KOYA UNIVERSITY	Kurdistan Region – Iraq Ministry of Higher Education and Scientific Research Koya University **B.Sc. Program**	

MODULE DESCRIPTOR FORM

Module Information				
Module Title	**PHYSIOLOGY**		**Module Type**	B, C, R, E
Module Code	**PHS9009**	**ECTS Credit**		14
Module Level	B.Sc.	**Semester of Delivery**		Blending
Administrating Department	SMED	**Faculty**	Medical School	
Module Leader	Rezhna Adil Rasheed	**e-mail**	Rezhna.rashid@epu.edu.iq	
Module Leader's Acad. Title	Assistant Lecturer	**Module Leader's Qualification**		M.Sc.
Module Tutor	Rezhna Adil Rasheed	**e-mail**	Rezhna.rashid@epu.edu.iq	
Peer Reviewer Name		**e-mail**		
Review Committee Approval	DD/MM/2021	**Version Number**	1.0	

Relation With Other Modules	
Pre-requisites	**Physiology PHS9009**
Co-requisites	
Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	**Course objective of physiology:** • To explain the physical and chemical factors that are responsible for the origin, development, and progression of life. • Structure and function of each part of different human systems.

	• To have knowledge about normal function of each organ of different systems and co-functional connection between different organs of different systems in a normal healthy body. • Attempt to explain the specific characteristics and mechanisms of the human body that make it a living being
Module Learning Outcomes	*At the end of the course, students will have……* • Knowledge about the physiology of all related major organs • Sufficient physiological vocabulary so that the student understand and conversant with medical terminology. • Interpret all haematological and lab. test results, detect their abnormality causes • To provide students with the knowledge about the function of different body systems and organs. • To make students understand the mechanisms of function that operate in the living organism at all levels ranging from subcellular to the whole integrated body. • To provide students throughout teaching programs with necessary examples of clinical applications of dysfunction. • Knowledge about Physiology that considered to be the basis of medicine, a high proportion of body disorders are basically physiological malfunctions
Indicative Contents	
Learning and Teaching Strategies	
Strategies	Following stratifies will be followed in the course: 1. Class Lecturing 2. Seminars 3. Solving problems 4. reflections 5. Small Group Discussion 6. Case studies

Module Delivery							
Lecture (hr/w)		Lab. (hr/w)		Practical (hr/w)		Seminars(hr/w)	2
SSWL (hr/sem)	4						
USSWL (hr/sem)	3						
Total workload (hr/sem)	9						

Module Evaluation				
	Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Quizzes	6	6% (6)	Each two weeks	
Assignments	6	6% (6)	At the start	
Projects / Lab.		12% (12) / 18% (18)	Continuous	
Midterm Exam	2 hr	36% (36) / 30% (30)	8	
Final Exam	3 hr	40% (40)	16	All
Total		100% (100 Marks)		

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	1. Text book of medical physiology (Guyton &Hall) 2. Review of medical physiology (Ganong). 3. Principles of anatomy & physiology, Gerard J. Tortora, Bryan H. Derrickson, 16th Edition, ebook, [2020] 4. Essentials of medical Physiology, 6th Edition, by Dr. K. Sembulingam and Dr. Prema Sembulingam, Publisher: Jayvee Brothers Medical Publishers Ltd., New Delhi, India, [2012] 5. Cell Physiology Source Book: Essentials of Membrane Biophysics 4th Edition, by Nicholas Sperelakis, Academic Press; (January 11, 2012)	

	6. Additional references: Medical websites e:g Pubmed (https://www.ncbi.nlm.nih.gov/pubmed) Google Scholar (https://scholar.google.com)	

Delivery Plan	
Weeks	**Material Covered**
Week 1	**Introduction,** functional organization of human body & control of internal environment, cells, its functions and structure, specialization, homeostasis & homeostatic control system.
Week 2	**Cell membrane structure and function**, transport mechanisms and its types, importance and regulation, factors affecting membrane transport
Week 3	**Electrophysiology,** membrane potential and action potential, phases and stages of action potential.
Week 4	**Membrane channel types**, channelopathy, ion channels (K, Na, and Ca channels), physiology, diseases and disorders related to channel abnormality.
Week 5	**Physiology of cardiovascular system** Components of circulatory (cardiovascular) system, heart and its function, Structures of the heart, heart valves and cardiac cycle, heart beat and heart sounds, cardiac output, blood pressure: its measurement, regulation, diseases related to hypertension, ECG.
Week 6	**Hematology & Hematopoiesis** (from fetal stage till the adolescence), blood cell formation from bone marrow and its entrance to the circulation. Role in blood formation, Methods for sampling, Dysfunction and diseases caused by it. Erythropoiesis, Causes of anemia, Erythrocytosis. Leucopoiesis, the pathological conditions of leucopenia and leukocytosis
Week 7	**mid term assessment**
Week 8	**mid term assessment**
Week 9	**Physiology of Respiratory system** Components of respiratory system (upper & lower respiratory system components), Structures and function of different respiratory system organs, respiration and ventilation,
Week 10	**Physiology of Digestive system** Components of digestive system, digestion, phases of digestion, parts of digestive system and their functions; mouth, saliva, teeth, oesophagus, stomach, small and large intestinal tracts, accessory organs of digestive system (liver, spleen, pancreas and gall bladder)
Week 11	**Physiology of Urinary system** Components of urinary system, Kidney and its function, Structures of the kidney, its role in

	water and solute balance in blood, process of urine formation.
Week 12	**Physiology of reproductive system** female male reproductive system organs and hormones, male reproductive system organs and hormones, ovulation, fertilization and fetus growing stages during pregnancy
Week 13	**Physiology of Lymphatic System** Structure & function of lymphatic system and body's immune system, Position of the main lymph nodes & ducts in the body, Connection between blood & lymph, Diseases & disorders of the lymphatic system.
Week 14	**Physiology of Endocrine System** Introduction of classical endocrine systems, overview of vertebrate endocrinology, classes of hormones, sources of hormones, production and synthesis of hormones, receptors and target tissues, mechanisms of action and regulation.
Week 15	**Physiology of Integumentary System** Introduction of integumentary system, Types of membrane, Skin and its tissue, Accessory organs of the skin, Regulation of body temperature, Skin color, Common skin disorder
Week 16	**Physiology of Nervous System** Introduction and general function of the Nnervous system, Nervous tissue, cell membrane potential, the synapse, processing impulses, classification of neurons and nerve fibers, and nerve pathway

APPENDIX:

KOYA UNIVERSITY					
GRADING SCHEME					
Group	**ECTS Grade**	**% of Marks**	**Definition**	**IRQ System**	**GPA**
Success Group (50-100)	**A -** Excellent	Best 10%	Outstanding Performance	90-100	**5**
	B - Very Good	Next 25%	Above average with some errors	80-89	**4**
	C - Good	Next 30%	Sound work with notable errors	70- 79	**3**
	D - Satisfactory	Next 25%	Fair but with major shortcomings	60-69	**2**
	E - Sufficient	Next 10%	Work meets minimum criteria	50-59	**1**
Fail Group (0–49)	**FX –** Fail	(45-49)	More work required but credit awarded	40-49	
	F – Fail	(0-44)	Considerable amount of work required	0-44	

NB 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. KOU 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.