



Ministry of Higher Education and Scientific Research
Apparatus for Supervision and Scientific Evaluation



Warith Al-Anbiyaa University (AS)
College of Medicine

Academic Program Description Form for Institutes and Colleges 2026-2027

Course Syllabus

Academic Program Description Form

University Name: Warith Al-Anbiyaa University

College/Institute: College of Medicine — Warith Al-Anbiyaa University (AS)

Scientific Department: College of Medicine

Academic or Professional Program Name: Cardiovascular system-Unit 5

Final Certificate Name: Bachelor of Medicine and Surgery (M.B.Ch.B)

Study System: Annual

Date of Preparing the Description: September 2026

Date of Filling the Form: 14th September 2026

Signature:

Head of Department Name:

Alaa Ghazi Hamid

Date: 2026/09/26

Signature:

Scientific Assistant Name:

Date: 2026/09/26

Reviewed by

Quality Assurance and University Performance Division

Name of Director of Quality Assurance and University Performance Division:

Dr. Agad Ali Sahib AlMunajir

Date:

2026/09/26

Signature:

Approved by the Dean

Course Description Form

1. Course Name
Unit Five - Cardiovascular system
2. Course Code
medu204
3. Semester / Year
Second semester
4. Date of Preparing this Description
14/ 9/2026
5. Available Attendance Forms
Actual attendance
6. Number of Study Hours (Total) / Number of Units (Total)
79 hours – Theory and 20 hours – Practical / Number of units 9.7 unit
7. Name of Course Coordinator (list all names if more than one)
<div style="display: flex; justify-content: space-between;"> Name: Alaa Ghazi hamid Email: alaa.ga@uowa.ed </div>

8. Course Objectives
<p>Course Objectives:</p> <ul style="list-style-type: none"> • By the end of this course, the second-grade students will be able to learn and possess the basic knowledge about the main topics regarding the cardiovascular system and its diseases by theoretical lectures, practical sessions and clinical cases. These aspects cover mainly: <p>Anatomy, Embryology, Histology, Pathology, Pharmacology, Physiology, Microbiology, Biochemistry, Community Medicine and linking all these items by Clinical Cases through weekly sessions of PBL (Problem – Based Learning).</p>

9. Teaching and Learning Strategies

Strategy:

The target are the second-year medical students, the fifth unite focus in correlation among basic medical sciences themselves, like correlation of embryology, anatomy, biochemistry, microbiology, pharmacology, physiology, pathology...theoretically and practically.

Also correlation between basic medical sciences and clinical medical sciences by studying clinical resources, skill laboratory and problem based learning.

This make the students with a strong based knowledge for the next years in which they gradually shift for clinical medicine.

Ultimately, this strategy aims to prepare students scientifically and academically for advanced clerkships

10. Course Structure

Week One / Total hours 12 hours	Learning Methods	Assessment Methods
	1. Theoretical lectures 2. Clinical skills labs	1. Weekly exams 2. Unit's end exams 3. Assessing students according to their participation in weekly-held small group teaching
Unit or Topic Name	Required Learning Outcomes	
1. PBL case study	Being familiar with the main clinical features regarding autonomic nervous system in a simple and basic way.	
2. Anatomy	1. Describe the basic anatomy of sympathetic system 2. Describe the basic anatomy of parasympathetic system	
3. Physiology	1. Define and Compare terms and concepts related to the sympathetic and parasympathetic systems, including: the central location of cell body of origin, number of synapses between CNS and effector organs, degree of myelination, and general effects on target tissues. 2. Define and compare pre- and postganglionic autonomic neurons, and white and gray rami communicants.	

		<ol style="list-style-type: none"> Describe the sensory input and roles for visceral afferent fibers of the ANS. Describe the synaptic characteristics, receptors, and neurotransmitters for the parasympathetic and sympathetic division of the ANS. Describe the function of non-adrenergic, non-cholinergic fibers in the ANS. Explain the relatively diffuse action of the sympathetic division compared with the parasympathetic division. Describe the ANS signaling mechanism and the effects of sympathetic and parasympathetic stimulation of lungs, heart, arteries, and veins; gastrointestinal function; renal function; and sexual function. Explain the Cardiovascular reflexes Explain the Cardiorespiratory interactions Describe signs and symptoms of ANS dysfunction that may accompany lesions that affect the ANS. Including Horner's Syndrome, medullary dysfunction, common visceral dysfunction, and multiple system atrophy (Shy-Drager syndrome).
4. Pharmacology		<ol style="list-style-type: none"> Explain the Receptor mechanisms regulating central autonomic function Describe Nicotinic receptors: distribution, agonists, and antagonists Describe Muscarinic receptors: subtypes, distribution, agonists, and antagonists describe Alpha adrenergic receptors: subtypes, distribution, agonists, and antagonists Describe Beta adrenergic receptors: subtypes, distribution, agonists, and antagonists Describe Autonomic neuropeptide receptors
5. Practical Labs		
Clinical Skills Lab		Cardiovascular system History & Clinical Reasoning

Week Two / Total hours 17 hours	Learning Methods	Assessment Methods
	1. Theoretical lectures 2. Practical sessions 3. Clinical skills labs	1. Weekly exams 2. Unit's end exams 3. Assessing students according to their participation in weekly-held small group teaching
Unit or Topic Name	Required Learning Outcomes	
1. PBL case study	Being familiar with the cardiovascular causes of Sudden loss of consciousness in a simple and basic way.	
2. Physiology	Cardiac system electrical activity: 1. SA node action potentials 2. Spread of electrical activity from the sino-atrial node to the rest of the heart 3. Neural regulation of SA node Electrocardiogram (ECG): part 1 1. ECG and the electrical activity of the heart 2. Relation of the P wave, QRS complex, T wave to the spread of electrical activity through the different chambers of the heart	
3. Anatomy	Thoracic wall and introduction to anatomy of the heart 1. Osteology of the ribs and sternum Costal cartilages and thoracic articulations 2. Intercostal muscles 3. Intercostal vessels, nerves 4. Movements of the thoracic	
4. Pathology	Hemodynamic disorder: 1. Define edema and describe its types 2. Explain the pathophysiology of edema 3. Describe hperaemia and congestion as terms 4. Explain pathogenesis of thrombosis with reference to Virchow's triad 5. Describe morphological features of different types of thrombi, 6. Differentiate arterial versus venous thrombosis 7. Describe the fate of thrombi. 8. Define and describe embolism and its types, 9. Explain the consequences of thromboembolisim. pulmonary embolism 10. Define shock and list its types 11. Describe the stages of shock 12. Recognize the causes of cardiogenic shock 13. Explain the pathogenesis of septic shock	
5. Pharmacology	Anti-arrhythmic drugs: 1. Classes of antiarrhythmic drugs & their clinical uses. 2. Mechanism of action of each class of antiarrhythmic drugs, commonly used drugs, alternative drugs, clinically important interactions & their adverse effects.	

6. Clinical Resources	<p>A. Syncope (1hr)</p> <ol style="list-style-type: none"> 1. Definition, etiology of syncope 2. Signs & symptoms of syncope 3. Diagnostic tests 4. Management & prognosis 5. How CPR works 6. Complications of CPR <p>B. Atrial fibrillation and other arrhythmias (1 hr)</p> <ol style="list-style-type: none"> 1. definition and etiology 2. Signs and symptoms 3. Management <p>C. Differentiate between supraventricular and ventricular arrhythmia treatment\</p> <p>D. Treatment of common and serious arrhythmias: AF, SVT,VT,VF</p>
7. Practical Labs	
Anatomy Lab Pathology Lab Clinical Skills Lab	Anatomy and histology of the heart and vessel

Week Three / Total hours 15 hours	Learning Methods	Assessment Methods
	<ol style="list-style-type: none"> 1. Theoretical lectures 2. Practical sessions 3. Clinical skills labs 	<ol style="list-style-type: none"> 1. Weekly exams 2. Unit's end exams 3. Assessing students according to their participation in weekly-held small group teaching
Unit or Topic Name	Required Learning Outcomes	
1. PBL case study	Being familiar with the cardiovascular causes of Dizzy feeling after stood up. The <u>main</u> presentations of Valvular heart diseases, their main causative factors in a simple and basic way.	
2. Pathology	<p>Valvular heart diseases</p> <ol style="list-style-type: none"> 1- Types of valvular heart disease and their etiology 2- Rheumatic Valvular Disease. <p>Infective Endocarditis and the non bacterial thrombotic endocarditis</p>	
3. Anatomy	<p>The heart and great vessels:</p> <ol style="list-style-type: none"> 1. Formation and sinuses of the pericardium 2. Surface & radiographic anatomy of the heart 3. Anatomy of the inside of the chambers of the heart 4. Conducting system of the heart 5. Blood supply of the heart 6. Nerve supply of the heart <p>Surface Anatomy of the thorax:</p> <ol style="list-style-type: none"> 1. Thoracic cage 2. Precordium and auscultatory areas. 3. Lungs and pleura 	

4. Physiology	Electrocardiogram (ECG): part 2 <ol style="list-style-type: none"> 1. Orientation of the 12 leads ECG 2. Cardiac vector and deviations of ECG. 3. Introduction to cardiac arrhythmias. 4. Use of ECG as a clinical tool for the diagnosis of cardiac arrhythmias. The cardiac cycle: <ol style="list-style-type: none"> 1. The phases of the cardiac cycle. 2. The pressure and volume changes in the heart during each phase of the cardiac cycle. 3. Relate the phases of the cardiac cycle to the ECG. 5. The role of the heart valves in the cardiac cycle. 6. Clinical correlation between heart diseases and cardiac cycle
5. Pharmacology	A. Anti- arrhythmic drugs (2): <ol style="list-style-type: none"> 1. General principals of antiarrhythmic therapy 2. Classification of antiarrhythmic drugs 3. Differences between antiarrhythmic drugs B. Clinical pharmacology of antiarrhythmic drug <ol style="list-style-type: none"> 1. Differentiate between supraventricular and ventricular arrhythmia treatment\ 2. Treatment of common and serious arrhythmias: AF, SVT,VT,VF
6. Microbiology	Rheumatic fever Infective endocarditis <ol style="list-style-type: none"> 1. Causative pathogens Including list, Microbiological and biochemical features, virulence factors and laboratory diagnosis. 2. The mechanism of pathogenesis of each condition
7. Clinical Resources	Management of AS(1 hr) <ol style="list-style-type: none"> 1. Significance of valvular heart disease. 2. Role of valvular heart disease in dyspnoea 3. How to distinguish AV sclerosis from stenosis 4. Clinical signs of severe AS 5. Tests to diagnose AS 6. Surgery indication Infective endocarditis and rheumatic fever(1 hr) <ol style="list-style-type: none"> 1. Definition and etiology 2. Causative pathogens 3. Signs and symptoms 4. Management
8. Practical Labs	
Clinical Skills Lab Anatomy Lab.	

Week Four / Total hours 19 hours		Learning Methods	Assessment Methods
		1. Theoretical lectures 2. Practical sessions 3. Clinical skills labs	1. Weekly exams 2. Unit's end exams 3. Assessing students according to their participation in weekly-held small group teaching
Unit or Topic Name		Required Learning Outcomes	
1. PBL case study		Being familiar with the main presentations of Hard time with drama of life As a presentation of myocardial infarction with its causes, treatment and complications.	
2. Pathology		Myocardial infarction: <ol style="list-style-type: none"> 1- Infarction, definition and types, the factors that influence the development of infarction. 2- reperfusion injury 3- Ischemic heart disease pathogenesis. Angina pectoris. 4- myocardial infarction pathogenesis and morphological changes, consequences and complications 5- chronic ischemic heart disease and sudden cardiac death. 	
3. Anatomy		The blood supply of the heart: <ol style="list-style-type: none"> 1. Origin, course and distribution of the right and left coronary arteries. 2. Branches of the right and left coronary arteries 3. Sites of anastomosis between right and left arteries. 4. Basic veins draining the heart focusing on the coronary sinus. 5. Autonomic innervation of the coronary arteries. 6. Define the terms "end arteries anastomosis" with its clinical implications on cardiac diseases 	
4. Physiology		Control of cardiac output: <ol style="list-style-type: none"> 1. The control mechanisms of cardiac output 2. The role of preload and afterload in determining stroke volume 3. Cardiac muscle contractility Cardiogenic shock: <ol style="list-style-type: none"> 1. Definition of shock 2. Causes and types of shock 3. The dangers of cardiogenic shock and how it leads to death 4. Management of cardiogenic shock 	
5. Biochemistry		Cardiac enzymes: <ol style="list-style-type: none"> 1. Understand Isozymes as markers of myocardial infarction 2. Understand Troponin as biomarker; know when to order it and what does the test results mean! 3. Distinguish between angina and myocardial infarction 	
6. Pharmacology		Management of MI: <ol style="list-style-type: none"> 1. Rationale for Drug Therapy in MI, 2. Classes of Drugs Used to Treat MI, 3. Their mode of action, Clinical uses and common side effects. 	

	Hypolipidemic agents: <ol style="list-style-type: none"> 1. General outlines of treatment of hyperlipidemia 2. Different classes of hypolipidemic agents, 3. Pharmacology of every agent regarding: Mechanism of action, Pharmacokinetics, Clinical effects, Side effects and interaction with other drugs <ul style="list-style-type: none"> - Mechanism of action - Therapeutic applications - Specific adverse effects - How they are administered
7. Clinical Resources	Management of MI <ol style="list-style-type: none"> 1. DD of chest pain 2. Analysis of pain 3. Sign & symptoms of ischemic coronary syndromes 4. Examination & diagnosis 5. Management of MI 6. Complications of acute MI Cardiovascular Imaging:(1 hr) <ol style="list-style-type: none"> 1. To gain knowledge about the different imaging modalities used in examination of the CVS. 2. To have a protocol for reading the normal chest x-ray. 3. To review the appearance of some of the common and important abnormalities on Chest x ray.
8. Community medicine	<ol style="list-style-type: none"> 1. epidemiology of IHD 2. risk factors and prevention of IHD
8. Practical Labs	
Pathology Lab Biochemistry Lab Clinical Skills Lab	

Week Five / Total hours 16 hours	Learning Methods	Assessment Methods
	<ol style="list-style-type: none"> 1. Theoretical lectures 2. Practical sessions 3. Clinical skills labs 	<ol style="list-style-type: none"> 1. Weekly exams 2. Unit's end exams 3. Assessing students according to their participation in weekly-held small group teaching
Unit or Topic Name	Required Learning Outcomes	
1. PBL case study	Being familiar with Yellowish spots below eyes as the main presentations of hypertension with their main types, causes, treatment and complications.	
2. Pathology	<ol style="list-style-type: none"> 1- atherosclerosis risk factors, pathogenesis and morphological features. 2- pathogenesis of hypertension, mechanism of essential hypertension vascular pathology in hypertension. 3- hypertensive heart disease(systemic and pulmonary hypertensive heart disease 	

3. Anatomy and histology		<ol style="list-style-type: none"> 1. Function and histological structure of capillaries 2. Function and components of the arterial system 3. Histology of the aorta, arteries and arterioles 4. Function and components of the venous system 5. Histology of the heart and histological features of cardiac muscle
4. Physiology		Regulation of arterial blood pressure: <ol style="list-style-type: none"> 1. How vasomotion influence blood flow 2. The neural and hormonal influences on vasomotion and arterial blood pressure,
5. Biochemistry		Cholesterol and Hypercholesterol: <ol style="list-style-type: none"> 1. Functions of cholesterol. 2. Endogenous and exogenous cholesterol. 3. Cholesterol synthesis. 4. Fates of cholesterol 5. Lipoproteins synthesis 6. Entero-hepatic circulation of cholesterol 7. Functions of lipoproteins 8. Structure and function of the LDL- receptor 9. Good and bad cholesterol 9. Foam cells and how they lead to atherosclerosis 10. Familial hypercholesterolemia
6. Psychology		Issues of patient compliance: <ol style="list-style-type: none"> 1. Importance of compliance /adherence 2. Types of noncompliance 3. Causes and consequences of noncompliance 4. Methods to improve compliance in patients
7. Community medicine		Epidemiology of hypertension
8. Pharmacology		Diuretics <ol style="list-style-type: none"> 1. Different classes of diuretics, their mode and site of action ,their clinical uses, 2. Adverse effects and their interaction with other drugs Antihypertensive drugs: <ol style="list-style-type: none"> 1. Regulation of blood pressure by normal body mechanisms 2. Autonomic control of blood pressure 3. Different classes of drugs used for treatment of hypertension, their mechanism of action, agents commonly used, their adverse effects, and clinically important drug interactions 4. Different strategies for treatment of hypertension
9. Clinical Resources		Management of Hypertension: <ol style="list-style-type: none"> 1. Definition & classification 2. Hypertension management in various countries 3. Pathophysiology of HT 4. Factors influencing prognosis

	5. Documentation of HT 6. Defining target BP 7. Examination and lab investigations in hypertensive patients 8. Guidelines for management of HT.
7. Practical Labs Biochemistry lab Pathological lab Skill lab	Lipid profile (Biochemical lab session)(Lab results interpretation) Morphological changes in atherosclerosis and vascular changes related to hypertension. Blood pressure measuring

Week Six / Total hours 15 hours	Learning Methods	Assessment Methods
	1. Theoretical lectures 2. Practical sessions 3. Clinical skills labs	1. Weekly exams 2. Unit's end exams 3. Assessing students according to their participation in weekly-held small group teaching
Unit or Topic Name	Required Learning Outcomes	
1. PBL case study	Being familiar with the main clinical features regarding heart failure, shortness of breath as a main symptom, complications, and treatment in a simple and basic way.	
2. Embryology	Embryology of the heart with correlation to congenital heart anomalies) Heart Anomalies: 1. Fetal circulation 2. Changes in circulation at birth 3. Remnants of the embryonic vessels 4. Congenital heart disorders according to- position, atresia or stenosis, abnormal growth, defective septa. 5. Combined defects, anomalies of relationship of chambers to great vessel	
3. Physiology	Venous Return: 1. The importance of venous return 2. The characteristics of veins that allow them to be able to hold large volumes of blood and to have low resistance to flow 3. The importance of venous pressure, and the factors that determine venous pressure Microcirculation and tissue fluid formation:\ 1. Define the Starling equation and discuss how each component influences fluid movement across the capillary wall 2. Explain how edema develops in response to different situations.	
4. Biochemistry	Frederickson Classification of Lipid Disorders*. Type. Average of overnight serum. Elevated particles, Associated clinical disorders, Serum TC, Serum TG	

5. Clinical Resources		Management of CHF(1 hr) 1. Etiology 2. Causes of right and left sided HF 3. Pathophysiology of CHF 4. Sign & symptoms 5. Diagnosis, management & prognosis of CHF CVS Imaging(1hr) 1. Different imaging modalities used in examination of the CVS. 2. Protocol for reading the normal chest x-ray. 3. Appearance of some of the common and important abnormalities on Chest x-ray
6. Pharmacology		Inotropic agents & heart failure: 1. Inotropic agents [positive & negative] types & various cardiovascular conditions in which such agents are applied 2. Types of drugs that are used in the treatment of HF, their mechanism of action, interaction with other drugs & adverse effects 3. Treatment options for various stages of . Angiotensin-converting enzyme inhibitors (ACEI) and Angiotensin II Receptor Blockers (ARBs): 1. Role in management of HF 2. Mode of action, clinical uses, adverse effects and clinically important Drug Interactions
7. Microbiology		Infections lead to dilated cardiomyopathy 1. Causative pathogens Including list, Microbiological and biochemical features, virulence factors and laboratory diagnosis. 2. The mechanism of pathogenesis of each condition
8. Practical Labs		
Biochemistry lab		lab results interpretation
Skill lab		

Week Seven / Total hours 13 hours	Learning Methods	Assessment Methods
	1. Theoretical lectures 2. Practical sessions 3. Clinical skills labs	1. Weekly exams 2. Unit's end exams 3. Assessing students according to their participation in weekly-held small group teaching
Unit or Topic Name	Required Learning Outcomes	

1. PBL case study	Being familiar with the intermittent claudication as the main clinical features of deep venous thrombosis in a simple and basic way.
2. Anatomy	<ol style="list-style-type: none"> 1. Demonstrate the origin, course and branches of the major arteries that supply the gluteal region, hip, thigh, leg, ankle and foot. Explain the functional significance of anastomoses between branches of these arteries at the hip and knee. 2. Demonstrate the locations at which the femoral, popliteal, posterior tibial and dorsalis pedis arterial pulses can be palpated. 3. Demonstrate the course of the principal veins of the lower limb. Explain the role of the perforator veins between the superficial and deep veins and the function of the 'muscle pump' for venous return to the heart. Describe the surface landmarks 4. Describe the basic histology of arteries and veins
3. Pathology	<p>A. Pathology of blood vessels</p> <ol style="list-style-type: none"> 1- define and differentiate between aneurysms and dissections 2- Define vasculitis and describe its types and pathogenic mechanism. 3- Describe pathogenesis and clinical features of thromboangiitis obliterans (buerger disease). 4- Explain Pathology of vasculitis associated with other diseases. 5- Explain Pathology of Blood Vessel Hyperreactivity (Raynaud phenomenon). 6- Explain Pathogenesis of Varicose veins. 7- Describe the basic pathology of the tumors of the blood vessels <p>B. Pathology of thrombosis</p> <ol style="list-style-type: none"> 1. Describe the factors that predispose to thrombosis; acquired and inherited. 2. Define thrombophilia and its classification 3. Recognize the inherited and acquired causes of thrombophilia 4. Lab monitoring of common anticoagulant drugs(warfarin and heparin)
4. Pharmacology	<p>A. Anticoagulants:</p> <ol style="list-style-type: none"> 1. Warfarin, 2. Unfractionated and LMW heparin , 3. Direct thrombin inhibitors <p>B. Thrombolytic agents</p> <ol style="list-style-type: none"> 1. Streptokinase 2. t-PA 3. Tenecteplase 4. Reteplase <p>C. Inhibitors of anticoagulation and fibrinolysis</p>

5. Microbiology	<p>Mycotic aneurysm</p> <ol style="list-style-type: none"> 1. Causative pathogens <p>Including list, Microbiological and biochemical features, virulence factors and laboratory diagnosis.</p> <ol style="list-style-type: none"> 2. The mechanism of pathogenesis of each condition
6. Clinical Resources	<p><u>Deep venous thrombosis(1hr)</u></p> <ol style="list-style-type: none"> 1. Define and describe risk factors for developing DVT 2. Define and describe the symptoms and signs of DVT and PE. 3. Generate a prioritized differential diagnosis of DVT/PE 4. Describe the indications for and utility of various diagnostic tests of DVT/PE 5. Define and describe, and develop an appropriate management plan for DVT/PE 6. Identify the appropriate duration of anticoagulation therapy in a patient with DVT and PE based on the clinical picture 7. Define and describe methods of DVT/PE prophylaxis, their indications and efficacy <p><u>Peripheral arterial disease(PAD):(1hr)</u></p> <ol style="list-style-type: none"> 1. Describe the risk factors, clinical presentation, and evaluation of PAD 2. Recognize the relationship between atherosclerosis and PAD 3. Recognize different modalities of testing for PAD 4. recognize the options of medical therapy for this disorder 5. recognize the non- surgical and surgical intervention in the treatment of PAD <p><u>Varicose veins(1hr)</u></p> <ol style="list-style-type: none"> 1. Explain the pathophysiology underlying varicose veins (primary venous vs chronic venous insufficiency) 2. Describe the signs and symptoms of varicose veins 3. Identify the important steps in diagnosis of varicose veins including investigations 4. Outline the important modalities of treatment of varicose veins
7. Practical Labs	
Anatomy lab	
Skill lab	

11. Course Evaluation

Course evaluation can be done by many ways like: the regular weekly exams (TBL), PBL students' activities, also regular feedbacks received by students to evaluate the given scientific material and the lecturers involved in the teaching process, and accordingly the course can be mildly manipulated.

Also by daily questions during the lectures

12. Learning and Teaching Resources

Required Textbooks (Curriculum, if any)

Embryology: LANGMANS Medical Embryology
Fourteenth Edition TW. Sadler

Anatomy: Snell's clinical anatomy by region 8th edition
Gray's anatomy for medical students 2nd edition

Physiology: Guyton and hall textbook of medical
physiology 13th edition by John E.

Gannon's Review of Medical physiology, 26th edition by
Kim Barrett.

Pathology: Robben and Cotran Pathologic basis of
disease, 10th edition. KUMAR, ABBAS & ASTER.

Pharmacology: Lippincott Illustrated Reviews
Pharmacology 9th Edition

KATZUNCS Basic & Clinical Pharmacology 16th
Edition.

Biochemistry: Textbook of Biochemistry for Medical
students.

Quick Review of Biochemistry for Undergraduates:
Questions and Answers.

Clinical Biochemistry and Metabolic Medicine

Radiology: Diagnostic Imaging by Peter Armstrong

Text book of radiology and imaging by David Sutton

Main References (Sources)

Recommended Supporting Books and References (scientific journals, reports, etc.)	
Electronic References, Websites	<u>Radiology:</u> Radiopedia <u>Community Medicine:</u> World Health Organization website and publications Iraqi Ministry of health guidelines and publications

