الملحق ٤: وصف المادة الدراسية

MODULE DESCRIPTION FORM

وصف المادة الدراسية(الفسلجة)

فصل دراسي اول

Module Information معلومات المادة الدراسية					
Module Title	**physiology**			**Module Delivery**	
Module Type	**C**			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☒ **Tutorial** ☒ **Practical**	
Module Code	**VET301**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level		Third	**Semester of Delivery**		1
Administering Department		Type Dept. Code….	**College**	Type College Code……	
Module Leader	Rashad Fadial Ghadhban		**e-mail**	E-mail: rashad.ghadhban@uobasrah.edu.iq	
Module Leader's Acad. Title		Professor	**Module Leader's Qualification**		Ph.D.
Module Tutor	Adel Mousa Hassan		**e-mail**	E-mail: adal.hassan@uobasrah.edu.iq	
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date		----/----/2024	**Version Number**		1.0

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

Module Evaluation
تقييم المادة الدراسية

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

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. Understanding Physiology 2. understanding hematology 3. measurement of CBC 4. Techniques for measurement of parameters 5. diagnostic unhealthy cases
Module LearningOutcomes مخرجات التعلم للمادة الدراسية	1- Learning physiology typically results in a set of knowledge, skills, and values that the student acquires by the end of the course experience. Outstanding outcomes include: 2- Enable students to understand the fundamentals of physiology and medical physics. 3- Provide students with new scientific experiences in physiology through an independent laboratory. 4- Understand the fundamentals of the biological sciences in the body.5- Be able to apply scientific concepts in physiology to specific situations and circumstances. 6-Develop skills in analyzing and interpreting the various biological functions in the body.
Indicative Contents المحتويات الإرشادية	**Introduction to Physiology** **Cell Physiology** **Nervous System Physiology** **Muscle Physiology** **Cardiovascular Physiology** **Respiratory Physiology** **Renal Physiology** **Gastrointestinal Physiology** **Endocrine Physiology** **Reproductive Physiology** **Special Senses**

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The Disciplinary Approach for Physiology typically involves structuring the course and teaching methods around the core disciplines and scientific principles that underpin the study of physiological processes. This approach emphasizes a systematic, scientific exploration of body functions, integrating knowledge from biology, chemistry, physics, and medicine.Key Aspects of the Disciplinary Approach for Physiology: Foundational Sciences Integration Emphasize the role of anatomy, biochemistry, and molecular biology as foundational to understanding physiological mechanisms.Use principles from physics (e.g., fluid dynamics, electricity) to explain physiological phenomena like blood flow and nerve conduction. System-Based Study Organize content around major body systems (e.g., nervous, cardiovascular, respiratory) to provide a comprehensive understanding of how each system functions and interacts. Highlight interrelationships between systems to show integrative physiology. Experimental and Laboratory Focus Incorporate laboratory exercises and experiments to reinforce theoretical knowledge through practical application. Use quantitative measurements and data analysis to develop critical thinking and scientific inquiry skills. Clinical Relevance: Connect physiological concepts to clinical conditions and pathophysiology to enhance relevance for health sciences students. Include case studies and problem-solving sessions to apply knowledge in real-world scenarios. Progressive Complexity Start with cellular and molecular physiology, then build up to tissue, organ, and system levels. Gradually introduce advanced topics such as neurophysiology, endocrinology, and integrative physiology. Interdisciplinary Approach: Encourage collaboration with related disciplines such as pharmacology, pathology, and biophysics. Promote understanding of how physiological knowledge contributes to medical and health sciences.Use of Modern Technology Utilize computer simulations, imaging techniques, and other modern tools

	to visualize and analyze physiological processes. Diagnosis and Therapy: Learning diagnostic techniques and treatment options. This traditional method provides a comprehensive foundation but may lack practical application unless supplemented with other approaches.

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

وصف المادة الدراسية (الفسلجة)

فصل دراسي ثاني

Module Information معلومات المادة الدراسية					
Module Title	**physiology**			**Module Delivery**	
Module Type	**C**			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☒ **Tutorial** ☒ **Practical**	
Module Code	**VET203**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level		Third	**Semester of Delivery**		2
Administering Department		Type Dept. Code….	**College**	Type College Code……	

Module Leader	Prof.Dr Nawras Abdelah Alwan	**e-mail**	E-mail: nawras.alwan@uobasrah.edu.iq
Module Leader's Acad. Title	Professor	**Module Leader's Qualification**	Ph.D.
Module Tutor	Prof.Dr. Rashad Fadial Ghadban	**e-mail**	E-mail: rashad.fadial@uobasrah.edu.iq
Peer Reviewer Name	Name	**e-mail**	E-mail
Scientific Committee Approval Date	----/----/2024	**Version Number**	1.0

Relation with other Modules
العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5, 10	LO #1, 2, 10 and 11
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Total assessment			100% (100 Marks)		

اسم المادة : General Chemistry المرحلة : First class رمز الدرس : vet105
عدد الساعات النظرية : 3
عدد الساعات العملية : 2

اسم التدريسي : وصفي عبود لعيبي,حارث يعرب محمود
مفردات المادة :
المواضيع النظرية :

First Semester

NO	Theoretical Subjects	Hours
1	Atoms and electronic structure:- Atomic and mass number, isotopes, quantum numbers and atomic orbitals, electronic configuration, periodic table, ionization energy, atomic radii, electronegativity, electron affinity.	3
2	Types of the chemical bonds:- Covalent, coordinate covalent bonds, hydrogen bonding, hybridization theory(sp^{-} , sp^{2-} , sp^{3-} hybridization), atomic- , formula-, and molecular mass.	3
3	Acid base theory:- Definition of acids and bases, dissociation constant, pH value in different solutions(strong bases, weak acids or weak bases).	3
4	Volumetric analysis:- Titration of acids and bases, definition of titration, indicator, equivalent point, end point, standard solution, normal solution, molar solution. The equivalent weights in neutralization reactions, formula weight, calculation of the normality of concentrated acids. Buffer solution , biochemical buffers.	3
5	Organic chemistry:- Functional groups, alkanes and cycloalkanes (nomenclature, synthesis and reactions). Alkenes(nomenclature, synthesis and reactions). Chemical test of alkenes.	3
6	Alkynes and aromatic compounds:- Synthesis, reactions and chemical test of alkynes. Benzene(nomenclature and electrophilic substitution), reaction of the side chain of alkyl benzene.	3
7	Organichalides, ethers, alcohols and phenols:-Nomenclature, synthesis and reactions. Chemical test of alcohols.	3
8	Aldehydes and ketones:-Nomenclature, synthesis and reactions, chemical test of aldehydes and aldehydes or ketones with CH_3-group.	3
9	Carboxylic acids and carboxylic acid derivatives:- Nomenclature, synthesis and reactions of carboxylic acids and acid chlorides.	3
10	Antydrides, esters, and amides of carboxylic acids:- Nomenclature, synthesis and reactions. Amines, nomenclature, synthesis and reactions	3
	Total Hours	**30**

اسم التدريسي : وصفي عبود لعيبي,حارث يعرب محمود,ليلى عدنان
مفردات المادة :
المواضيع العملية :

First Semester

NO	Practical Subjects	Hours
1	**Titration, practice on titration with water. Preparation of standard Na_2CO_3 solution.**	**2**
2	**Standardization of HCl solution with standard solution of Na_2CO_3.**	**2**
3	**Analysis of amixture of $NaHCO_3$ and Na_2CO_3.**	**2**
4	**Iodometric titration:-Standardization of $Na_2S_2O_3$ and determination of Cu in $CuSO_4$ solution.**	**2**
5	**Selfindicator titration:-Standardization of $KMnO_4$ solution, determination of Fe in Fe SO_4 solution.**	**2**
6	**Precipitation titration:- Determination of chloride by Mohr method.**	**2**
7	**Determination of the strength volume of H_2O_2 solution.**	**2**
8	**Crystallization.**	**2**
9	**Determination of melting point.**	**2**
	Total Hours	**18**

استمارة رقم (2)

اسم المادة: **Physiology** المرحلة:**Second Class**

عدد الساعات النظرية: 4

عدد الساعات العملية :2 رمز الدرس : 203

اسم التدريسي :أ.د. منى حميد محمود أ.د. عادل موسى حسن –أ.د. رشاد فاضل غضبان - أ. د. أحلام علي عبد النبي- أ.د. بشرى فليح حسن –أ. م.د. زينب عبد الوهاب – أ.م.د. زينب عباس حسن-ا. م.د. اسماء سامي ماضي و ا.م.د. جنان عبدالخضر هلال و م. هند عبدالجليل

مفردات المادة :

المواضيع النظرية :

First Semester

NO	Theoretical Subjects	Hours
1	**Introduction to physiology**	**1**

2	**The cell and its function(Organization of the cell, membranous structures of the cell, cytoplasm and its organelles functional systems of the cell, Transport of substances through the cell membrane, radiation and metabolism of energy)**	**5**
3	**Nerve(structure of the nerve cell, membrane potentials and action potentials, origin of the normal resting membrane potential, nerve action potential, initiation of the action potential, special characteristics of signal transmission in nerve trunks, synapses, neurotransmitters and the neuromuscular junction.**	**5**
4	**Muscle(types of muscles and structures, General mechanism of muscle contraction, molecular mechanism of muscle contraction, molecular characteristics of the contractile filaments energetic of muscle contraction, characteristics of whole muscle contraction, mechanics of skeletal muscle contraction, rigor moris and physiology of cardiac muscle).**	**5**
5	**The autonomic nervous system (General organization of the autonomic nervous system, physiologic anatomy of the sympathetic nervous system, physiologic anatomy of the parasympathetic nervous system, chemical transmission at autonomic junctions, basic characteristics of sympathetic and parasympathetic function, receptors on the effector organs, effects of sympathetic and parasympathetic stimulation on specific organs ″Alarm ″ or ″Stress″ response of the sympathetic nervous system and system and control of the autonomic nervous system).**	**3**
6	**Blood(formed elements, functions of the blood, erythrocytes, erythropoiesis, hemoglobin, reactions of hemoglobin, white blood cells, chemotaxis, platelets, plasma proteins, blood coagulation, blood groups, immunity.**	**9**
7	**Lymph: Composition and function**	**1**
8	**Cerebrospinal fluid: Composition and function**	**1**
9	**Cardiovascular system(structure of the heart, and course of blood flow through the heart chambers and heart valves, cardiac cycle, heart sounds, the electrocardiogramcardiac output, blood flow in vessels, blood pressure, capillary circulation, venous circulation, cardiovascular regulatory mechanisms, innervations of blood vessels, cardiac innervation, vasomotor center, baroreceptors and blood-brain barrier)**	**10**
10	**Respiration (functional structures, mechanics of pulmonary ventilation, partial pressure of gases in alveolar and blood, surfactant, surface tension, and collapse of the alveoli, pulmonary**	**6**

	volumes, pulmonary capacities, alveolar ventilation, dead space and its effect on alveolar ventilation, functions of the respiratory. Passageways, mechanics of respiration, transport of gases in the blood and regulation of respiration)	
11	**Digestive system: salivary glands and saliva, structures of digestive system, gastric secretion, regulation of gastric secretion, exocrine portion of the pancreas, liver and biliary system, small intestine, intestinal secretion, intestinal motility, large intestine, defecation, absorption, rumination, microbiology of the rumen.**	**14**
	Total Hours	**60**

Second Semester

رمز الدرس : 209

NO	Theoretical Subjects	Hours
1	**Central Nervous system: Brain, brain stem, medulla oblongata, reticular formation of the brain stem, thalamus, hypothalamus, temperature regulation, sensory system, motor system (spinal cord and reflexes), learning and memory and limbic system.**	**12**
2	**Endocrine system: the relationship between nervous system and endocrine glands, hormones, types of hormones, mechanisms of hormone action, pituitary gland, thyroid gland, hormonal control of calcium metabolism, parathyroid glands, adrenal gland, pancreatic hormones, prostaglandins, atrial natriuretic peptide, pineal gland and thymus gland.**	**20**
3	**Male and female reproductive system: structures, spermatogenesis, structure of mature spermatozoon, endocrine function of the testes and control of testicular function. Structure of female reproductive system, types of follicles, estrous cycle, menstrual cycle, ovarian cycle, uterine cycle, vaginal cycle, puberty, ovarian hormones, abnormalities of ovarian functions. Pregnancy, placental hormones, parturition and lactation.**	**14**
4	**Kidney: nephron structure and blood supply, plasma volume, total blood volume, glomerular filtration, factors affecting the GFR, tubular function, tubular secretion, water excretion, osmotic dieresis, diuretics, factors affecting sodium excretion, regulation of potassium excretion, functions of ureter and urinary bladder.**	**10**
5	**Acid-base balance: Chemical buffer, regulation of CO_2 concentration by the respiratory system, regulation of plasma**	**4**

	HCO_3^- concentration by the kidney, fate of H^+ in the urine and body fluids.	
	Total Hours	**60**

المواضيع العملية : عدد الساعات العملية : 2

اسم التدريسي : **أ.د. منى حميد محمود أ.د. عادل موسى حسن –أ.د. رشاد فاضل غضبان - أ. د. أحلام علي عبد النبي- أ.د. بشرى فليح حسن –أ. م.د. زينب عبد الوهاب – أ.م.د. زينب عباس حسن-ا. م.د. اسماء سامي ماضي و ا.مد. جنان عبدالخضر هلال**

First Semester

NO	Practical Subjects	Hours
1	**Introduction to apparatus and instruments.**	4
2	**Fragility of Red Blood cell.**	2
3	**Red blood cell count.**	2
4	**White blood cell count.**	2
5	**Differential leukocyte count**	2
6	**Estimation of hemoglobin**	2
7	**Estimation of packed cell volume**	2
8	**Estimation of erythrocyte sedimentation**	2
9	**The Wintrobe erythrocyte indexes**	2
10	**Blood groups**	2
11	**Coagulation time**	2
12	**Bleeding time**	2
13	**Blood pressure**	2
14	**Effect of exercise and gravity on blood pressure and venous pressure**	2
	Total Hours	**30**

رمز المادة: 207

Second Semester

NO	Practical Subjects	Hours
1	**Lung volumes(measurement of respiratory volume spirometry).**	2
2	**Measurement of pulmonary ventilation and respiratory movements.**	2
3	**Urine examination.**	2
4	**Frog sciatic nerve and gastronemius muscle preparation.**	2
5	**The simple muscle twitch.**	2

6	**The effect of temperature on muscle contraction.**	2
7	**Effect of stimulus strength on muscle contraction and fatigue.**	2
8	**Summation of two stimuli and tetanus.**	2
9	**Frogs heart(sequence of the heart beat and effect of acetylcholine on heart).**	2
10	**Extrasystole and compensatory pause and Stannius ligatures.**	2
11	**Evaluation of seminal quality.**	2
12	**Estrous cycle of the rat.**	2
13	**Overiectomy in rat.**	2
14	**Review**	2
	Total Hours	**28**

استمارة رقم (3)

اسم المادة : **Biochemistry**

المرحلة:ا**Second Class**

عدد الساعات النظرية :3

عدد الساعات العملية :2

اسم التدريسي : أ.د. ايمان عبود لعيبي , أ.د. نورس عبد الاله علوان. ا.م.د. ليلى عدنان عبدالجبار ا.م. حارث يعرب

رمز المادة: 204

المواضيع النظرية :

First Semester

NO	Theoretical Subjects	Hours
1	**Cell biochemistry**	**4**
2	**Enzymes: Mechanism of action, kinetic of enzyme activity, factor affecting enzyme activity, Regulation of enzyme activity.**	**6**
3	**Hormones:Introduction, mechanism of action of hormones, signal transduction.**	**7**
4	**Carbohydrates:Bioenergetics & Metabolism, Biosignalling, Biological oxidation**	**8**
5	**Respiratory chain, Oxidative phosphorylation, citric acid cycle, The catabolism of acetyl CoA.**	**6**
6	**Gluconeogenesis & Glycolysis,Pentose phosphate pathway.**	**5**
7	**Aminoacid and protein : Anabolism and catabolism, classification of amino acids, peptides, amino acid metabolism, nitrogen excretion and the urea cycle.**	**7**
	Total Hours	**43**

Second Semester

NO	Theoretical Subjects	Hours
1	**Lipid: Introduction, fatty acids, digestion and absorption of lipids, oxidation, of fatty acids, ketogenesis, biosynthesis of fatty acids, cholesterol, lipoproteins.**	**5**
2	**Lipid transport &storage.**	**5**
3	**cholesterol synthesis, transport and excretion.**	**5**
4	**Nucleotids and Nucleic acids: Structure& function.**	**5**
5	**Metabolism of nucleotides**	**4**
6	**Regulation of gene expression**	**5**
7	**RNA Synthesis, process, modification**	**6**
8	**DNA Organization, Replication anf Repair**	**6**
9	**Protein synthesis and the genetic code.**	**6**
	Total Hours	**47**

عدد الساعات العملية : 2

اسم التدريسي :أ.د. نورس عبد الإله علوان - أ.م.د. ليلى عدنان عبدالجبار ا.م. حارث يعرب

المواضيع العملية :

First Semester

NO	Practical Subjects	Hours
1	General instruction	**2**
2	Carbohydrates	
3	General qualitative test	**2**
4	Unknown of carbohydrates	**2**
5	glycogens	**2**
6	proteins	
7	Fibros proteins	**2**
8	Separation of albumin and globin by precipitation	**2**
9	Glycoprotein	**2**
10	Phosphoprotein	**2**
11	Enzymes	
12	Amyolytic activity of amylase	**2**
13	Effect of pH on amylase activity.	**2**
14	Effect of temperature on amylase activity	**2**
15	Urine	
16	Physical properties of urine	**2**

17	Normal and abnormal constituents of urine	**2**
18	Unknown of urine	**2**
19	Exam	**2**
	Total Hours	**30**

Second Semester

NO	Practical Subjects	Hours
1	Photometric methods in biochemical analysis	**4**
2	Determinate of serum total protein	**2**
3	Calibration curve of protein	**2**
4	Determinate of serum amylase activity	**2**
5	Determinate of serum inorganic phosphate	**2**
6	Determinate of serum total calcium	**2**
7	Determinate of serum bilirubin	**2**
8	Determinate of serum creatinine	**2**
9	Determinate of serum uric acid	**2**
10	Determinate of serum cholesterol	**2**
11	Enzymatic method for glucose	**2**
12	Determinate of serum total lipid	**2**
13	Determinate of serum urea	**2**
14	Exam	**2**
	Total Hours	**30**

استمارة رقم (4)

اسم المادة : Pharmacology **المرحلة :Third Class**

عدد الساعات النظرية : -3

عدد الساعات العملية : 2 رمز المادة:302

اسم التدريسي : ا. م.د. جلاء عامر- أ.م.د. نوفل حمادي جاسم.-.ا.م هدى كامل خصاف

مفردات المادة :

المواضيع النظرية :

First Semester

NO	Theoretical Subjects	Hours
1	Principle of pharmacology	9
2	Drugs acting on autonomic and somatic nervous system	10

3	Drugs acting on central nervous system	10
4	Drugs affecting gastrointestinal function	5
5	Autacoids and anti-inflammatory drugs	8
6	Dermatopharmacology	2
	Total Hours	**44**

رمز المادة: 308

Second Semester

NO	Theoretical Subjects	Hours
1	Chemotherapy of microbial disease	10
2	Chemotherapy of parasitic disease	10
3	Drugs acting on cardiovascular system and blood	10
4	Drugs affecting renal function and fluid-electrolyte therapy	5
5	Drugs affecting the respiratory system	8
6	Endocrine pharmacology and hormones	2
	Total Hours	**45**

عدد الساعات العملية : 2 اسم التدريسي : ا.م.د. جلاء عامر- أ.م.د. نوفل حمادي جاسم. – ا.م. هدى كامل خصاف.

مفردات المادة :

المواضيع العملية

First Semester

NO	Practical Subjects	Hours
1	Metrology	2
2	Nature and source of drugs	4
3	Pharmaceutical preparations and drug forms	2
4	Routes of drug administration	2
5	Variations in drug response(species and individual)	4
6	Microsomal enzymes activity induction and drug response	2
7	Excretion of drugs	2
8	Prescription writing	2

9	Dispensing	4
10	Action of drugs on the eyes	2
11	Action of drugs on isolated guinea pigs ileum	2
12	Drugs and effects on the rabbit intestine	2
13	Drugs and effects on the rabbit uterus	2
	Total Hours	**32**

Second Semester

NO	Practical Subjects	Hours
1	Neuromuscular blocking (on the frog)	2
2	Calculation of drug dosage	2
3	Xylazine-ketamine anesthesia in rabbits.	2
4	Dose response relationships(ED50, LD50, TI)	2
5	Anticonvulsants	2
6	Determination of blood cholinesterase activity	2
7	Organophosphate poisoning in rats or mice	2
8	Xylazine effects in sheep	2
9	Diuretics	2
10	Asprin toxicity(comparison with acetaminophen)	2
11	Veterinary pharmaceutical preparations	4
12	Neurobehavioral effects of drugs and toxicants	2
13	Effect of drugs on the perfused heart	2
	Total Hours	**28**

Grading Scheme مخطط الدرجات				
Group	**Grade**	**التقدير**	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A -** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria

Fail Group (0 – 49)	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

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