



**Ministry of Higher Education and Scientific Research
University of Warith Al-Anbiyaa
College of Medicine
Department of Pathology and Forensic Medicine
Academic Year 2024-2025**

Academic Program and Course Description Guide

Course Description Form

1. Course Name:

Pathology

2. Course Code:

3. Semester / Year:

2024-2025

4. Description Preparation Date:

July 2024

5. Available Attendance Forms:

Attendance

6. Number of Credit Hours (Total) / Number of Units (Total)

120 (Theory) +90 hours (Practical) (11 units)

7. Course administrator's name (mention all, if more than one name)

Names:

1. Assistant Professor Dr. Ahmed Hamdi Mehdi Email: ahmed.hm@uowa.edu.iq
2. Lecturer Dr. Sura Ghassan Abdul Al-Ameer Email: sura.ga@uowa.edu.iq
3. Assistant Professor Dr. Fatima Mutashar Swadi
4. Lecturer Dr. Ali Rahim Handhal

8. Course Objectives

Course Objectives

1. Basics of pathology
2. Basic pathological conditions that affect the body and different tissue
3. Etiology and pathogenesis in relation to clinical settings
4. Updating the latest diagnostic methods and their application
5. Interpretation of different laboratory test in relation to clinical presentation for proper diagnosis

9. Teaching and Learning Strategies

1. Theoretical lectures
2. Practical training
3. Seminars and group discussion

10. Course Structure

1 st semester	Subject	Learning outcome
Week 1	Cell and tissue injury	<ol style="list-style-type: none"> 1. Types, Causes & Mechanisms of cell injury. 2. Definition, morphology & types of Necrosis. 3. Morphology, mechanisms of Apoptosis. 4. To compare between Necrosis & Apoptosis. 5. Definition, causes, morphology of Fatty changes, protein, and glycogen accumulation. 6. Definition, types of pathological calcification 7. Types of calcifications. To recognize, different types of pigmentations.
Week 2	Cell injury & inflammation	<ol style="list-style-type: none"> 1. Definition, types, morphology of Amyloidosis 2. The adaptation. types of adaptation & the causes, mechanisms & morphology of each type. 3. Definition of inflammation, types of inflammation 4. Cardinal signs of inflammation
Week 3	Inflammation	<ol style="list-style-type: none"> 5. Acute inflammation 6. Chronic inflammation types, causes, & morphology of Chronic inflammation. 7. To define repair and compare between regeneration & fibrosis.
Week 4	Inflammation & General pathology of infectious diseases	<ol style="list-style-type: none"> 1. Healing by first intention & secondary intention. Factors affect wound healing. 2. Definition of infection Types of infectious and mode of transmission 3. Pattern of inflammatory response 4. Types, risk groups, morphology & fate of granulomatous diseases 5. Types, morphology, and fate of bacterial, fungal, viral & parasitic diseases
Week 5	Disturbances of circulation	<ol style="list-style-type: none"> 1. Edema, pathophysiology & morphology of edema. 2. Congestion & hyperemia. 3. Hemorrhage, types of hemorrhage, effects of hemorrhage. 4. Thrombosis, pathogenesis of thrombosis, morphology & fate of thrombosis.

		<ol style="list-style-type: none"> Embolism, types & effects of embolism. Causes, effects & pathogenesis of pulmonary embolism, fat embolism & amniotic fluid embolism. Ischemia, infarction types, morphology of infarction.
Week 6	Disturbances of circulation & disorders of immune system	<ol style="list-style-type: none"> Definition, causes, pathogenesis of DIC. Shock: types, pathogenesis & stages. Types of immune response. components of each type. HLA system. classes, importance of HLA system. Hypersensitivity reactions. Types of hypersensitivity reactions. Types of rejection reactions in transplantation Autoimmunity, mechanisms of autoimmunity, and immunodeficiency diseases.
Week 7	Disturbances of growth & neoplasia	<ol style="list-style-type: none"> Tumor, tumor like lesions & oncology. Nomenclature of tumors. The characteristics of benign & malignant. Comparison between benign & malignant tumors. Characteristics of anaplasia & dysplasia, incidence & etiology of cancer. Carcinogenesis, the commonest chemicals, viral carcinogens & their pathogenesis.
Week 8	Disturbances of growth & neoplasia--- Cytogenetics	<ol style="list-style-type: none"> Tumor antigens and types of tumor antigens. The effects of tumors on host. Staging & grading of cancer. Genetic terms, types of genetic diseases, causes of genetic diseases. Karyotype. Steps of Karyotype. Genetic counseling (types & indications)
Week 9	Cytopathology & hemopoietic system disorders	<ol style="list-style-type: none"> Types of cytopathology. Stains & fixatives in cytopathology. Benign & malignant patterns in cytopathology Hemopoiesis. To recognize normal values of blood components.
Week 10	Hemopoietic system disorders	<ol style="list-style-type: none"> Definition of anemia. Classification of anemia, and pathogenesis of each type. Causes, morphology, & Lab diagnosis of each type. Hemostasis. To recognize: types, morphology, causes of bleeding disorders. To define leukemia and types of leukemia
Week 11	Hemopoietic system & lymphoreticular system disorders	WBC production. Leukemia, & define each type. Classification of leukemias. Causes, pathogenesis & Lab diagnosis of each type of leukemia
Week12	Lymphoreticular system disorders	Lymphoma classify: lymphoma morphology of each type of lymphoma
Week 13	Vascular diseases	<ol style="list-style-type: none"> Histology of vascular system. To know: congenital anomalies of vascular system. Arteriosclerosis & its types. Atherosclerosis. Risk factors, pathogenesis, morphology & complications of atherosclerosis hypertension. To determine types of hypertension & causes. Pathogenesis of hypertension. Aneurysms & dissection, types, morphology & complications of aneurysms & dissection Vasculitis. Understanding the commonest types of vasculitis.

		Types & causes, morphology of vascular tumors.
Week 14	Heart diseases	<ol style="list-style-type: none"> 1. Anatomy & histology of heart. Ischemic heart diseases (IHD). pathogenesis of IHD. 2. Angina pectoris, types, & pathogenesis of angina pectoris. 3. Myocardial infarction (MI). Risk factors, pathogenesis, morphology & complications of MI. 4. Causes of sudden death. Heart failure & its types. Pathogenesis & morphology of heart failure types & causes of each type.
Week 15		Revision
Mid-year exam		
2 nd semester		
Week 16	Heart diseases	<ol style="list-style-type: none"> 1. Heart failure & its types, pathogenesis & morphology. Valvular heart diseases. Rheumatic fever, pathogenesis & morphology. 2. Infective endocarditis: types, pathogenesis & morphology. Myocarditis: etiology & morphology of commonest types of myocarditis.
Week 17	Respiratory system diseases	<ol style="list-style-type: none"> 1. Commonest pathological lesions of upper respiratory tract. Commonest congenital disorders of respiratory tract. Atelectasis. 2. Bacterial pneumonia: classification of pneumonia. Etiology, pathogenesis & morphology of pneumonia, complications of pneumonias. 3. Lung abscess. 4. Chronic obstructive lung diseases. Asthma, recognizing its types, etiology, pathogenesis & morphology of each type of asthma.
Week 18	Respiratory system diseases	<ol style="list-style-type: none"> 1. Emphysema: types, pathogenesis, morphology & complications. 2. Chronic bronchitis. Bronchiectasis: etiology, pathogenesis, morphology & complications. 3. Restrictive lung diseases: definition, causes, & morphology of acute respiratory distress diseases. 4. Pneumoconiosis: types, morphology & complications of each type. 5. Types of lung tumors, etiology, morphology & complications of bronchogenic carcinoma.
Week 19	G.I.T. diseases	<ol style="list-style-type: none"> 1. Commonest pathological lesions of oral cavity & salivary glands. Esophagus: recalling histology, commonest congenital Anomalies. 2. Types of esophageal webs. Achalasia: types, causes,

		<p>pathogenesis & complications of achalasia.</p> <p>3. Esophageal diverticuli: types & complications of diverticuli. Definition, types, and complications of hiatus hernia. Mallory – Weiss syndrome. Definition, types, causes & complications of esophagitis. Barrett esophagus: definition, pathogenesis & complications.</p> <p>4. Types, etiology, and morphology of esophageal cancers. To remember: histology of stomach. The commonest congenital anomalies of stomach.</p> <p>5. Types of Gastritis. Definition, etiology, pathogenesis, & morphology of acute gastritis. Definition, etiology, pathogenesis & morphology of chronic gastritis.</p>
Week 20	G.I.T. diseases	<p>1. Chronic peptic ulcer: etiology, pathogenesis & morphology. Chronic gastric ulcer: morphology & complications.</p> <p>2. Classification of gastric tumors. Gastric polyps & it's types. Gastric malignancies: types, etiology, pathogenesis & morphology.</p> <p>3. Malabsorption syndrome: etiology, pathogenesis & morphology. Diverticular disease of colon: etiology, pathogenesis, morphology & complications. Inflammatory bowel diseases. Crohn's disease: pathogenesis, morphology & complications. Ulcerative colitis: pathogenesis, morphology & complications.</p> <p>4. Tumors of intestine. Intestinal polyps: definition, etiology, pathogenesis & morphology. Colonic cancers: types, etiology, pathogenesis, & morphology.</p>
Week 21	Liver, gall bladder & pancreatic diseases	<p>1. Classification of hepatitis. Acute & chronic hepatitis. Causes of infectious hepatitis. Viral hepatitis: pathogenesis & morphology for each type.</p> <p>2. Liver cirrhosis: classification: liver cirrhosis, pathogenesis & morphology. Hepatic failure: causes & morphology. Jaundice: types, pathogenesis & morphology.</p> <p>3. Portal hypertension: causes & morphology. Hepatic tumors. Liver adenoma: causes & morphology. Hepatocellular carcinoma: pathogenesis & morphology.</p> <p>4. Gall bladder: histology, pathogenesis, morphology & complications of cholecystitis. Cholelithiasis: etiology & morphology.</p>
Week 22	Renal diseases	<p>1. Types of Glomerular syndromes. Nephrotic syndrome: etiology, pathogenesis, & morphology.</p> <p>2. Nephritic syndrome: etiology, pathogenesis & morphology. Chronic glomerulonephritis: pathogenesis, morphology & complications of acute & chronic pyelonephritis.</p> <p>3. Acute renal failure. Types of cystic renal diseases: etiology, pathogenesis, & morphology of each type of cystic diseases. Urolithiasis: types of renal stones, pathogenesis, morphology of each type of renal stones.</p>

		<p>4. Renal cell carcinoma: types, pathogenesis & morphology. Wilm's tumor: types, etiology, pathogenesis & morphology. Congenital anomalies of kidney</p>
Week 23	Male reproductive system diseases	<p>1. Prostatitis: types, pathogenesis & morphology. Benign prostatic hyperplasia (BPH). 2. Etiology, pathogenesis & morphology of seminoma, teratomas of testis.</p>
Week 24	Breast & female genital tract	<p>1. Types, etiology, pathogenesis & morphology of cervical carcinoma. 2. Etiology, pathogenesis & morphology of Adenomyosis & endometrial hyperplasia. Types, etiology, pathogenesis & morphology of endometrial hyperplasia. 3. Tumors of uterus. Leiomyoma. Types, etiology, pathogenesis & morphology of endometrial carcinoma. 4. Oophoritis. Types, pathogenesis & morphology of ovarian cysts. Classification of ovarian tumors, pathogenesis & morphology. 5. Mastitis: etiology, pathogenesis, & morphology of mastitis & breast abscess. Fibroadenoma, fibrocystic disease of breast. Classification of breast carcinoma. Pathogenesis, morphology & etiology of breast carcinoma.</p>
Week 25	Endocrine diseases	<p>1. Acromegaly, prolactinoma & hypopituitarism. Hyperthyroidism & hypothyroidism: etiology, pathogenesis & morphology of hyperthyroidism & hypothyroidism. 2. Cushing syndrome, Conns syndrome & Pheochromocytoma. 3. Multiple endocrine neoplasia: the commonest syndromes of multiple endocrine neoplasia</p>
Week 26	CNS diseases	<p>1. Commonest congenital anomalies of CNS. Cerebral ischemia. Types, pathogenesis, and morphology of Cerebrovascular Diseases. 2. CNS tumors: classification, morphology, & etiology.</p>
Week 27	Bone pathology Skin pathology	<p>1. Osteomyelitis: etiology, pathogenesis, & morphology. Metabolic bone diseases: etiology & morphology. Commonest benign & malignant bone tumors 2. Commonest bulbous diseases. Etiology, pathogenesis & morphology of Psoriasis, lichen planus. Commonest benign tumors of skin. 3. Etiology, pathogenesis & morphology of squamous cell carcinoma, malignant melanoma & basal cell carcinoma of skin.</p>
Week 28	New advances in Pathology	Principles of immunohistochemistry, electron microscope, Fluorescent in situ hybridization & PCR.
Week 29		Revision
Week 30	Final exam	

Delivery Plan (Weekly Lab. Syllabus)

First semester		
Week 1	Tissue processing	
Week 2	Cell injury	
Week 3	Acute inflammation	
Week 4	Chronic inflammation and repair	
Week 5	Hemodynamic	
Week 6	Hemodynamic	
Week 7	Benign Neoplasia	
Week 8	Malignant Neoplasia	
Week 9	Practical quiz	
Week 10	Heamatology	
Week 11	Hematology	
Week 12	Lymphoreticular system	
Week 13	Genetic disorder	
Week 14	Revision	
Second semester		
Week 16	Vascular diseases	
Week 17	Diseases of heart	
Week 18	Diseases of respiratory system part 1	
Week 19	Diseases of respiratory system part 2	
Week 20	Diseases of GIT 1	
Week 21	Diseases of GIT 2	
Week 22	Diseases of liver, GB, pancreas	
Week 23	Diseases of female genital syst. & breast	
Week 24	Practical exam	
Week 25	Disease of renal system & male genital system	
Week 26	Diseases of endocrine path.	

Week 27	Disease of bone and joint & CNS, Skin	
Week 28	Revision	

11. Course Evaluation

Course Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due
Formative assessment	Quizzes	1	5% (10)	Every other week
	Assignments	1	5% (10)	12
	Projects / Lab.	1	5% (10)	Continuous
	Report	1	5% (10)	13
Summative assessment	Midterm Exam	2 hrs.	20% (10)	16
	Final Exam	3hrs.	60% (50)	30
Total assessment			100% (100 Marks)	

12. Learning and Teaching Resources

Required Texts Robbins and Cotran Pathologic basis of disease ,10th edition -, KUMAR, ABBAS & ASTER

Recommended books and references, Ackerman surgical pathology, 10th edition, 2011, Juan Rosai. • Sternderg's diagnostic surgical pathology, 5th edition, 2010
Hoffbrand Essential hematology-7th edition

Electronic References, Websites, <http://www.pathologyonlinecases.com>