

**Human Physiology Course Catalogue**

**2022-2023**

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| **College** | **Erbil Health Technical**  |
| **Department** | **Medical Laboratory Technology** |
| **Module Name** | **Human Physiology** |
| **Module Code** | **HUP 302** |
| **Semester** | **3** |
| **ECTS** | **6** |
| **Module type** | **Core** |
| **Weekly hours** | **2** |  |
| **Weekly hours (Theory)** | **(2)hr Class** | **( )hr Workload** |
| **Weekly hours (Practical)** | **(2)hr Class** | **( 24 )hr Workload** |
| **Lecturer (Theory)** | **Assist. Prof. Dr. Twana Ahmed Mustafa** |
| **E-Mail** | **dr.twana@epu.edu.iq** |
| **Lecturer (Practical)** | **Lecturer.Sozan Sami Ali** |
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**Course Book**

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| * **Course overview:**

Introductory course in human anatomy and physiology ,including the study of structure and function of cells ,tissue and the integumentary, muscular and nervous systems .introduce common human disease processes .Laboratory component includes anatomical studies using microscopy and dissection and the study of physiological studies using microscopy and dissection and the study of physiological concepts via experimentation. |
| * **Course objective:**

The objective of this course is to offer an in-depth presentation of the function of the major organs and organ system of the human body. the course is designed to expand physiological concept present in prerequisite courses .It is expected that the student understand the unique role of each organ and organ system in maintain health students should be able to describe the function of the distinctive cells that comprise each major organ and when appropriate define the role of physiological functional unit .case studies will be provided to enhance the integration of material presented in class.  |
| * **Student's obligation**

We have theory 2 hours ,practical 3 hours General advice:1. **keep up with material**.it is essential that you study the material within a reasonable period of time after lecture/lab .
2. 2-**Ask question.** regardless of whether you are in lecture or lab, it is essential that you ask question if you don’t understand a concept.
3. 3**-Read the book** .Make sure you read the appropriate chapter (s) before my lecture on a given topic .the description, tables, figure and diagram of concepts in the book will be most helpful in helping you learn the material.

**You have got 3 hours for lab…..use your time wisely.** Although not every lab session will go with full 3 hours .it is wise use the remaining time to do brush up on material that was covered during previous labs. Lab exams will cover a lot of material, so it is important that you fully utilize lab time whenever available to you. |
| * **Forms of teaching**

Lecture halls with data show equipment for lecture presentations, white board, overhead projector, posters.My philosophy is to provide you with a comfortable learning environment where you can not only listen, but speak. I want to be an enthusiastic teacher, share my love for science and inspire you to do your best in this course. I am open to hearing your concerns and needs and will respect your ideas. |
| * **Assessment scheme**
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| * **Specific learning outcome for theory:**

Upon completion of this course, the student will be able to: 1. Explain interrelationships among molecular, cellular, tissue, and organ functions in each system, and describe locations of major organs of each system
2. Explain the homeostatic mechanisms, controls, and specific functions of the systems of the human body.
3. Design, construct, and quantify experimental methods to evaluate human physiological systems.
4. Analyze and explain medical and health science-related scenarios of physiological system disruptions.
5. Identify causes and effects of homeostatic imbalances.
6. Evaluate information concerning selected topics within the theme of human physiology.

**Learning Outcomes for Lab**Upon successful completion of this course, students will: 1. Apply appropriate safety and ethical standards.
2. Locate and identify anatomical structures.
3. Appropriately utilize laboratory equipment, such as microscopes, dissection tools, general lab ware, physiology data acquisition systems, and virtual simulations.
4. Work collaboratively to perform experiments.
5. Demonstrate the steps involved in the scientific method.
6. Communicate results of scientific investigations, analyze data and formulate conclusions.
7. Use critical thinking and scientific problem-solving skills, including, but not limited to, inferring, integrating, synthesizing, and summarizing, to make decisions, recommendations, and predictions.
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| * **Course Reading List and References‌:**
1. Textbook of Medical Physiology, by: A C Guyton and J E Hall.
2. Tortora & Derrickson- Principles of Anatomy and Physiology.
3. Review of Medical Physiology, by: W F Ganong.
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| * **Course topics (Theory)**
 | **Week** | **Learning Outcome** |
| 1st lec. Introduction of this course.introduction about anatomy and physiology | 1 | 1 |
| 2nd lec. Homeostasis- Body Fluid | 2 | 1 & 5 |
| 3nd lec. Structure and function of plasma membrane. | 3 | 1 & 2 |
| 4rd lec. Cellular transport mechanisms. Passive and Active transport | 4 | 2 |
| 5th lec. Physiology of the Nervous system Part I | 5 | 2 & 3 |
| 6th lec. Physiology of the Nervous system Part II | 6 | 3 & 4 |
| 7th lec. Skeletal muscle structure and physiology. | 7 | 1, 2  |
| 8th lec. Cardiac muscle structure and physiology. | 8 | 1, 2 & 5 |
| 9th lec. 15th Respiratory system anatomy and physiology | 9 | 1 & 5 |
| 10th lec. Renal system anatomy and physiology | 10 | 1 & 5 |
| 11th lec. Especial sense- Physiology of Vision | 11 | 2 & 6 |
| 12th lec. Especial sense- Physiology of Hearing | 12 | 2 & 6 |
| * **Practical Topics**
 | **Week** | **Learning Outcome** |
| 1st lab . Introduction about the objective of practical physiology  | 1 | 1 |
| 2nd lab.. Homeostasis  | 2 | 1&2 |
| 3rd lab. Injection technics | 3 | 2,3&4 |
| 4th  lab. . Osmotic fragility | 4 | 1&2 |
| 5th lab Frog pithing and preparation | 5 | 4&5 |
| 6th lab. Skeletal muscle contraction of frog | 6 | 2&5 |
| 7th lab. CPR | 7 | 4&7 |
| 8th lab. BP measurement | 8 | 2&3 |
| 9th lab. Exercise and BP. | 9 | 1,2&3 |
| 10th lab. ECG | 10 | 2,3,4,&6 |
| 11th lab. Vision. | 11 | 2&6 |
| 12th lab. Estimation of vital capacity | 12 | 1,4&7 |
| * **Examinations (question design):**

***1. Compositional******Q/*** ***Why the Na+-K+ pump is said to be Electrogenic?***A- because it creates an electrical potential across the plasma membrane (nerve and muscle fiber.* ***True or false type of exams:***

***Q/Decrease renin cause increase in BP*** * *F/Increase renin*
* ***Single choice Questions***

**Q/Stroke volume of the heart of normal person equal to:**  **a-130 ml b-70 ml**  **c-60 ml d-50 ml** |
| * **Extra notes:**

This year should be care about the distance between students by making sub groups also wearing gloves and mask especially practical experiments.  |
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| * **External Evaluator**
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