



**Ministry of Higher Education and Scientific Research  
Scientific Supervision and Scientific Evaluation Apparatus  
Directorate of Quality Assurance and Academic Accreditation  
Accreditation Department**

## **University of Warith Al-Anbiyaa College of Medicine**

### **Pathology**

**2024**

*Handwritten signature*  
مصادقة السيد العميد  
الطبيب الاخصائي  
أ.د. علي فهد سعدون الفان



## Course Description Form

1. Course Name:
Pathology
2. Course Code:
Medu303
3. Semester / Year:
2023–2024
4. Description Preparation Date:
2024
5. Available Attendance Forms:
6. Number of Credit Hours (Total) / Number of Units (Total)
120+90 hours (11 units)
7. Course administrator's name (mention all, if more than one name)
Name: 1.Dr. Sura Al -Shamma Email: <a href="mailto:sura.ga@UOWA.edu.iq">sura.ga@UOWA.edu.iq</a> 2. Dr Ahmed Hamdi 3. DR Mohannad Mahdi 4.Dr Zainab Abdulredha 5. Dr Mais Ibrahim
8. Course Objectives
<b>Course Objectives</b> <ol style="list-style-type: none"><li>1. Teaching the basics of pathology</li><li>2. Knowing the basics pathological conditions that affect the body and different tissue</li><li>3. Knowing the etiology and pathogenesis in relation to clinical settings</li><li>4. Updating the latest diagnostic methods and their application</li><li>5. Interpretation of different laboratory test in relation to clinical presentation for proper diagnosis</li></ol>

## 9. Teaching and Learning Strategies

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

## 10. Course Structure

### Week

1 <sup>st</sup> semester	Subject	Learning outcome
Week 1	Cell and tissue injury	<ol style="list-style-type: none"> <li>1. <b>Types, Causes &amp; Mechanisms of cell injury.</b></li> <li>2. <b>definition, morphology &amp; types of Necrosis.</b></li> <li>3. <b>morphology, mechanisms of Apoptosis.</b></li> <li>4. <b>To compare between Necrosis &amp; Apoptosis.</b></li> <li>5. definition, causes, morphology of Fatty changes, protein, and glycogen accumulation.</li> <li>6. definition, types of pathological calcification</li> <li>7. types of calcification. To recognize, different types of pigmentations.</li> </ol>
Week 2	Cell injury & inflammation	<ol style="list-style-type: none"> <li>1. definition, types, morphology of Amyloidosis</li> <li>2. the adaptation. types of adaptation &amp; the causes, mechanisms &amp; morphology of each type.</li> <li>1. <b>Definition of inflammation ,types of inflammation</b></li> <li>2. <b>Cardinal signs of inflammation</b></li> </ol>
Week 3	Inflammation	<ol style="list-style-type: none"> <li>3. <b>Acute inflammation</b></li> <li>4. <b>Chronic inflammation types, causes, &amp; morphology of Chronic inflammation.</b></li> <li>5. To define repair and compare between regeneration &amp; fibrosis.</li> </ol>

Week 3	Inflammation & General pathology of infectious disease	<ol style="list-style-type: none"> <li>1. Healing by first intention &amp; secondary intention. Factors affect wound healing.</li> <li>2. Definition of infection Types of infectious and mode of transmission</li> <li>3. Pattern of inflammatory response</li> <li>4. types, risk groups, morphology &amp; fate of granulomatous diseases</li> <li>5. types, morphology, and fate of bacterial, fungal, viral &amp; parasitic diseases</li> </ol>
Week 5	Disturbance of circulation.	<ol style="list-style-type: none"> <li>1. Edema ,pathophysiology &amp; morphology of edema.</li> <li>2. Congestion &amp; hyperemia.</li> <li>3. Hemorrhage. types of hemorrhage, effects of hemorrhage.</li> <li>4. thrombosis. pathogenesis of thrombosis.morphology &amp; fate of thrombosis.</li> <li>5. Embolism. types &amp; effects of embolism.</li> <li>6. Causes, effects &amp; pathogenesis of Pulmonary embolism, fat embolism &amp; amniotic fluid embolism.</li> <li>7. Ischemia , infarction. types, morphology of infarction.</li> </ol>
Week 6	Disturbance of circulation& Disorder of immune system	<ol style="list-style-type: none"> <li>1. Definition , causes, pathogenesis of DIC.</li> <li>2. Definition of shock. types of shock. pathogenesis &amp; stages of shock</li> <li>3. Types of immune response. components of each type.</li> <li>4. HLA SYSTEM. classes, importance of HLA SYSTEM.</li> <li>5. Hypersensitivity reactions. Types of hypersensitivity reactions.</li> <li>6. Types of rejection reactions in transplantation</li> <li>7. Autoimmunity . mechanisms of autoimmunity. And immunodeficiency diseases.</li> </ol>
Week 7	Disturbance of growth & neoplasia	<ol style="list-style-type: none"> <li>1. <b>tumor, tumor like lesions &amp; oncology.</b></li> <li>2. <b>Naming of tumors.</b></li> <li>3. <b>The characteristics of benign &amp; malignant. Comparison between benign &amp; malignant tumors.</b></li> <li>4. <b>Characteristics of Anaplasia &amp; Dysplasia. incidence &amp; etiology of cancer.</b></li> <li>5. <b>Carcinogenesis. the commonest chemicals, viral carcinogens &amp; their pathogenesis.</b></li> </ol>
Week 8	Disturbance of growth & neoplasia--- Cytogenetics	<ol style="list-style-type: none"> <li>6. tumor antigens and types of tumor antigens.</li> <li>7. The effects of tumors on the host. understand: staging &amp; grading of cancer.</li> <li>8. genetic terms. types of genetic diseases. causes of genetic diseases.</li> <li>9. Karyotype. steps of Karyotype. Genetic counseling (types &amp; indications)</li> </ol>

Week 9	Cytopathology& Hemopoetic system disorders	<ol style="list-style-type: none"> <li>1. Types of cytopathology. Stains &amp; fixatives in cytopathology. Benign &amp; malignant patterns in cytopathology</li> <li>2. Hemopoiesis. To recognize: normal values of blood components.</li> </ol>
Week 10	Hemopoetic system disorders	<ol style="list-style-type: none"> <li>1. Definition of anemia. classification of anemia. And pathogenesis of each type. causes, morphology, &amp; Lab diagnosis of each type.</li> <li>2. Hemostasis. To recognize: types, morphology, causes of bleeding disorders.</li> <li>3. To define leukemia and types of leukemia</li> </ol>
Week 11	Hemopoetic system disorders& Lymphoretic ular system disorders	<ol style="list-style-type: none"> <li>1. WBC production. To define: Leukemia, &amp; define each type. To classify: leukemias. To know: causes, pathogenesis &amp; Lab diagnosis of each type of leukemia</li> </ol>
Week12	Lymphoreticular system disorders	<p>lymphoma</p> <p>classify: lymphoma morphology of each type of lymphoma</p>
Week 13	Vascular diseases	<ol style="list-style-type: none"> <li>1. Histology of vascular system. To know: congenital anomalies of vascular system. Arteriosclerosis &amp; its types.</li> <li>2. atherosclerosis. Risk factors, pathogenesis, morphology &amp; complications of atherosclerosis</li> <li>3. hypertension. To determine.types of hypertension &amp; their causes. the pathogenesis of hypertension. aneurysms &amp; dissection. Types, morphology &amp; complications of aneurysms &amp; dissection</li> <li>4. Vasculitis. To understand &amp; commonest vasculitis. types &amp; causes, morphology of vascular tumors</li> </ol>
Week 14	Heart diseases	<ol style="list-style-type: none"> <li>1. anatomy &amp; histology of heart. Ischemic heart diseases (IHD). pathogenesis of IHD.</li> <li>2. angina pectoris. types, &amp; pathogenesis of angina pectoris.</li> <li>3. myocardial infarction (MI). To know: risk factors, pathogenesis, morphology &amp; complications of MI.</li> <li>4. causes of sudden death. heart failure &amp; its types. pathogenesis &amp; morphology of heart failur types &amp; causes of each type.</li> </ol>
Week 15		Revision
<b>Mid year exam</b>		
2 <sup>nd</sup> semester		

Week 16	Heart diseases	<ol style="list-style-type: none"> <li>1. To define: heart failure &amp; its types. To understand: pathogenesis &amp; morphology of heart failure. To recognize: types &amp; causes of each type. To define &amp; To know: valvular heart diseases. To define: Rheumatic fever. To understand: Pathogenesis &amp; morphology of rheumatic fever.</li> <li>2. To define: infective endocarditis. To know: types, causes, pathogenesis, &amp; morphology of infective endocarditis. To define: Myocarditis. To know: etiology &amp; morphology of commonest types of myocarditis..</li> </ol>
Week 17	Respiratory system diseases	<ol style="list-style-type: none"> <li>1. To know: commonest pathological lesions of upper respiratory tract. To know: the commonest congenital disorders of respiratory tract. To define: Atelectasis.</li> <li>2. . To define bacterial pneumonia. To classify: pneumonias To understand: etiology, pathogenesis &amp; morphology of pneumonia. To know the complications of pneumonias. To define: lung abscess.</li> <li>3. To enumerate: chronic obstructive lung diseases. To define: asthma and recognize: types of asthma. To know: etiology, pathogenesis &amp; morphology of each type of asthma.</li> </ol>
Week 18	Respiratory system diseases	<ol style="list-style-type: none"> <li>1. .To define: Emphysema To know: types, pathogenesis, morphology &amp; complications of emphysema. To define: Chronic bronchitis.To define: Bronchiectasis.To know: etiology, pathogenesis, morphology &amp; complications of Bronchiectasis.</li> <li>2. To define: restrictive lung diseases. To know: definition, causes, &amp; morphology of acute respiratory distress diseases. To know</li> <li>3. . To define: Pneumoconiosis. To know: types, morphology &amp; complications of each type.</li> <li>4. To recognize: types of lung tumors. To know: etiology, morphology &amp; complications of bronchogenic</li> </ol>
Week19	G.I.T.diseases	<ol style="list-style-type: none"> <li>1. To know: commonest pathological lesions of oral cavity &amp; salivary glands. To remember histology of esophagus. To know: commonest congenital anomalies of esophagus. To define: webs of esophagus.</li> <li>2. To know: types of esophageal webs. To define: achalasia. To know: types, causes, pathogenesis &amp; complications of achalasia. To Define: esophageal diverticuli.</li> <li>3. To know: types, complications of diverticuli. To know: definition, types, and complications of hiatus hernia. To know: Mallory – Weiss syndrome. To know: definition, types, causes &amp; complications of esophagitis. To understand: definition, pathogenesis &amp; complications of Barrett esophagus.</li> </ol>

		<ol style="list-style-type: none"> <li>4. To know: types, etiology, and morphology of esophageal cancers. To remember: histology of stomach. To know: the commonest congenital anomalies of stomach.</li> <li>5. To know: types of Gastritis. To know: definition, etiology, pathogenesis, &amp; morphology of acute gastritis. To define: chronic gastritis. To know: etiology, pathogenesis &amp; morphology of chronic gastritis.</li> </ol>
Week 20	G.I.T.diseases	<ol style="list-style-type: none"> <li>1. <b>To define: chronic peptic ulcer.</b> To know: etiology, pathogenesis &amp; morphology of chronic gastric ulcer. To know: morphology &amp; complications of chronic peptic ulcer,</li> <li>2. <b>To classify: tumors of stomach.</b> To define &amp; to know: gastric polyps, &amp; it's types. To know: types, etiology, pathogenesis &amp; morphology of gastric malignant tumors.</li> <li>3. <b>To know: etiology, pathogenesis, &amp; morphology of each type of malabsorption syndrome.</b> To define: diverticular disease of colon. To know: etiology, pathogenesis, morphology &amp; complications of diverticular disease. To define: inflammatory bowel diseases. To define: Crhon disease. To know: etiology, pathogenesis, morphology &amp; complications of Crhon disease. To define Ulcerative colitis. To know: causes, pathogenesis, morphology &amp; complications of Ulcerative colitis.</li> <li>4. <b>To know: tumors of intestine.</b> To know: definition, etiology, pathogenesis &amp; morphology of polyps. To know: types, etiology, pathogenesis, &amp; morphology of colonic cancers.</li> </ol>
Week 21	Liver,G.B.& pancreas diseases	<ol style="list-style-type: none"> <li>1. To classify: hepatitis. To define: Acute hepatitis &amp; chronic hepatitis. To know: causes of infectious hepatitis. To know: pathogenesis &amp; morphology for each type of viral hepatitis</li> <li>2. To define: liver cirrhosis: To classify: liver cirrhosis. To know: pathogenesis &amp; morphology of cirrhosis. To define: hepatic failure. To know: causes &amp; morphology of hepatic failure. To define: jaundice. To know: types, pathogenesis &amp; morphology of jaundice.</li> <li>3. To define: portal hypertension. To know: causes, morphology of portal hypertension. To know: tumors of liver. To know: causes, morphology of Liver adenoma. To know: etiology, pathogenesis &amp; morphology of hepatocellular carcinoma.</li> <li>4. To remember: histology of gallbladder. To know: types, pathogenesis, morphology &amp; complications of gall bladder and cholecystitis. To know etiology &amp; morphology of gallbladder carcinoma.</li> </ol>
Week 22	Renal diseases	<ol style="list-style-type: none"> <li>1. To know: types of Glomerular syndromes. To define: nephrotic &amp; nephritic syndromes. To know characteristics</li> </ol>

		<p>of Nephrotic syndrome. To know: etiology, pathogenesis, &amp; morphology of each type of Nephrotic syndromes. To know characteristics of Nephritic syndrome.</p> <ol style="list-style-type: none"> <li>2. To know: etiology, pathogenesis &amp; morphology of each type of nephritic syndrome. To define: chronic glomerulonephritis. To know: definition, etiology, pathogenesis, morphology &amp; complications of Acute &amp; Chronic pyelonephritis.</li> <li>3. To define: Acute renal failure. To know: types of cystic renal diseases. To understand: etiology, pathogenesis, &amp; morphology of each type of cystic diseases. To define: Urolithiasis. To identify: types of renal stones. To know: pathogenesis, morphology of each type of renal stones</li> <li>4. To identify: types, etiology, pathogenesis &amp; morphology of renal cell carcinoma. To define: Wilm's tumor. To know: types, etiology, pathogenesis &amp; morphology of Wilm's tumor. To identify: Congenital anomalies of kidney</li> </ol>
Week 23	Male reproductive system diseases	<ol style="list-style-type: none"> <li>1. To identify: types, pathogenesis &amp; morphology of prostatitis. To define: Benign prostatic hyperplasia (BPH).</li> <li>2. To know: etiology, pathogenesis &amp; morphology of Seminoma, Teratomas of testis.</li> </ol>
Week 24	Breast & female genital tract	<ol style="list-style-type: none"> <li>1. To know: types, etiology, pathogenesis &amp; morphology of cervical carcinoma.</li> <li>2. To know: etiology, pathogenesis &amp; morphology of Adenomyosis &amp; endometrial hyperplasia. To know: types, etiology, pathogenesis &amp; morphology of endometrial hyperplasia.</li> <li>3. To identify: tumors of uterus. To define: leiomyoma. To know: To know: types, etiology, pathogenesis &amp; morphology of endometrial carcinoma.</li> <li>4. To define: oophoritis. To know: types, pathogenesis, &amp; morphology of ovarian cysts. To classify: tumors of ovary. To know: etiology, pathogenesis &amp; morphology of ovarian tumors.</li> <li>5. To define: mastitis. To know: etiology, pathogenesis, &amp; morphology of mastitis &amp; breast abscess. To define: fibroadenoma, fibrocystic disease of breast. To classify: breast carcinoma. To understand: pathogenesis, morphology, &amp; etiology of breast carcinoma.</li> </ol>
Week 25	Endocrine disease	<ol style="list-style-type: none"> <li>1. To define: acromegaly, prolactinoma &amp; hypopituitarism. To define: hyperthyroidism &amp; hypothyroidism. To identify: etiology, pathogenesis &amp; morphology of hyperthyroidism &amp; hypothyroidism</li> </ol>

		<ol style="list-style-type: none"> <li>To define: Cushing syndrome, conns syndrome, &amp; Pheochromacytoma</li> <li>To define: multiple endocrine neoplasia. To know: the commonest syndromes of multiple endocrine neoplasia</li> </ol>
Week 26	CNS diseases	<ol style="list-style-type: none"> <li>To know: commonest congenital anomalies of CNS. To define: cerebral ischemia. To know: types, pathogenesis, and morphology of Cerebrovascular diseases</li> <li>To know; classification, morphology, &amp; etiology of CNS tumors</li> </ol>
Week 27	Bone pathology Skin pathology&	<ol style="list-style-type: none"> <li>To define: Osteomyelitis. To know: etiology, pathogenesis, &amp; morphology of Osteomyelitis. To define: metabolic bone diseases. To know: etiology &amp; morphology of metabolic bone diseases. To know: commonest benign &amp; malignant bone tumors</li> <li>To know: commonest bulbous diseases. To know: etiology, pathogenesis &amp; morphology of Psoriasis, lichen planus. To know: commonest benign tumors of skin.</li> <li>To know: etiology, pathogenesis &amp; morphology of squamous cell carcinoma, malignant melanoma &amp; basal cell carcinoma of skin</li> </ol>
Week 28	New advances in Pathology	To understand: principles of immunohistochemistry, electron microscope, Fluorescent in situ hybridization, & PCR
Week29	Revision	
Week 30	Final exam	

### Delivery Plan (Weekly Lab. Syllabus)

<b>First semester</b>		
Week1	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	Heamtology	
Week 12	Lymphoreticular system	
Week 13	genetic disorder	
Week 14	Revision	

<b>2<sup>nd</sup> semester</b>		
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
<b>Formative assessment</b>	<b>Quizzes</b>	1	5% (10)	Every other week
	<b>Assignments</b>	1	5% (10)	12
	<b>Projects / Lab.</b>	1	5% (10)	Continuous
	<b>Report</b>	1	5% (10)	13
<b>Summative assessment</b>	<b>Midterm Exam</b>	2 hr	20% (10)	16
	<b>Final Exam</b>	3hr	60% (50)	30
<b>Total assessment</b>			100% (100 Marks)	

## 12. Learning and Teaching Resources

**Required Texts** Robbins and Cotran Pathologic basis of disease ,10<sup>th</sup> edition -,  
KUMAR,ABBAS &ASTER

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

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