



**University of Thi-Qar**  
**College of Nursing**  
**Undergraduate Program**  
**Pathophysiology**

**1. Course Title: Pathophysiology**

**2. Course Number: (207)**

**3. Credit Hours: Total (2 ) credits:**

Theory (1 ) credits

Lab. (2) credits

Clinical (3) credits

**4. Course Calendar: Total (2) hours weekly of (15) weeks:**

Theory (2 ) hrs.

Lab. ( - ) hrs.

Clinical (- ) hrs.

**5. Placement: Second year/ second semester**

**6. Course Description:**

This course is designed to provide the nursing students with a comprehensive knowledge with the principle and basic concepts in pathology and evolution of physiological alteration associated with altered health and diseases, including cell injury, adaptation, abnormality in genome, neoplasia, infectious processes, inflammation and immunity Also the course focuses on disorders in WBC, and RBC, alteration in blood flow and cardiac function, respiratory disorders, in addition to physiological changes associated with different pathological conditions such as disorder in GIT and skeleton diseases.

## **7. Course Goals:**

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

1. Understand the principle of basic pathology
2. Know the physiological alteration of various pathological conditions.
3. Get to know a variation of diseases that affect the human body.

## **8. Course Outline:**

### **Part I: Introduction:**

- 1.1. Definition, diseases, causes of diseases, pathogenesis, clinical manifestations, diagnostic methods and treatment.

### **Part II: Changes at cellular level**

- 2.1. Cell, Cellular adaptation, injury, reversible and irreversible cell injury, cell death, types of cell death, necrosis (types causes and sequel of necrosis).

### **Part III: Genes and genetic diseases:**

- 3.1. Component and function of gene, mutation, chromosome, genetic and chromosomal disorders (single gene disorders and alteration in autosomal and sex chromosomes), causes, diagnosis.

### **Part IV: Neoplasia**

- 4.1. Definition, types, nomenclature, characteristics of each type, carcinogenesis and causes of cancer, diagnosis and treatment.

### **Part V: Mechanisms of infectious disease:**

- 5.1. Terminology, agents of infectious disease, portal of entry, symptomatology, disease course, diagnosis and therapy of infectious diseases.

### **Part VI: Midterm Exam**

## **Part VII: Inflammation:**

**7.1.** definition, causes, acute inflammation, signs, hematological and cellular responses, beneficial and harmful effects and outcome of acute inflammation, chronic inflammation, characteristic features. Repair and tissue healing.

## **Part VIII: Alteration in immune responses:**

**8.1.** Defense mechanisms in the body, component of immune system, immune responses, hypersensitivity, types of hypersensitivity, (mechanism of development of each type), transplantation immunopathology. Autoimmune diseases, immunodeficiency diseases, AIDS.

## **Part IX: Disorders in white blood cells and lymphoid tissue:**

**9.1.** Origin of blood cells, neutropenia, infectious mononucleosis, leukemia, Hodgkin's lymphoma(HL), NHL, Burkitt's lymphoma, and multiple myeloma.

## **Part X: Alterations in RBC and oxygen transport:**

**10.1.** Red cell metabolism, hemoglobin oxidation, anemia, causes, haemolytic anemia classification, hereditary Spherocytosis, Acanthosis, thalassemia, glucose-6-phosphate Dehydrogenase deficiency (G6PD), other types of anemia megaloblastic anemia, Polycythemia.

## **Part XI: Disturbances in blood flow:**

**11.1.** Structure of blood vessels, alteration in arterial blood flow; atherosclerosis, mechanism of atherosclerosis development, aneurysm, dissecting aneurysm, hypertension, orthostatic hypotension, assessment of arterial flow. Alteration in venous flow; various veins, venous thrombosis.

## **Part XII: Midterm Examination**

## **Part XIII: Alteration in cardiac function:**

**13.1.** Disorder in the epicardium, coronary heart disease, ischemic heart disease (angina). Myocardial infarction, myocardial disease, infective myocarditis, rheumatic heart disease, mitral valve disorders, stenosis, congenital heart defects, heart failure and circulatory shock.

**Part XIV: Alteration in kidney:**

**14.1.** Congenital anomalies, polycystic kidney, nephritis, acute proliferative glomerulonephritis, nephrosis, diabetic nephropathy, hypertensive glomerular disease, tubular disorders, pyelonephritis, renal failure.

**Part XV: Respiratory Disorders:**

**15.1.** Respiratory distress syndrome of the infant, acute respiratory distress syndrome, atelectasis, chronic obstructive pulmonary diseases (emphysema and chronic bronchitis), bronchiectasis, asthma, infectious diseases of respiratory system. Pneumonia, disorder in pleura.

**Part XVI: Gastrointestinal disorders:**

**16.1.** Manifestation of gastrointestinal disorders, disorders of the esophagus, disorders of the stomach, peptic ulcer, abnormalities in the small and large intestines. Crohn's disease, ulcerative colitis, appendicitis.

**Part XVII: Alteration in skeleton:**

**17.1.** Congenital disorders, Osteogenesis imperfecta, metabolic disorders (osteoporosis, osteomalacia and rickets) neoplasm of the bone, Paget's disease, rheumatic disorders.