Module (Course Syllabus) Catalogue

2022-2023

College/ Institute	Koya Technical Institute
Department	Medical laboratory technical
Module Name	Physiology and Anatomy
Module Code	PHA 105
Degree	Technical Diploma ■ Bachler ☐ High Diploma ☐ Master ☐ PhD ☐
Semester	First
Qualification	Master degree in Physiology
Scientific Title	Assist. Lecturer
ECTS (Credits)	8
Module type	Prerequisite ☐ Core ■ Assist. ☐
Weekly hours	4
Weekly hours (Theory)	(2) hr Class (3) Total hrs Workload
Weekly hours (Practical)	(2) hr Class (1)Total hrs Workload
Number of Weeks	12
Lecturer (Theory)	Aveen Muhsin Asaad
E-Mail & Mobile NO.	aveen.muhsin@epu.edu.iq 07501783334
Lecturer (Practical)	
E-Mail & Mobile NO.	
Websites	

Course Book

Course Description	This course, which consists of (2) hours lecture & (2) hrs lab per week for (12) weeks, is an introduction to Human physiology and anatomy, the systems that present in human body &explain how they work and how they do their specific function and also explain the biological relation between these systems. All the way into great detail of each of the major systems of the body, students will learn through reading, video lessons, collaborative group work, interactive notebook projects, and labs. One of the goals of this course is to prepare students with the skills necessary to be successful in future science classes in institute and medical fields.
Course objectives	At the conclusion of this course the student should be able to demonstrate through written examinations, quizzes, and oral discussion the following achievements: 1. Demonstrate and understanding of basic physiological concepts that relate to Human body and anatomy of the human body 2. Explaining of the physiological processes at the level of cell, tissues and body organs. 3. Demonstrate an understanding of different diseases in reflects to the normal body mechanisms 4. Describe each body system in terms of its structure and functions. 5. Demonstrate basic laboratory skills.

Student's obligation	**1. Attendance:** The students should be attendance and complete all tests, assignments and exams. They must participate in team and solo working during class activities and laboratory works. **2. Participation:** The students must participate in team and solo working during class activities and laboratory works. They must enrol in all exams (midterm and final) and all assignments (quiz, seminars, paper, reports and homework).				
Required Learning Materials	**Theory:** Lecture halls with computers equipment for lecture presentations, white board, and data show. **Laboratory practice:** Equipment available in various clinical settings General: Library, computer suite with internet access				

Evaluation	Task		Weight (Marks)	Due Week	Relevant Learning Outcome
Evaluation	Paper Review				
	Assignments	Homework	5		
		Class Activity	2		
		Report	10		
		Seminar			
		Essay			
		Project			
	Quiz		8		
	Lab.		10		
	Midterm Exam		25		
	Final Exam		40		
	Total		**100**		

Specific learning outcome:	**By the end of this course the students will be able to:** 1. Demonstrate and understand the basic concepts that relate to the physiology and anatomy. 2. Explain the physiological processes at the level of cell, tissues and body organs. 3. Understand the physiological body systems and their functions. 4. Connect theoretical knowledge and learn how abnormal physiology can lead to disease. 5. Apply knowledge in practice.

Course References:	1. Hall, John E., and Michael E. Hall. Guyton and Hall textbook of medical physiology e-Book. Elsevier Health Sciences, 2020. 2. Human Anatomy and Physiology I Anthony Cooper, John Williams, Jones Albany, Kendra Merchant. 2015 11 3. Hoffman, Ronald, et al. Hematology: basic principles and practice. Elsevier Health Sciences, 2013. 4. Cooper, Anthony, et al. "Human Anatomy and Physiology I." (2015). 5. Sembulingam, Kirma, and Prema Sembulingam. Essentials of medical physiology. JP Medical Ltd, 2012. 6. Shier, David, Jackie Butler, and Ricki Lewis. Hole's essentials of human anatomy & physiology. McGraw-Hill Education, 2018.

Course topics (Theory)	Week	Learning Outcome
Introduction to medical human anatomy and physiology	1	Able to knowing the general principle of cells, tissue, organs
Transport through the biological membranes	2	Be able to knowing all the types of methods in transporting material across the biological membrane
Circulatory system	3	Identify the circulatory system, components and its functions
Cellular part of blood (RBC and WBC)	4	Be able to knowing all types of blood cells and their functions

Muscle physiology and anatomy	5	Be able to know every parts of muscle system part and their functions
Neurophysiology and anatomy (Nervous system)	6	Be able to know every parts of nervous system part and their functions
Urinary system and renal physiology	7	Be able to know every parts of renal system part and their functions
Respiratory system	8	Be able to know every parts of Respiratory system part and their functions
Gastrointestinal system physiology	9	Be able to know every parts of Gastrointestinal system part and their functions
Reproductive system	10	Be able to know every parts of Reproductive system part and their functions

Sensory and vision	11	Demonstrate the ability to think critically and solve problems in a laboratory setting 2-Ability to apply knowledge in practice
Immune system	12	Explain the types of immune cells and function of the system
Practical Topics	**Week**	**Learning Outcome**
Microscopic component and its uses	1	Be able to knowing all parts and their functions and how to use of microscope
Blood bank, blood drawing	2	Be able how to draw blood sample
Blood smear and staining	3	Be able how to make a blood smear and detection of different types of blood sample in it
Haemoglobin estimation	4	Be able to know how

		blood can be estimate
Blood group and rhesus factor	5	Being able to know how to detection the types of blood group
Packed cell volume	6	Be able to practice on how can determination the ration of the PCV
Bleeding and clotting time	7	Be able to knowing how to detect the rate of bleeding and clotting rate
Blood pressure estimation and detection body temperature	8	Be able how to detect blood pressure and thermal detection
Spirometer for detecting Respiratory volume of the lungs	9	Be able to detect the respiratory volume of the lung
R.B.C. count	10	Be able to count RBC on microscope slide
W.B.C count	11	Be able to count WBC on microscope slide

Erythrocyte sedimentation rate	12	Be able to estimate the rate of E.S.R.

Questions Example Design

Q1/ Define the followings:

1. Physiology. 2. Homeostasis. 3.Blood.

Q 2/ Choose the correct answer by circle around it:

1. The branch of the biological sciences dealing with the functioning of organisms. (Microbiology, parasitology, physiology, histology)

2. Are a group of similar cells and the materials surrounding them? (Cells, organs, tissues, organ system)

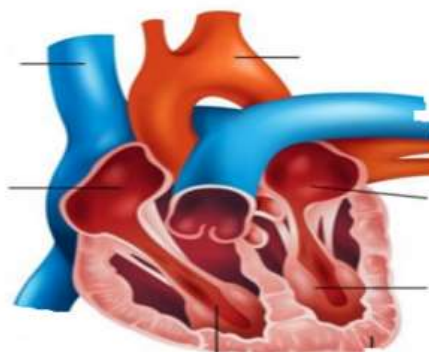3. Includes the changes an organism undergoes through time. (Development, growth, reproduction, homeostasis)

Q 3/ The following sentences is true (**T**) or false (**F**)?

1. Liver is a cone-shaped, muscular organ located between the lungs behind sternum.

2. The vas deferens is formed by the joining of the ductus deferens & the duct from the seminal vesicle.

3. Pancreas produces bile, which contains bile salts that emulsify fats.

4. Sugar are digested in stomach.

Q 4/ Enumerate the followings only:

1. Types of white blood cell agranulocyte.

2. Types of blood vessels:

Q 5/ Write name of the assigned spots:

Extra notes : To encourage students to have roll in daily activities, I will assess students each lesson. Never stop learning and give up, so I welcome any positively suggestions from students.

External Evaluator