

## Module (Course Syllabus) Catalogue 2023-2024

College/ Institute	Mergasor Technical Institute	
Department	Nursing	
Module Name	Human Physiology	
Module Code		
Degree	Technical Diploma <input type="checkbox"/> *	Bachelor <input type="checkbox"/>
	High Diploma <input type="checkbox"/>	Master <input type="checkbox"/> PhD <input type="checkbox"/>
Semester	1	
Qualification	PhD	
Scientific Title	Lecturer	
ECTS (Credits)		
Module type	Prerequisite <input type="checkbox"/>	Core <input type="checkbox"/> * Assist. <input type="checkbox"/>
Weekly hours	4	
Weekly hours (Theory)	( 2 ) hr Class	( ) Total hrs Workload
Weekly hours (Practical)	( 2 ) hr Class	( ) Total hrs Workload
Number of Weeks	12	
Lecturer (Theory)	Dr. Hazhar Muhammad Balaky	
E-Mail & Mobile NO.	<a href="mailto:hazhar.hamadameen@epu.edu.iq">hazhar.hamadameen@epu.edu.iq</a> 07504678667	
Lecturer (Practical)		
E-Mail & Mobile NO.		
Websites		

# Course Book

<p><b>Course Description</b></p>	<p>The study of human physiology integrates knowledge across many levels, including biochemistry, cell physiology, organ systems, and the body as a whole. Develop knowledge about the functions of organs and tissues in the human body. Moreover, students will be able to explain the molecular and cellular basis of physiological functions in human. Furthermore, the course is designed to provide the students with theoretical knowledge in human physiology. This course is also providing an introduction to principal physiological systems in human, how they operate and how they are regulated.</p>
<p><b>Course objectives</b></p>	<p><b><u>Course Objectives include:</u></b></p> <ol style="list-style-type: none"> <li>1. Understand the basic principles of human physiology, including homeostasis and cellular function.</li> <li>2. Identify and describe the structure and function of major organ systems in the human body.</li> <li>3. Analyse physiological processes such as nerve impulse transmission, muscle contraction, and digestion.</li> </ol>
<p><b>Student's obligation</b></p>	<p>In order to succeed in Human Physiology, you must attend lectures, Absences affect your understanding of the material. Absences due to illness are understandable but I would appreciate if you inform your department and make contacting to the department office. Regardless of the reason, you should obtain lecture notes from a fellow student or me and check with me to make sure you understand the notes.</p>
<p><b>Required Learning Materials</b></p>	<p><b>Lectures</b></p> <p>For all students in the respective course of study take place in a lecture hall. All students take the lecture together. The lecturer will give a hard copy to all students and explain the contents of lectures by making slides in power point and presenting it by a projector.</p> <p><b>Seminars</b></p> <p>Some time I will make groups for seminars each group will have 4-5 students depend on the number of students. Through student presentations and conversations, students' ability to dialogue with each other will promote and improve as well as to actively and critically deal with the material.</p>

<b>Evaluation</b>	<b>Task</b>		<b>Weight (Marks)</b>	<b>Due Week</b>	<b>Relevant Learning Outcome</b>
	Paper Review				
	Assignments	Homework	5		
		Class Activity	2		
		Report	5		
		Seminar	5		
		Essay			
		Project			
	Quiz		8		
	Lab. Report		10		
	Midterm Exam		(10 Theory + (15 Practical)		
	Final Exam		40		
Total		100			
<b>Specific learning outcome</b>	<p><b>At the end of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Explain basic physiological principles.</li> <li>2. Describe and explain the structure and function of the major systems of the body.</li> </ol>				
<b>Course References</b>	<p><b>Course references are:</b></p> <ol style="list-style-type: none"> <li>1. Hall, J.E. and Hall, M.E., 2020. <i>Guyton and Hall textbook of medical physiology e-Book</i>. Elsevier Health Sciences.</li> <li>2. Silverthorn, D.U., Ober, W.C., Garrison, C.W., Silverthorn, A.C. and Johnson, B.R., 2013. <i>Human physiology: an integrated approach</i> (Vol. 3). Indianapolis, IN: Pearson Education</li> <li>3. Sembulingam, K. and Sembulingam, P., 2012. <i>Essentials of medical physiology</i>. JP Medical Ltd.</li> <li>4. Barrett, K.E., 2010. <i>Ganong's review of medical physiology</i>.</li> </ol>				
<b>Course topics (Theory)</b>		<b>Week</b>	<b>Learning Outcome</b>		
<ul style="list-style-type: none"> <li>• Introduction to Human Physiology</li> <li>• Cellular Physiology</li> </ul>		<b>1</b>	<p><b>At the end of this lecture, the students should be able to:</b></p> <ol style="list-style-type: none"> <li>1. Meaning of physiology as a science.</li> <li>2. The concept of homeostasis.</li> <li>3. An introduction to cellular physiology with a simple overview of some cellular components.</li> </ol>		

<b>The Physiology of Integumentary System</b>	<b>2</b>	<p><b>At the end of this lecture, the students should be able to:</b></p> <ol style="list-style-type: none"> <li>1. Describe skin of the human body</li> <li>2. Discuss glands of the skin</li> <li>3. Explain the structure and function of hair.</li> <li>4. Discuss about nails</li> </ol>
<b>The Physiology of Digestive System</b>	<b>3</b>	<p><b>At the end of this lecture, the students should be able to:</b></p> <ol style="list-style-type: none"> <li>1. Name the main functions of the digestive system.</li> <li>2. Describe the four layers of the digestive tract wall.</li> <li>3. Describe the peritoneum</li> <li>4. Name and describe the organs of the digestive tract</li> <li>5. Name and describe the accessory organs of digestion and biliary apparatus</li> <li>6. List the functions of each organ involved in digestion</li> <li>7. Explain the role of enzymes in digestion and give examples of enzymes</li> </ol>
<b>The Physiology of Respiratory System</b>	<b>4</b>	<p><b>At the end of this lecture, the student should be able to:</b></p> <ol style="list-style-type: none"> <li>1. Describe the purpose of the respiratory system</li> <li>2. Differentiate between external and internal respiration</li> <li>3. Name all of the structures of the respiratory system</li> <li>4. Explain how food and foreign materials are kept out of the respiratory tract.</li> <li>5. Explain the mechanism for the pulmonary ventilation.</li> <li>6. List and define five breathing volumes.</li> <li>7. How the respiration is regulated.</li> </ol>

<b>The Physiology of Urinary System</b>	<b>5</b>	<p><b>At the end of this lecture, the students should be able to:</b></p> <ol style="list-style-type: none"> <li>1. Discuss the structure &amp; functions of the kidney.</li> <li>2. Explain Accessory excretory structures of the urinary system.</li> <li>3. Explain Urine and urination</li> </ol>
<b>The Physiology of Cardiovascular System</b>	<b>6</b>	<p><b>At the end of this lecture, students should be able to:</b></p> <ol style="list-style-type: none"> <li>1. Describe the primary functions of blood.</li> <li>2. List the formed elements of blood and identify the most important function of each.</li> <li>3. Explain the steps involved in blood clotting.</li> <li>4. Describe ABO and Rh blood typing.</li> <li>5. Identify the components of the cardiovascular system.</li> <li>6. Describe the Heart as regards (position, chambers and valves).</li> <li>7. Describe the Blood vessels (Arteries, Veins and Capillaries).</li> <li>8. Describe the Portal System.</li> <li>9. Describe the Sinusoids.</li> <li>10. Describe the Functional and Anatomical end arteries.</li> </ol>
<b>The Physiology of Nervous System</b>	<b>7</b>	<p><b>At the end of this lecture, the students should be able to:</b></p> <ol style="list-style-type: none"> <li>1. Describe the generalized functions of the system as a whole</li> <li>2. Describe how the nervous tissue is organized</li> <li>3. Identify the major types of cells in the nervous system and discuss the function of each</li> <li>4. Identify types of neurons</li> <li>5. Briefly describe the mechanisms of transmission of a nerve impulse</li> <li>6. Briefly describe transmission at a synapse</li> <li>7. Define neurotransmitter and give several examples of them.</li> <li>8. List the components of a reflex arc</li> <li>9. List the divisions of the nervous system</li> </ol>

		<ol style="list-style-type: none"> <li>10. Identify the major anatomical components of the brain and spinal cord and briefly comment in the function of each.</li> <li>11. Identify and discuss the coverings and fluid spaces of the brain and spinal cord.</li> <li>12. Discuss spinal and cranial nerves</li> <li>13. Discuss the anatomical and functional characteristics of the two divisions of the autonomic nervous system</li> <li>14. Classify sense organs as special or general and explain the basic differences between the two groups.</li> <li>15. Discuss how a stimulus is converted into sensation.</li> <li>16. List the major senses.</li> <li>17. Describe the structure of the eye and the function of its components.</li> <li>18. Discuss the anatomy of the ear and its sensory function in hearing and equilibrium.</li> <li>19. Discuss the chemical receptors and their functions.</li> <li>20. Discuss the general sense organs and their functions.</li> </ol>
<p><b>The Physiology of Endocrine System</b></p>	<p style="text-align: center;"><b>8</b></p>	<p><b>At the end of this lecture, the students should be able to:</b></p> <ol style="list-style-type: none"> <li>1. Compare the effects of the nervous system and the endocrine system in controlling the body.</li> <li>2. Compare protein and steroid hormones with respect to position and method of action and give examples of each type.</li> <li>3. Describe three methods for regulating the release of hormone.</li> <li>4. Identify the glands of the endocrine system on a diagram.</li> <li>5. List the hormones produced by each endocrine gland and describe the effects of each on the body.</li> <li>6. Describe how the hypothalamus controls the anterior and posterior pituitary.</li> <li>7. Explain why the anterior pituitary is called the master gland.</li> <li>8. Explain how the endocrine system responds to stress</li> </ol>

<b>The Physiology of Reproductive System</b>	<b>9</b>	<p><b>At the end of this lecture, the students should be able to:</b></p> <ol style="list-style-type: none"> <li>1. Discuss the male and female reproductive system</li> <li>2. Explain the formation of sex cells</li> <li>3. Explain conception and mechanism of contraception</li> </ol>
<b>The Physiology of Muscular System</b>	<b>10</b>	<p><b>At the end of this lecture, the students should be able to:</b></p> <ol style="list-style-type: none"> <li>1. List the general characteristics and functions of skeletal muscle tissue.</li> <li>2. Describe the structure of a muscle</li> <li>3. Describe the connective tissue components of skeletal muscles</li> <li>4. Briefly describe how muscles contract</li> <li>5. List the substances needed in muscle contraction and describe the function of each</li> <li>6. Differentiate between isotonic and isometric contractions</li> <li>7. Define the following terms: origin, insertion, synergist, antagonist, and prime mover</li> <li>8. Define the different bases employed in naming skeletal muscles Identify the principal skeletal muscle in different regions of the body by name, action, and innervations.</li> </ol>
<b>The Physiology of Lymphatic System</b>	<b>11</b>	<p><b>At the end of this lecture, the students should be able to:</b></p> <ol style="list-style-type: none"> <li>1. Describe the structure and function of the lymphatic system, including its organs, vessels, and associated components.</li> <li>2. Explain the role of the lymphatic system in immune function, including its contribution to the body's defense against pathogens and foreign substances.</li> <li>3. Identify the major lymphatic organs, such as the lymph nodes, spleen, thymus, and tonsils, and understand</li> </ol>

their specific functions within the immune system.

4. Describe the process of lymphatic circulation, including the movement of lymph fluid through lymphatic vessels and the drainage of excess interstitial fluid from tissues.
5. Understand the relationship between the lymphatic system and other body systems, such as the cardiovascular system and the immune system.
6. Recognize common disorders or diseases of the lymphatic system, such as lymphedema, lymphadenopathy, and lymphoma, and understand their causes, symptoms, and potential treatments.
7. Apply knowledge of the lymphatic system to clinical scenarios, such as diagnosing and treating lymphatic disorders or understanding the spread of cancer through lymphatic vessels (lymphatic metastasis).
8. Interpret diagrams, charts, and other visual representations of the lymphatic system to deepen understanding of its structure and function.
9. Discuss recent advancements or research in the field of lymphatic system biology and its implications for medical practice or treatment strategies.
10. Communicate effectively about the lymphatic system, both orally and in writing, using appropriate terminology and concepts to convey understanding to others



<b>Midterm Exam</b>	<b>12</b>	
<b>Final Exam</b>	<b>13</b>	

### Questions Example Design

1. What is the function of Integumentary system?
2. Write functions of the Digestive system?
3. List the organs of Respiratory system?
4. What are the organs of the Male reproductive system?
5. List the organs of the cardiovascular system?
6. Explain the role of hemoglobin in the transportation of oxygen in the bloodstream?

### Extra notes:

1. Attend Every Single class.
2. If you don't understand something, do not hesitate to ask your teacher.
3. Do your homework properly.
4. Study very hard, and be happy.

Wish you all, all the best.

### Peer Review