Para-Medical Program

Specialization	**المهارات المتخصصه**
Course Number	020800211
Course Title	**الفسيولوجيا المرضيه**
Credit Hours	**(3)**
Theoretical Hours	**(3)**
Practical Hours	**(0)**

Course description:

This course provides an in-depth study of human pathological processes and their effects on homeostasis. Associated pathologies of the body systems and general health management of disease across the human lifespan is explored. This course focuses on clinical decision making and action related to nursing care.

Course objectives :

Intended Learning Outcomes

Upon the completion of this course the student will be able to:

A. Knowledge & Understanding

1. Acquire knowledge and understanding of the pathophysiology of the body disorders.
2. Define pathophysiology and its importance forprofessional health students.
3. Describe the most known body dysfunctions.
4. Recognize the physiological changes that occur due to external and internal environmental Stresses, pathological processes and the response that produces signs and symptoms.

B. Intellectual skills

1. Interpret a variety of concepts in pathology which will be utilized in decision-makingand actions related to other anesthesia courses.

C. Subject specific skills

1. Interpret flowcharts of pathophysiological data.

D. Transferable skills

1. Develop a vocabulary of appropriate terminology to effectively communicate information related to pathophysiology.

Course outline:

Unit No.	Unit name	Unit Content	Time Needed
1	**Introduction**	• What is pathophysiology • The significance of pathophysiology for health professionals	2 hrs
2	**Alteration in Fluids and Electrolytes**	_Alteration in fluids and electrolytes (DI, SIADH). _ causes of fluid deficit _Edema _Acid- base imbalances	2 hrs
3	**Disorders of hemostasis**	• Hypercoagulability, thrombosis • Thrombocytosis, thrombocytopenia • Defects of coagulation factors (hemophilia A, DIC)	2 hrs
4	**The Red Blood Cell & Alteration in Oxygenation Transport**	- Anemia and its causes - Mechanisms and symptoms of anemia - Blood loss anemia, hemolytic anemia, thalassemia, aplastic anemia, iron deficiency anemia, megaloblastic anemia	4 hrs
5	**Disorders of white blood cells and lymphoid tissue**	- Leukopenia, neutropenia - Leukemia - Lymphomas	2 hrs
6	**Alteration in Blood Flow**	Atherosclerosis and its pathogenesis Peripheral vascular disease Pathophysiology of pressure ulcers Effects of gravity on the body	2 hrs
7	**Alteration in Blood Pressure**	Risk factors for hypertension Classifications of hypertension Uncontrolled BP Orthostatic hypotension	2 hrs
8	**Alteration in Cardiac Function, Heart Failure & Circulatory Shock**	Disorders of the heart - pericarditis, pericardial effusion, cardiac tamponade - coronary artery disease - cardiomyopathy - infective endocarditis - rheumatic heart disease - valvular heart disease (stenosis, regurgitation) Heart failure Circulatory shock	4 hrs
9	**Alteration in Respiratory Function**	Respiratory tract infections: - pathophysiology of influenza - pneumonias - pathophysiology of tuberculosis - lung cancer Respiratory system disorders: - respiratory failure - pleural effusion, pneumothorax, hemothorax, empyema	4 hrs

		- atelectasis - bronchial asthma and COPD - pulmonary embolism, pulmonary oedema, ARD	
10	**Stress and adaptation.**	• Stress definition • Stressors • Factors influencing stress response • Stages of stress response • Role of the nervous system in stress response • Adaptation • Factors influencing adaptation	4 hrs
11	**Alteration in activities tolerance**	• Exercise benefits • Physiologic responses to exercise • Activity intolerance/ fatigue • Causes of immobility • Side effects of immobility	4 hrs
12	**Alteration in Temperature Regulation**	core body temperature Mechanisms of heat production/ loss Temperature Regulation. Fever, hyperthermia, hypothermia	2 hrs
13	**Alteration in Renal Function & Renal Failure.**	Urinary obstruction Urinary incontinence Disorders of the UT (UTI, glomerulonephritis, renal neoplasms) Renal failure	2 hrs
14	**Alterations in Genital Function**	Alterations in Structure & Function of Male Genitourinary System. - Hypospadias and epispedias - Cryptorchidism, hydrocele, varicocele, hematocele - Benign prostatic hyperplasia Alterations in Structure & Function of Female Genitourinary System. - Endometriosis, leiomyomas - Mastitis, fibroadenoma - Ectopic pregnancy, PID, ovarian cysts Sexually Transmitted Diseases - Warts, genital herpes - Chlamydia, gonorrhea, syphilis Acquired Immune Deficiency Syndrome	2 hrs
15	**Alteration in Skin Function & Integrity**	Skin rashes and skin lesions (primary, secondary) Vascular lesions (pattern injury, hematoma, purpura) Burns Localized changes in skin structure Pathophysiology of pruritus Pathophysiology of Acne vulgaris Fungal infections of the skin Pigmentary skin disorders	2 hrs

Teaching Methodology:

Lectures. Group discussion. Videos. Live patterns & samples. Practical applications. Field Visits (Industries).

References:

1. Porth, C. (2013).Pathophysiology: concepts of altered health states (9th ed.) Philadelphia, J.B Lippincott
2. Huether S and McCance K (2016) Understanding pathophysiology. (6th edition). St. Louis, Mosby.
3. Story, L. (2017). Pathophysiology: A Practical Approach, 2nd ed. Burlington, MA: Jones & Bartlett Learning
4. Huether S and McCance K (2013) Understanding pathophysiology. (5th edition). St. Louis, Mosby.