

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Systemic Physiology		Module Delivery	
Module Type	Basic		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☒ Practical ☐ Seminar	
Module Code	MDER312			
ECTS Credits	5			
SWL (hr/sem)	125			
Module Level	3	Semester of Delivery		5
Administering Department	Type Dept. Code	College	Type College Code	
Module Leader	Msc Hussain Abdulhasan Owaid		e-mail	Hussain-a@utq.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Msc	
Module Tutor	Msc Hussain Abdulhasan Owaid		e-mail	Hussain-a@utq.edu.iq
Peer Reviewer Name			e-mail	Hasnaa.Mohammad@alayer.edu.iq
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 Objectives أهداف المادة الدراسية	will provide students with the basic knowledge of human physiology, focusing on the mechanisms and functions of major organ systems at the cellular, tissue, and systemic levels. The emphasis is on understanding how the healthy body maintains homeostasis, with consideration of changes related to disease and aging. The course also offers essential biological insights into human body functions,



	supporting applications in biomedical sciences and bioengineering fields.		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Knowledge	A2	A2-1 define the fundamental principles of systemic physiology, including homeostasis, feedback mechanisms, and the functional roles of major body systems in maintaining internal stability. A2-2: explain the integrated functions of key organ systems such as the cardiovascular, respiratory, renal, endocrine, and nervous systems, and how they coordinate to support body functions under normal and stress conditions. A2-3 appropriate experimental methods and diagnostic tools (e.g., ECG, spirometry, blood tests), and relate physiological data to clinical scenarios and case studies to understand disease mechanisms and treatment strategies.
		A3	A3-1 recognize physiological functions through experimental activities, simulation models, and diagnostic techniques (such as ECG, spirometry, and blood pressure monitoring), ensuring accurate assessment and understanding of systemic functions. A3-2: Apply physiological interactions, functional variations, and clinical correlations, integrating theoretical knowledge with practical findings while adhering to safety protocols and professional ethics. A3-3 Analyze basic vital functions, blood samples and the effects of various factors on physiological functions .
	Skills	B1	B1.1 Function efficiently as an individual B1.2 Function as a member of multidisciplinary and multicultural teams
		B2	B2.1 Communicate effectively – graphically with a range of audiences using contemporary tools. B2.2 Communicate verbally and in writing with a range of audiences using contemporary tools.
	Ethics	C2	C1-1: Commit to quality standards. C1-2: Adhere to deadlines. C1-3: Strive for continuous improvement.
Indicative Contents المحتويات الإرشادية	• diffusions, water balance, electrolyte balance. [4 hrs.] 1. Clinical abnormalities of fluid volume regulation (hypo& hyper natremia) + Edema(intra & extra cellular). [4 hrs.] 2. Physiology of blood Definition, functions, compositions, cells (RBC,		

	Hmopoiesis, production, stages of differentiation, genesis, erythropoietin, Hb, anemia, polycythemia) , diapedesis [8 hrs.] 3. White blood cells (types: neutrophils, monocytes, eosinophils, basophils, lymphocytes), Phagocytosis. [8 hrs.] 4. Blood clotting factors Blood groups and transfusion reaction. [6 hrs.] 5. WBC Immunity [8 hrs.] 6. Muscle & nerve [37 hrs.]
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Lectures Brainstorming strategy Practical demonstrations Research projects

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	79	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	5.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	46	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	3.06
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	2	10% (10)	5 and 10	
	Attendance		10% (10)		
	Report / Lab.	1	15% (15)	10	
	projects	1	15% (10)	7	
Summative assessment	Midterm Exam	1hr	10% (10)	10	
	Final Exam	2hr	50% (50)	16	
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered	LOs
Week 1	Body fluids Compartments, distributions, calculations, osmosis and diffusions, water balance, electrolyte balance.	A2B1C1
Week 2	Clinical abnormalities of fluid volume regulation (hypo& hyper natremia) Edema(intra & extra cellular).	A2 A3B1B2C1C3
Week 3	Physiology of blood Definition, functions, compositions, cells (RBC, Hmopoiesis, production, stages of differentiation, genesis, erythropoietin,Hb, anemia, polycythemia) , diapedesis	A2 A3B1B2C1
Week 4	Physiology of blood Definition, functions, compositions, cells (RBC, Hmopoiesis, production, stages of differentiation, genesis, erythropoietin,Hb, anemia, polycythemia) , diapedesis	A2 A3B1B2C1
Week 5	White blood cells (types: neutrophils, monocytes, eosinophils, basophils, lymphocytes), Phagocytosis.	A2A3B1B2C1C3
Week 6	White blood cells (types: neutrophils, monocytes, eosinophils, basophils, lymphocytes), Phagocytosis.	A2 A3B1B2C1
Week 7	Blood clotting factors	A2A3B1B2C1C3
Week 8	Blood groups and transfusion reaction.	A2A3B1B2C1C3
Week 9	WBC Immunity I	A2A3B1B2C1C3
Week 10	WBC Immunity II	A2A3B1B2C1C3
Week 11	Muscle & nerve	A2A3B1B2C1C3
Week 12	Muscle & nerve	A2A3B1B2C1C3
Week 13	Muscle & nerve	A2A3B1B2C1C3
Week 14	Muscle & nerve	A2A3B1B2C1C3
Week 15	SEMINAR	B2B1C2
Week 16	Preparatory week before the final Exam	



Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر		
	Material Covered	LOs
Week 1	Lab 1: Osmosis	A3
Week 2	Lab 1: The total RBC count	A3
Week 3	Lab 2: The total WBC count	A3
Week 4	Lab 3: Differential WBC count	A3
Week 5	Lab 4: Estimation of Hb	A3
Week 6	Lab 5: Blood clotting	A3
Week 7	Lab 6: Blood grouping and cross matching	A3

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Principles of anatomy and physiology, by Gerard J. Tortora & Bryan H. Derrickson 12th ed. Volume 1 2009	Yes
Recommended Texts	Text book of medical physiology, by Guyton & Hall . eleven ed. 2020.	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.

