1.unit.	3
Week 8	Liver function test	3
Week 9	Kidney function test	3
Week 10	Water electrolytes and acid-base imbalance	3
Week 11	Diseases o f Liver	3
Week 12	Diseases of Nervous system	3
Week 13	Diseases of Respiratory system	3
Week 14	Diseases of Skin	3
Week 15	Diagnostic of parasitic	3

Delivery Plan (Weekly Lab. Syllabus)		
المنهاج الاسبوعي للمختبر		
	PRACTICAL Subject	Hours
Week 1	Collection of different samples.	2
Week 2	Erythrocytes count	2
Week 3,	Reticulocytes count	2
Week 4	Packed cell volume and Hb determination	2
Week 5	Leukocytes parameters(TLC)	2
Week6	Leukocytes parameters(DLC)	2
Week 7	ESR determination	2
Week8	Platelets function abnormalities	2
Week 9	Bleeding and clotting time	2
Week10	Bloods mea examination	2
Week 11,	Lymph smear examination	2
Week12	Clinical biochemistry, Total protein, Ketones and urea.	4
Week 13	Enzymology and mineral levels.	2
Week14	Urine examination(physical, chemical and microscopic)	2
Week 15	Rumen fluid examination	2

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	- Veterinary clinical pathology by Coles -Duncan's Clinical pathology	yes
Recommended Texts	Anybody know good text books for clinical pathology ?	No
Websites	Veterinary medical journals published by Iraqi veterinary medical colleges	

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
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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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Clinical Pharmacology and Toxicology		Module Delivery
Module Type	Core		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	VET309		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	UGIII	Semester of Delivery	
Administering Department	Physiology, Biochemistry and Pharmacology	College	Veterinary Medicine
Module Leader	Mohammed Salih Alwan Hayyaw	e-mail	msalih@uowasit.edu.iq
Module Leader's Acad. Title	Asst.Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Asst.prof. Jabbar Jassim Hamady	e-mail	jhamady@uowasit.edu.iq
Peer Reviewer Name	Asst.prof. Jabbar Jassim	e-mail	
Scientific Committee Approval Date	1/6/2026	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	لا يوجد	Semester	
Co-requisites module	لا يوجد	Semester	

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	Drug Fundamentals: Explain the principles of Pharmacokinetics (what the body does to the drug) and Pharmacodynamics (what the drug does to the body) Therapeutic Application: Develop a framework for the rational selection, dosage, and administration of medications in various animal species. Safety & Toxicology: Equip students with the knowledge to recognize, treat, and prevent drug toxicities, adverse reactions, and poisonings. Public Health: Emphasize food safety, drug withholding periods, and the risks of antimicrobial resistance Expected Learning Outcomes By the end of this module, veterinary students will be able to: Comprehend Mechanisms: Analyze and describe the mechanism of action, absorption, metabolism, and excretion for all major drug classes (e.g., antimicrobials, NSAIDs, anesthetics, and autonomic nervous system drugs). Apply Species Variations: Adapt therapeutic regimens while accounting for physiological or pathological differences between domestic animal species.

	• Calculate & Prescribe: Perform accurate pharmacological calculations (e.g., dosages, CRI rates) and formulate safe treatment plans. • Manage Hazards: Safely dispense and store veterinary drugs according to legal guidelines, while advising owners on proper administration and withdrawal period
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Pharmacokinetics & Dynamics: Analyze and explain how drugs are absorbed, distributed, metabolized, and excreted by the animal body (pharmacokinetics), and understand how they exert their effects at the cellular and organ levels (pharmacodynamics) 2. Therapeutics & Protocols: Design appropriate and rational pharmacological therapies for common and complex diseases across various species, including anesthesia and preventative measures. 3. Drug Interactions & Adverse Reactions: Predict potential drug-drug interactions and recognize species-specific adverse drug reactions or signs of toxicity. 4. Regulatory & Ethical Compliance: Apply knowledge of veterinary legislation regarding drug prescription, safe handling, maintaining inventory, and environmental impact. 5. Clinical Calculations & Formulation: Demonstrate proficiency in calculating accurate drug dosages based on body weight, fluid therapy, and formulating necessary therapeutic preparation 6. Toxicokinetics & Mechanisms of Action: Describe the sources, absorption, and mechanisms of action of various natural and synthetic toxins (e.g., pesticides, toxic plants, heavy metals, and household chemicals). 7. Diagnosis of Poisoning: Interpret clinical signs, syndromes (toxidromes), and laboratory findings to accurately diagnose acute and chronic intoxications. 8. Treatment & Prevention: Develop and apply effective therapeutic measures, antidotes, and supportive care for poisoned animals, as well as strategies to prevent future exposure
Indicative Contents المحتويات الإرشادية	Indicative content includes the following: Part A – Chemotherapy of microbial diseases [SSWL=10 hrs] Part B – Chemotherapy of parasitic disease..part 1 [SSWL=6 hrs] Part C – Drugs acting on cardiovascular system [SSWL=10 hrs] Part D- Drugs acting on Respiratory system [SSWL=10 hrs] Part E Drugs affecting on Renal system [SSWL=6 hrs] Part F Drugs acting on Reproductive system [SSWL=3 hrs] [Total hrs = 45]

Learning and Teaching Strategies			
استراتيجيات التعلم والتعليم			
Strategies	Encouraging the student's commitment to attendance and active participation in lectures and taking daily, semester and final theoretical and practical exams. Using educational and technological means, and the modern method in teaching the subject and referring to practical training examples. Discussion is used in lectures as an effective means of delivering the study material to students and keeping up with the latest methods, approaches and modern trends in the teaching process.		
Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	10% (10)	2,4, 6, 8, 10	LO #1, #2, #3, #4
	Activities	1	10% (10)	9	LO #3, #4, #5
	practical.	1	10% (10)	Continuous	All
	project	1	10% (10)	12	LO #1, #2 and #3, #4
Summative assessment	Midterm Exam	1hr	10% (10)	10	LO #1-#4
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Chemotherapy of microbial diseases..... part 1
Week 2	Chemotherapy of microbial diseases..... part 2
Week 3	Chemotherapy of microbial diseases..... part 3
Week 4	Chemotherapy of parasitic disease.....part 1
Week 5	Chemotherapy of parasitic disease..part 2
Week 6	Drugs acting on cardiovascular system..... .part 1
Week 7	Drugs acting on cardiovascular system.....part 2
Week 8	Drugs acting on cardiovascular system.....part 3
Week 9	Drug acting on the respiratory system.....part 1
Week 10	Drug acting on the respiratory system.....part 2
Week 11	Drug acting on the respiratory system.....part 3
Week 12	Drugs affecting on Renal system.....part 1
Week 13	Drugs affecting on Renal system.....part 2
Week 14	Drugs affecting on Reproductive system..part 1
Week 15	Drugs affecting on Reproductive system.....part 2
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Neuromuscular blocking (on the frog)
Week 2	Calculation of drug dosage
Week 3	Xylazine-ketamine anesthesia in rabbits.
Week 4	Dose response relationships(ED50, LD50, TI)
Week 5	Anticonvulsants
Week 6	Determination of blood cholinesterase activity
Week 7	Organophosphate poisoning in rats or mice
Week 8	Xylazine effects in sheep
Week 9	Diuretics
Week 10	Asprin toxicity(comparison with acetaminophen)
Week 11	Neurobehavioral effects of drugs and toxicants
Week 12	Veterinary pharmaceutical preparations

Week 13	Veterinary pharmaceutical preparations
Week 14	Effect of drugs on the perfused heart
Week 15	Effect of drugs on the perfused heart
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Biochemistry by <u>Pankaja Naik</u> (Author), 6th edition (2022), Jaypee Brothers Medical Publishers Pvt Ltd.	Yes
Recommended Texts	Harper's Illustrated Biochemistry, 32nd Edition (2023) by <u>Peter J. Kennelly</u> (Author), <u>Kathleen M. Botham</u> (Author), <u>Owen McGuinness</u> (Author). McGraw Hill / Medical Publisher.	Yes
Websites	https://themedicalbiochemistrypage.org/	

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 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.

MODULE DESCRIPTION FORM

نموذج وصف مادة الطفيليات / الفصل الثاني

Module Information			
معلومات المادة الدراسية			
Module Title	Protozoa and Arthropod		Module Delivery
Module Type	C		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	VET308		
ECTS Credits	5.00		
SWL (hr/sem)	125		
Module Level	UGIII	Semester of Delivery	
Administering Department	DOP	College	VM
Module Leader	Lect. Dr. Haider Hadi Kattoof	e-mail	haider.hadi@uowasit.edu.iq
Module Leader's Acad. Title	Assist Prof.	Module Leader's Qualification	Ph.D.
Module Tutor	Assist. Prof. Dr. Abbas Hassan Khaty Assist. Prof. Dr. Zeid Muhsen Alsadoon Assist. Prof. Dr. Ola Abdulhussein Aggar	e-mail	abbashassan@uowasit.edu.iq Zaidalsadoon@uowasit.edu.iq oabdulhussien@uo.wasit.edu.iq
Peer Reviewer Name	Assist. Prof. Dr. Enas Mhihi Assist. Lect. Yas Abd Alkudher	e-mail	emhihi@uowasit.edu.iq YasAbd@uowasit.edu.iq
Scientific Committee Approval Date	21/05/2026	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1- Study of the clinical diagnosis of parasites by observing the pathological symptoms associated with parasitic infections. 2- Identify the most important morphological characteristics of parasites 3- Learn laboratory diagnostic methods of parasites in animal samples.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Learn the general classification of parasites. 2- studying and distinguishing between different types of parasites. 3- Study the life cycles of each parasite 4- Learn laboratory diagnostic methods for parasitic diseases. 5- Learn how to prevent and treat parasitic diseases. 6- Learn some scientific terms related to parasites.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Introduction: scientific terms. Phylum: Protozoa Phylum: Arthropod

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to theoretical lectures, practical training in the laboratory, seminars, reports, and assignments.

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
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 Evaluation					
تقييم المادة الدراسية					
As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	1,2,3,6
	Lab.	1	10% (10)	12	4
	Report	1	10% (10)	Continuous	All
	Seminars	1	10% (10)	Continuous	All
Summative assessment	Midterm Exam	2hr	10% (10)	8	All
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
Week	Material Covered
Week 1	Introduction & Definitions of Terms
Week 2	Trypanosomatidae,
Week 3	Trichomonadae
Week 4	Babesiidae,
Week 5	Theileriidae
Week 6	Monocercomonadidae,
Week 7	Eimeriidae,
Week 8	Sarcocystidae,
Week 9	Cryptosporidiidae
Week 10	Anaplasma
Week 11	Ixodidae, Argasidae,
Week 12	Sarcoptidae, Psoroptidae,
Week 13	Tabanidae, Culicidae,
Week 14	Oestridae, Calliphoridae
Week 15	Haematopinidae, Linognathidae, Flea
Week 16	Final exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	Material Covered
Week 1	T.evansi, T.cruzi, Leishmania
Week 2	Trichomonas foetus, Entamoeba Histolytica (trophozoite)
Week 3	Eimeria (life cycle), Sarcocystis,
Week 4	Toxoplasma gondii, Cryptosporidium
Week 5	Babesia canis, B. motasi
Week 6	Theileria, Anaplasma
Week 7	Hard ticks, Hyalomma,
Week 8	Rhipicephalus, Boophilus,
Week 9	larva, Soft tick (Argas persicus)
Week 10	Psorptes, Sarcoptes
Week 11	, Haematopinus
Week 12	Ctenocephalides canis,
Week 13	Oesteridae, Oestrus ovis
Week 14	Hypoderma bovis
Week 15	Gastrophilus intestinalis

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	E.J.L.Soulsby.(1982).Helminths,Arthropods and Protozoa of domesticated animals	Yes
Recommended Texts	Boman.(1999).Georgis,Parasitology for Veterinarians	Yes
Websites		

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 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.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية الجراثيم أجهازي والفطريات / المرحلة الثالثة/ ك2

Module Information			
Module Title	Systematic Bacteriology and Mycology		Module Delivery
Module Type	C		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	VET310		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGIII	Semester of Delivery	2
Administering Department	DVM	College	VM
Module Leader	Isa Swadi Toulali	e-mail	iswadi@uowasit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Basim Mohammed Hanon Isa Swadi Toulali Zaid Al Safi	e-mail	bmohammed@uowasit.edu.iq iswadi@uowasit.edu.iq
Peer Reviewer Name	Mohammed Ibrahim	e-mail	mibrahim@uowasit.edu.iq
Scientific Committee Approval Date	1 /6/2026	Version Number	1.0

Relation with other Modules			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents	
Module Objectives	1- Introduce students to the major bacterial genera relevant to medical and environmental microbiology, specifically Staphylococcus, Streptococcus, Corynebacterium, Listeria, Bacillus, Clostridium, Actinomyces, Nocardia,

	Actionbacillus, Pasteurella, Haemophilus, Moraxella, Bordetella, Pseudomonas (including Burkholderia), Sphaerophorus, Leptospira, Campylobacter, Brucella, Enterobacteriaceae, and Mycobacterium. 2- Provide a comprehensive overview of the taxonomic classification, characteristic features, and significant species within each bacterial group. 3- Explore the pathogenic mechanisms employed by these bacteria, focusing on their virulence factors and the diseases they cause. 4- Cover the epidemiological aspects of infections caused by these microorganisms, including their transmission and prevalence. 5- Present the methodologies used in the laboratory for the diagnosis, identification, and antimicrobial susceptibility testing of these bacterial pathogens. 6- Discuss current approaches to the treatment, prevention, and control of bacterial infections, including pharmacological interventions and public health strategies. 7- Foster an understanding of the broader impact of these bacteria on human health, animal health, and the environment
Module Learning Outcomes	Upon successful completion of this course, students will be able to: 1- Classify and differentiate between the major bacterial genera covered (e.g., <i>Staphylococcus</i>, <i>Streptococcus</i>, <i>Clostridium</i>, <i>Mycobacterium</i>) based on their key morphological, cultural, and biochemical characteristics. 2- Describe the principal virulence factors and mechanisms of pathogenesis for clinically significant species within each studied genus. 3- Identify the common diseases caused by these bacteria and their typical clinical presentations in humans or animals. 4- Outline the appropriate laboratory procedures for the isolation, identification, and antimicrobial susceptibility testing of these bacterial pathogens from clinical samples. 5- Discuss the general principles of treatment and prevention strategies, including appropriate antibiotic choices and vaccination, for infections caused by the specified bacteria. 6- Relate the characteristics of specific bacteria to their roles in both health and disease, and their significance in public health and clinical settings.
Indicative Contents	Indicative content includes the following. 1- Gram-Positive Bacteria 2- Gram-Negative Bacteria 3- Other Specific Bacteria 4- Laboratory Diagnosis and Advanced Concepts

Learning and Teaching Strategies	
Strategies	1-Interactive Lectures :Theoretical content will be delivered through lectures incorporating presentations and discussions to enhance understanding and explore complex concepts. 2-Case Studies and Problem Analysis :Clinical scenarios and real-world cases will be utilized to encourage students to apply theoretical knowledge in solving problems related to the diagnosis, treatment, and prevention of bacterial infections.

	3-Laboratory-Based Learning :Practical lab sessions will focus on equipping students with the necessary skills for isolating, culturing, identifying, and performing antimicrobial susceptibility testing on bacteria, thereby reinforcing practical understanding of concepts. 4-Group Discussions and Presentations :Students will be encouraged to participate in discussions on controversial topics or recent advancements in microbiology, and may be required to deliver presentations on specific subjects. 5-Research Assignments :The course may include individual or group research assignments to deepen students' understanding of specific topics or introduce them to cutting-edge research in the field. 6-Continuous Assessment :Student performance will be evaluated through a variety of tools including: ○ Periodic Exams :Such as mid-term and final exams to assess comprehensive understanding of the content. ○ Laboratory Reports :To evaluate practical skills and the ability to analyze results. ○ Class Participation :To assess intellectual engagement and contribution to discussions. ○ Projects and Assignments :To evaluate the ability to apply knowledge and conduct research.
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Student Workload (SWL)			
Structured SWL (h/sem)	63	Structured SWL (h/w)	4
Unstructured SWL (h/sem)	62	Unstructured SWL (h/w)	4.13
Total SWL (h/sem)	125		

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

Delivery Plan (Weekly Syllabus)	
Week	Material Covered
Week 1	Staphylococcus + Streptococcus
Week 2	Corynebacterium + Listeria
Week 3	Bacillus+ Clostridium
Week 4	Actinomyces and Nocardia + Actionbacillus
Week 5	Pasteurella + Haemophilus
Week 6	Moraxella and bordetlla
Week 7	Mid-term Exam
Week 8	Pseudomonas (Burkholderia) + Sphaerophorus
Week 9	Leptospira + Campylobacter
Week 10	Brucella+ Enterbacteriaceae
Week 11	Mycobacterium
Week 12	Introduction of fungi
Week 13	Classification of fungi
Week 14	Mold +yeast infection
Week 15	Antifungal drug
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
Week	Material Covered
Week 1	Lab 1: Staphylococcus
Week 2	Lab 2: Streptococcus
Week 3	Lab 3: Corynebacterium
Week 4	Lab 4: Rhodococcus, Listeria
Week 5	Lab 5: Bacillus
Week 6	Lab 6: Clostridium and Anaerobic Condition
Week 7	Lab 7: Mycobacterium
Week 8	Lab 8: Pasteurella
Week 9	Lab 9: Pseudomonas (Burkholderia)

Week 10	Lab 10: Leptospira
Week 11	Lab 11: diagnostic of mold
Week 12	Lab 12: diagnostic of yeast
Week 13	Lab 13: steps of isolations fungal
Week 14	Lab 14: sensitivity test

Learning and Teaching Resources		
	Text	Available in the Library?
Required Texts	-Veterinary Microbiology by D. Scott McVey, Melissa Kennedy, and M. M. Chengappa. -Veterinary Microbiology and Microbial Disease by P. J. Quinn, B. K. Markey, F. C. Leonard, P. Hartigan, S. Fanning, and E. S. Fitzpatrick. -Textbook of Veterinary Microbiology by S.N. Sharma and S.C. Adlakha.	No
Recommended Texts	Journal of Veterinary Diagnostic Investigation	No
Websites	https://pubmed.ncbi.nlm.nih.gov/	

Grading Scheme				
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 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.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	Systemic Veterinary Pathology		Module Delivery
Module Type	Core		☒ Theory ☒ Practical Lecture Report Seminar
Module Code	VET311		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	UGIII	Semester of Delivery	
Administering Department	Public health	College	Veterinary Medicine
Module Leader	Sattar Rashed Suhail	e-mail	sattarrashid@uowsit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	PhD
Module Tutor	Ghaith Sabah Ta'imah	e-mail	ghaiths.alabedi@uowasit.edu.iq
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	18/05/2026	Version Number	1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	VET305	Semester	1
Co-requisites module		Semester	

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	Preparing students at an advanced and specialized scientific level with the ability to understand systemic diseases in detail to prepare them for more specialized advanced stages in the field of diagnosing diseases and understanding the working mechanism of veterinary animals
Module Learning Outcomes	1. Understanding the mechanisms of changes that take place during the disease at the cellular level 2. Study of pathogens 3. Diagnosis of diseases 4. Clarify the means of the body's response to damage and repair at the cellular level 5. Understanding in-kind pathological phenomena such as transformation, mutation, atrophy, hypertrophy and inflammation. 6. Scientific research.
Indicative Contents المحتويات الإرشادية	Veterinary systemic pathology involves the study of diseases affecting various organ systems in animals. It combines clinical pathology and histopathology to understand the mechanisms, progression, and effects of diseases at a systemic level. Below are indicative contents typically covered in a veterinary systemic pathology course or textbook: 1. Pathology of the Cardiovascular System 2. Pathology of the Respiratory System 3. Pathology of the Gastrointestinal System 4. Pathology of the Urinary System 5. Pathology of the Endocrine System 6. Pathology of the Hematopoietic and Lymphatic Systems 7. Pathology of the Nervous System 8. Pathology of the Musculoskeletal System 9. Pathology of the Integumentary System 10. Pathology of the Reproductive System 11. Pathology of the Special Senses** These contents provide a comprehensive overview of the various organ systems and the pathological processes affecting them, which are essential for diagnosing and understanding diseases in veterinary pra

Learning and Teaching Strategies
1. Theoretical lectures 2. Discussions and dialogues 3. Clinical cases and comparative studies 4. Presentations and educational videos 5. Laboratories and practical training 6. Field visits and research projects 7. Active learning and collaborative learning

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (hr/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	Structured SWL (hr/w) الحمل الدراسي المنتظم للطالب أسبوعياً	5
Unstructured SWL (hr/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	Unstructured SWL (hr/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	4.8
Total SWL (hr/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Seminar	5	10% (10)	2,4, 6, 8, 10	LO #1, #2, #3, #4
	Quizzes	1	10% (10)	9	LO #3, #4, #5, #6
	Report	1	10% (10)	Continuous	All
	Assignment	1	10% (10)	12	LO #1, #2 and #3, #4
Summative assessment	Midterm Exam	1hr	10% (10)	10	LO #1-#4
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1-2	Respiratory System
Week 3-4	Cardiovascular System
Week 5	Hemopoietic System
Week 6-8	Digestive System
Week 9	Urinary System
Week 10	Nervous System
Week 11	Reproductive System
Week 12	Muscular System
Week 13	Integumentary System (Skin)
Week 14	Eye & Special Organs
Week 15	Examination

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Diseases of Respiratory system/ Upper respiratory tract/ Lung/ Pleura
Week 2	Diseases of Cardiovascular system
Week 3	Diseases of haemopoetic and lymphatic tissues
Week 4	Diseases of digestive system
Week 5	Diseases of digestive system
Week 6	Diseases of digestive system
Week 7	Med exam

Week 8	Disease of urinary system
Week 9	Disease of Male genital system
Week 10	Disease of Female genital system
Week 11	Diseases of Muscol- Skeletal system
Week 12	Diseases of Nervous system
Week 13	Disease of Endocrine
Week 14	Diseases of skin and accessory
Week 15	Diseases of eye and special organ

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	PATHOLOGIC BASIS OF VETERINARY DISEASE (SIXTH EDITION 2017)	
Recommended Texts	ROBBINS AND COTRAN PATHOLOGIC BASIS OF DISEASE. Vinay Kumar and Abul K. Abbas()10th edition, 2018.	
Websites	http://pathology.class.kmu.edu.tw/ch01/Slide1.htm	

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 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.				

MODULE DESCRIPTION FORM

Module Information			
Module Title	Animal Physical examination		Module Delivery
Module Type	Core		☐ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☒ Practical ☐ Seminar
Module Code	VET313		
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	UGIII	Semester of Delivery	
Administering Department	DVMP	College	VMBa
Module Leader	Hasanain A.J. Gharban	e-mail	hghirban@uowasit.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	18/05/2026	Version Number	1.0

Relation with other Modules			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents	
Module Objectives	1. In this course, students are trained in various methods of clinical examination of all body systems. 2. Evaluate the health status of animals. 3. Identify clinical signs present in infected animals. 4. Explain the most important methods of disease diagnosis, including detection and isolation of microbial pathogens. 5. Describe appropriate treatments to eliminate the disease and its causes. 6. Emphasize the importance of administering various types of vaccines to ensure protection of animals from exposure to various diseases.
Module Learning Outcomes	1- Distinguish between pathological and normal animal conditions. 2- Understand the biological and metabolic changes within a living organism and their relationship to diseases resulting from infection with various microbial pathogens. 3- Evaluate the animal's health status, including pulse, temperature, respiration, and digestive function. 4- Learn examination methods to detect these pathogens, identify the clinical signs present in infected animals, and subsequently treat them.
Indicative Contents	Indicative contents include following: Examination of animals and diagnosis and treatment of clinical disease cases received through the veterinary teaching hospital or field visits.

Learning and Teaching Strategies	
Strategies	1. The student will be able to identify various infections in the animal body and thus determine the appropriate treatment using various treatment methods. 2. The student will be encouraged to utilize their diagnostic skills and read laboratory test results and their relationship to infectious diseases. 3. The student will develop the ability to think critically and solve problems creatively using modern methods and related sciences.

Student Workload (SWL)			
Structured SWL (h/sem)	33	Structured SWL (h/w)	2
Unstructured SWL (h/sem)	17	Unstructured SWL (h/w)	1.1
Total SWL (h/sem)	50		

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

Delivery Plan (Weekly Syllabus)	
Week	Material Covered
Week 1	Principles of Clinical Examination
Week 2	General Approach to Clinical Examination
Week 3	Clinical Examination of the Lymphatic System
Week 4	Clinical Examination of the Skin
Week 5	Clinical Examination of the Head and Neck
Week 6	Clinical Examination of the Cardiovascular System
Week 7	Clinical Examination of the Respiratory System
Week 8	Clinical Examination of the Digestive System
Week 9	Clinical Examination of the Reproductive System
Week 10	Clinical Examination of the Udder
Week 11	Clinical Examination of the Urinary System
Week 12	Clinical Examination of the Musculoskeletal System
Week 13	Clinical Examination of the Neurological System
Week 14	Methods of Medication Administration

Week 15	Skin Examinations
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources		
	Text	Available in the Library?
Required Texts	Jackson, P. G., Cockcroft, P. D., & Elmhurst, S. (2002). Clinical examination of farm animals (Vol. 331). Oxford: Blackwell Science.	Yes
Recommended Texts	Smith, B. P. (Ed.). (2014). Large Animal Internal Medicine-E-Book: Large Animal Internal Medicine-E-Book. Elsevier Health Sciences.	No
Websites	Scientific articles and research	

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