

Engineering Program

Specialization	Medical Equipment Technology
Course Number	020800141
Course Title	Human Physiology
Credit Hours	3
Theoretical Hours	3
Practical Hours	0

Brief Course Description:

- ❖ This course provides an introduction to the human body, and you will study :
The cell, The nervous system, The heart, blood circulation, The respiratory system, The urinary system, the skin, The Muscular System, The Digestive System , Skeletal System.

Course Objectives:

At the end of this course student will be able to:

1. Major constituent of the human body organs.
2. Function of the organs.
3. Concept of work of the parts of the organs, the way they are related in order to complete their functions.
4. Variables that can be measured to point out the function of organs.
Ways of measuring these variables.

Detailed Course Description:

Unit Number	Unit Name	Unit Content	Time Needed
1	The cell	<ul style="list-style-type: none"> ▪ Introduction ▪ Parts of the cell. ▪ Ionic distribution inside and outside the cell. ▪ Cell membrane and the difference in effort between the states of rest. ▪ Electrical alertness in the muscular and nervous system cell. ▪ Movement of electric activity in nerve cells. ▪ Effect of electric activity on muscular cells. 	3
2	The nervous system	<ul style="list-style-type: none"> ▪ Introduction. ▪ Parts of the nervous system. ▪ Perception and sense receptors. ▪ Reception and sensitivity system. ▪ Main parts of the brain. ▪ Electric activity of the brain. 	6
3	Blood circulation	<ul style="list-style-type: none"> ▪ Introduction. ▪ Blood component. ▪ Veins and arteries. ▪ Blood volume and distribution in the body organs. ▪ Blood circulation and blood pressure. 	3
4	The heart	<ul style="list-style-type: none"> ▪ Introduction. ▪ Parts of the heart. ▪ Blood movement in the heart. ▪ Heart functions mechanism. ▪ Blood pressure distribution and changes in the heart. ▪ Noises of the heart. ▪ Electric activity of the heart. 	6
5	The respiratory system	<ul style="list-style-type: none"> ▪ Introduction. ▪ Parts of the respiratory system. ▪ Respiration mechanism. 	3

		<ul style="list-style-type: none"> ▪ Gas exchange in the lungs. ▪ Lunges sizes. ▪ Partial pressure of gases in the lunges. 	
6	The kidney	<ul style="list-style-type: none"> ▪ Introduction. ▪ Parts of the kidney. ▪ Kidneys function in cleaning, purifying and filtering the blood, as well as in organizing the liquids of the body. 	3
7	The skin	<ul style="list-style-type: none"> ▪ Introduction ▪ Parts of the skin. ▪ Skin functions. ▪ Body temperature regulation in the skin. ▪ Perception systems in the skin. ▪ Secreting gland in the skin. 	3
8	The Muscular System	<ul style="list-style-type: none"> • Introduction in muscle and muscles tissues: Muscles types, Functions. ▪ Major Skeletal Muscles of the body. 	6
9	The Digestive System	<ul style="list-style-type: none"> • Digestive system Organs: Relationship & structural Plan. • The Stomach. • The Small intestine and associated structures. • The large intestine. • Absorption. 	6
10	Skeletal System	<ul style="list-style-type: none"> • Bones basic structure. • Skeletal cartilages: Basic structure, types, locations. • Major skeletal bones of the body. • Functions of bones and joints. 	3

Evaluation Strategies:

Exams		Percentage	Date
Exams	Med-Term Exam	40%	--/--/----
	Final Exam	50%	--/--/----
Homework and Projects		10%	
Discussions and lecture presentations			

Teaching Methodology:

- ❖ Lectures
- ❖ Video Lectures

Text Books & References:

Text Book: