



COURSE PLAN

FIRST: BASIC INFORMATION

College					
College	: Medicine				
Department	: Internal medicine				
Course					
Course Title	: Internal medicine				
Course Code	:31500402				
Credit Hours	:10				
Year level	: 4 th year				
Instructor					
Name	: Bandar Ghazal, Sara Haj Ali, Tarek Mazzawi, Bisher Qawar				
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Office Hours	:12-1				
Class Times	Building	Day	Start Time	End Time	Room No.
	Faculty of medicine	Sunday-Tuesday	1 pm	3 pm	B1 auditorium

Text Book

1. **Davidson's Principles and Practice of Medicine, 20th Edition With STUDENT CONSULT Online Access.** By Nicholas A. Boon, MA, MD, FRCP(Ed), FESC, Nicki R. Colledge, BSc, FRCP(Ed), Brian R. Walker, BSc, MD, FRCP(Ed) and John A. A. Hunter, OBE, BA, MD, FRCP
 2. **Kumar and Clark's Clinical Medicine, 7th Edition - With STUDENT CONSULT Online Access.** By Parveen Kumar, CBE, BSc, MD, FRCP, FRCP(Edin) and Michael L. Clark, MD, FRCP
- **Macleod's Clinical Examination, 12th Edition With STUDENT CONSULT Access.** By Graham Douglas, BSc(Hons), MB, ChB, FRCPE, Fiona Nicol, BSc(Hons), MB, BS, FRCGP, FRCPE and Colin Robertson, BA(Hons), MB, ChB, FRCPE, FRCS(Ed)

References

- Up to Date
- Journal review articles
- Medscape.com

**SECOND: PROFESSIONAL INFORMATION****COURSE DESCRIPTION**

It is a ten-week rotation in internal medicine where students will go to KHMC for 5 weeks followed by another 5-week rotation at Al-Salt hospital (or vice versa). During this rotation, students will participate in clinical rounds to learn inpatient medical care, attend outpatient clinics, attend lectures and present seminars on important medical topics.

COURSE OBJECTIVES

Upon completion of the course, students should be able to:

1. Acquire essential knowledge about common medical diseases affecting various organ systems
2. Take a proper history & conduct a proper physical examination
3. Identify physical signs of common medical illnesses
4. Generate a problem list and differential diagnosis for common medical problems
5. Investigate common medical problems in a rationale way
6. Build up proper relations with colleagues, patients, and staff members working in the hospital

COURSE LEARNING OUTCOMES

Upon completion of this course, students are expected to be able to take a proper history and physical examination, think of differential diagnosis, and know the essentials of common medical problems.



WEEKLY TEACHING SCHEDULE AT ANY HOSPITAL

	Patient Contact	Bedside Teaching*	Lectures
Sunday	8:30 – 10:00	10:00 – 12:00	13:00-15:00
Monday	8:30 – 10:00	10:00 – 12:00	13:00-15:00
Tuesday	8:30 – 10:00	10:00 – 12:00	13:00-15:00
Wednesday	8:30 – 10:00	10:00 – 12:00	13:00-15:00
Thursday	8:30 – 10:00	10:00 – 12:00	13:00-15:00

* **Bedside Teaching:** a 2-hour hospital based daily sessions for a small group of students supervised by a faculty member.

Specific Objectives

Cardiovascular System

I. Knowledge/Mix of Diseases/Patients

- A. Ischemic heart disease: unstable angina and myocardial infarction
- B. Heart failure
- C. Congenital heart disease with onset of manifestations in the adult
- D. Valvular heart disease—causes
- E. Clinical diagnosis of rheumatic fever
- F. Hypertension: essential and secondary
- G. Pericarditis
- H. Arrhythmias
 1. Distinction between ventricular and supraventricular rhythms
 2. Atrial fibrillation, atrial flutter
 3. Heart block 1o, 2o, 3o
 4. Bundle branch and hemiblocks



5. Main supraventricular tachycardias

II. History Skills

- A. Obtain history of risk factors for coronary artery disease
- B. Obtain history for rheumatic fever or congenital heart disease
- C. Recognize importance of family history in assessment of cardiovascular disease
- D. Use all modalities in "pain" history to distinguish coronary artery disease from other causes of chest pain
- E. In hypertensive patient, obtain careful history of medication compliance

III. Physical Exam Skills

- A. Determine venous pressure by examination of neck veins
- B. Assess arterial pulses and recognize pulsus alternans, bisferiens pulse, and paradoxical pulse
- C. Perform hepatojugular reflux test to assess venous pressure
- D. On cardiac auscultation, recognize:
 - 1. Systolic and diastolic murmur--effects of physiologic and pharmacologic interventions
 - 2. Pericardial friction rub
- E. On cardiac auscultation, recognize:
 - 1. S-1, S-2, and normal physiologic splitting
 - 2. S-3, S-4, and how they are best appreciated
 - 3. Systolic and diastolic murmur--effects of physiologic and pharmacologic interventions
 - 4. Special characteristics of the murmur of MVP and HCM
 - 5. Pericardial friction rub

IV. Diagnostic Tests

- A. Recognize a normal EKG and common EKG abnormalities
- B. Recognize a normal Chest X-ray

V. Therapeutic Interventions

- A. Know therapeutic indications for angioplasty and other therapeutic applications of catheterization
- B. Describe therapeutic approach to clinical syndromes described in I.



DISEASES OF THE KIDNEY AND URINARY TRACT

I. Knowledge/Mix of Diseases/Patients

- A. Acute renal failure--The student must distinguish prerenal, renal, and post renal disease using clinical and laboratory parameters
- B. Chronic renal failure and its associated metabolic-endocrine, GI, cardiovascular hematologic, and neuromuscular complications
- C. The major glomerulopathies
- D. Tubulointerstitial disease
- E. Vascular injury

II. History Skills

In the patient who presents with a problem of the urinary tract, the student will determine by history:

- A. Frequency and volume of urine (polyuria, oliguria, anuria)
- B. Urine color, hematuria
- C. Dysuria, diminished stream
- D. Effects of nephrotoxic drugs or drugs that effect bladder emptying or urine color
- E. The clinical syndrome of uremia

III. Physical Exam Skills

- A. Recognize signs of uremia--cognitive, asterixis, odor of breath
- B. Auscultate for bruits
- C. Attempt to palpate for kidneys
- D. Percuss bladder size

IV. Diagnostic Tests

The student should be able to:

- A. Calculate fractional excretion of sodium as a measure of prerenal vs post renal azotemia
- B. Evaluate the patient with glomerulonephritis for multisystem disease
- C. Choose the most appropriate imaging test for the specific patient problem

V. Therapeutic Interventions

The student should be able to:

- A. Manage the patient with acute renal failure and know all indications for dialysis



- B. Recognize the possibility of urinary tract obstruction

DISORDERS OF THE RESPIRATORY SYSTEM

I. Knowledge/Mix of Diseases/Patients

- A. Diseases of airflow limitation
 - 1. Asthma
 - 2. Bronchitis
 - 3. Emphysema
 - 4. Bronchiectasis
 - 5. Cystic fibrosis
- B. Interstitial lung diseases
 - 1. Occupational lung disease
 - 2. Hypersensitivity pneumonias
 - 3. Sarcoidosis
 - 4. Idiopathic pulmonary fibrosis
- C. Infectious lung diseases
 - 1. Community acquired pneumonia
 - 2. Nosocomial pneumonias
 - 3. Tuberculosis
- D. Pulmonary vascular lung diseases
 - 1. Pulmonary thromboembolism
 - 2. Pulmonary hypertension
 - 3. Noncardiogenic pulmonary edema (ARDS)
- E. Neoplastic disease of the lung
 - 1. Bronchogenic carcinoma
 - 2. Paraneoplastic syndromes
- F. Diseases of the pleura
 - 1. Pleural effusion



2. Pneumothorax

II. History Skills

- A. Correctly characterize respiratory symptoms of dyspnea, cough, and expectoration
- B. Obtain careful history of accidental or occupational exposure to potential lung toxins
- C. Obtain a precise history of tobacco use, including passive cigarette smoke
- D. Obtain family history for cystic fibrosis, emphysema, asthma, tuberculosis, collagen vascular diseases, and lung neoplasm
- E. Obtain history of drug exposure and medication use
- F. Determine risk factors for HIV and TB

III. Physical Exam Skills

- A. Examine the chest by inspection
 - 1. Identify abnormal respiratory patterns
 - 2. Recognize findings suggesting pulmonary disease such as deviated trachea, digital clubbing
- B. Examine the chest by palpation
 - 1. Appreciate the significance of supraclavicular adenopathy, crepitation, and tenderness
- C. Examine the chest by percussion
 - 1. Distinguish normal and abnormal resonance
 - 2. Further define areas of dullness by special maneuvers such as vocal and tactile fremitus
- D. Examine the chest by auscultation
 - 1. Recognize normal breath sounds and characterize
 - 2. Recognize adventitious breath sounds such as crackles, rhonchi, and wheezes
 - 3. Understand the diagnostic implications of the adventitious sound

IV. Diagnostic Test Skills

- A. The student should be able to:
 - 1. Interpret arterial blood gases
 - 2. Understand the use of the pulse oxymeter
 - 3. Interpret spirometry including Flow-Volume loops



4. Interpret the chemical profile of pleural effusions
- B. The student should understand the indications for:
1. Pulmonary function tests
 2. Thoracentesis
 3. Pleural biopsy

V. Therapeutic Skills

- A. The student must be familiar with the general management of all diseases listed in I.
- B. The student should be able to:
1. Correctly select antimicrobial agents for respiratory infection
 2. Recognize a significant reaction to PPD
 3. Know the indications and side effects for the commonly used medications in pulmonary medicine

ENDOCRINOLOGY AND METABOLISM

I. Knowledge/Mix of Diseases/Patients

- A. Diseases of the pituitary
1. Diabetes insipidus
 2. Pituitary tumors
 - Acromegaly
 - Cushing Disease
 - Prolactinoma
 3. Hypopituitarism
 4. Empty Sella Syndrome
- B. Thyroid disease
1. Hypothyroidism causes
 2. Hyperthyroidism
 - Graves disease
 - Toxic multinodular goiter



- Toxic adenoma
- Factitious
- 3. Thyroiditis
 - Chronic thyroiditis (Hashimoto's)
 - Subacute thyroiditis (painful and painless)
- 4. Approach to thyroid nodule
- C. Diseases of the adrenal cortex
 - 1. Cushing Syndrome
 - 2. Hyperaldosteronism
 - 3. Addison's Disease
- D. Pheochromocytoma
- E. Diabetes mellitus
 - 1. Diagnosis
 - 2. Classification and pathogenesis
 - 3. Clinical features
 - 4. Complications
 - 5. Treatment
- a. Diet
- b. Insulin
- c. Oral agents
- F. Hypoglycemia
 - 1. Fasting
 - 2. Reactive
- G. Disorders of the parathyroid gland and of calcium metabolism
- H. Metabolic bone disease
 - 1. Osteoporosis
 - 2. Osteomalacia
 - 3. Paget's



4. Renal osteodystrophy

II. History Skills

- A. Demonstrates knowledge necessary to take a proper history for a patient suspected of having an endocrine or metabolic disorder.
- B. In a patient with diabetes mellitus, the student must obtain and put in chronological order a detailed history of the disease, including all complications, hospitalizations, medications.

III. Physical Exam

- A. Know importance of:
 - 1. Weight
 - 2. Height
 - 3. Skeletal proportions
- B. Recognize exophthalmus and abnormal ocular motility
- C. Evaluate thyroid size, nodularity, tenderness, and bruit
- D. Evaluate skin-temperature, moisture, pigmentation, pretibial myxedema, diabetic dermopathy
- E. Evaluate quality of voice
- F. Evaluate texture and pattern of hair
- G. Recognize diabetic retinopathy

IV. Diagnostic Skills

- A. Understand the use of thyroid function tests
- B. Describe the tests necessary to diagnose diseases listed in I.

V. Therapeutic Interventions

- A. Understand the indications, side effects, and adverse reactions for each of the following:
 - 1. L-thyroxine
 - 2. Glucocorticoids
 - 3. Antithyroid drugs
 - 4. Oral hypoglycemics
 - 5. Insulin (all forms)



GASTROENTEROLOGY

I. Knowledge/Mix of Diseases/Patients

- A. Diseases of the esophagus: anatomic and motor causes of esophagitis (GERD)
- B. H Pylori and PUD
- C. Disorders of absorption
- D. Inflammatory bowel disease
- E. Liver and biliary tract disease
 - 1. Acute and chronic hepatitis
 - 2. Cirrhosis and alcoholic liver disease
 - 3. Approach to patients with abnormal LFTs
- F. Pancreatic diseases
 - 1. Acute pancreatitis
 - 2. Chronic pancreatitis
 - 3. Pancreatic cancer
 - 4. Endocrine tumors

II. History Skills

In obtaining history from a patient with a GI complaint:

- A. Describe all characteristics of abdominal pain
- B. Recognize potential importance of family history and medication history and GI side effects of all drugs
- C. History of diet, weight, food intolerance, bowel pattern, and bleeding
- D. Compare and contrast history of inflammatory bowel disease vs. irritable bowel syndrome
- E. Precise history taking in GERD and dysphagia

III. Physical Exam Skills

- A. Students must do complete exam of abdomen and rectal exam including:
 - 1. Auscultation for bowel sounds and bruits
 - 2. Percussion for liver size
 - 3. Palpation for spleen



- B. Recognize need for additional physical exam maneuvers such as:
 - 1. Shifting dullness and fluid wave when ascites is suspected
 - 2. Murphy's sign for right upper quadrant pain or tenderness
 - 3. Eliciting signs of peritonitis
 - 4. Perform rectal digital exam and check for fecal blood

IV. Diagnostic Studies

- A. Know indications for paracentesis
- B. Know indications for placement of nasogastric tube
- C. Properly interpret the following laboratory tests:
 - 1. Serologic studies for viral and autoimmune hepatitis
 - 2. Liver function tests

V. Therapeutic Skills

- A. The student should know indications, side effects, interactions and follow-up for the most commonly used GI medications (e.g. PPIs, Laxatives, Prokinetic agents)

HEMATOLOGY

I. Knowledge/Mix of Diseases/Patients

- A. Pathophysiology of anemia
- B. Anemia of chronic disease
- C. Iron deficiency anemia
- D. Megaloblastic anemia
- E. Hemolytic anemias (congenital and acquired)
- F. Myeloproliferative disorders
- G. Leukemias (acute and chronic)
- H. Lymphoma (Hodgkins, non-Hodgkins and plasma cell myeloma)
- I. Clotting disorders
 - 1. Platelet and vessel wall



2. Coagulation and thrombosis
3. Hypercoagulable state

II. History Skills

- A. Knowing presenting signs of anemia
- B. Recognize that dizziness, shortness of breath, headache, exercise intolerance, and sensitivity to cold may be presenting symptoms of anemia
- C. Recognize that symptoms of angina, claudication, TIA may be unmasked by anemia
- D. Recognize the value of reviewing all previous hematologic lab data in evaluation of hematologic disorders
- E. Recognize symptoms of platelet disorders (spontaneous mucocutaneous bleeding, immediate bleeding with trivial trauma) versus symptoms of clotting-factor deficiency (delayed bleeding, deep muscular hematomas, hemarthroses)
- F. Recognize the importance of "B" symptoms (fever, night-sweats, weight loss) in patients with lymphoma
- G. Recognize the importance of the family history in patients with anemia and coagulation disorders

III. Physical Diagnosis Skills

- A. Recognize ecchymotic or petechial rash
- B. Palpate all lymph node areas, spleen and liver

IV. Diagnostic Skills

- A. Know the value of the following tests in the work-up of a patient with hemolytic anemia:
 1. Blood smear review
 2. Reticulocyte count
 3. Coombs test
 4. Serum haptoglobin
 5. Glucose 6 phosphate dehydrogenase deficiency
 6. Hemoglobin electrophoresis
 7. Urine hemosiderin
- B. Know the proper evaluation for bleeding disorder

V. Therapeutic Interventions

- A. Know the appropriate indications for transfusion of erythrocytes and platelets



- B. Know indications for fresh frozen plasma, cryoprecipitate, and purified factor concentrates

INFECTIOUS DISEASES

I. Knowledge/Mix of Diseases/Patients

- A. Clinical syndromes
1. Gram-negative sepsis
 2. Infective endocarditis
 3. Upper and lower respiratory infections
 4. Urinary tract infections
 5. Soft tissue infection
 6. Tuberculosis
 7. Mycoplasma pneumoniae pneumonia
- B. Viral infection
1. Influenza and prevention
 2. Herpes infection,
 3. Hepatitis A, B and C
- C. Fever of unknown origin

II. History Skills

- A. Demonstrate at bedside ability to elicit history with special attention to relevant travel and residential history, animal contact, work and recreational activity, drug use and sexual history
- B. Elicit any co-existing disease which may be relevant to pathogenesis of infection

III. Physical Examination

- A. Demonstrate ability to perform thorough physical exam in effort to determine source of infection
- B. Recognize skin lesions which may provide diagnostic clues to etiology of infection
- C. Recognize fever patterns and their possible diagnostic indications
- D. Perform Kernig and Brudzinski tests in evaluating for meningitis

IV. Diagnostic Tests

- A. Obtain sputum on patients with pneumonia



- B. Interpret body fluid results (CSF, pleural, peritoneal, joint)

V. Therapeutic Interventions

Choose appropriate antibiotic regimens for most common infections

Know major side effects of antibiotics

RHEUMATOLOGY

I. Knowledge

- A. Clinical manifestations of SLE
- B. Rheumatoid arthritis
- C. Scleroderma
- D. Mixed connective tissue disease
- E. Sjogren's syndrome
- F. Ankylosing spondylitis
- G. Vasculitic syndromes
- H. Sarcoidosis
- I. Osteoarthritis
- J. Psoriatic arthritis and arthritis associated with GI diseases
- K. FMF
- L. Behcet's disease
- M. Gout

II. History Skills

- A. Demonstrate ability to elicit history of multisystem disease. Know importance of extra-articular symptoms such as rash, uveitis, aphthous ulcers, alopecia, pleuritic pain
- B. In patient with joint disease, determine presence or absence of morning stiffness, redness, heat, swelling, restricted movement

III. Physical Exam Skills

- A. Know the physical findings associated with each of the diseases listed in I.
- B. Evaluate each joint for swelling, erythema, tenderness, crepitation, contracture, deformity.



- C. Determine range of motion and compare to normal. Identify Heberden node, Bouchard node, ulnar deviation, Swan neck deformity.
- D. Demonstrate joint effusion.
- E. Examine the spine. Evaluate chest expansion for spondylitis.

IV. Diagnostic Tests

The student should be able to:

- A. Know the basics of diagnostic joint aspiration
- B. Know when to order the following tests: rheumatoid factor, anti DNA, anti SM, anti RNP, anti RO (SSA), anti LA (SSB), ANCA

V. Therapeutic Interventions

- A. Know general treatment options for all diseases listed in I

COURSE SYLLABUS		
Week	Course Topic	Notes
1+2	GI lectures	Esophageal disorders, cirrhosis and portal HTN, viral hepatitis, chronic liver disease, IBD, PUD, GI bleeding, pancreatitis, malabsorption, functional GI disorders
3+4	Cardiovascular lectures	Acute coronary syndrome, heartfailure, HTN, cardiomyopathy, ECG, valvular heart disease, infective endocarditis, arrhythmias
4+5	Respiratory lectures	Bronchial asthma, COPD, pneumonia, pleural disease, lung ca, VTE, pulmonary HTN, interstitial lung disease, bronchiectasis
5+6	Nephrology lectures	Acute kidney injury, chronic kidney disease, Glomerulonephritis, nephrotic syndrome, sodium disorders, potassium disorders, calcium disorders
7	Endocrine lectures	DM and its complications, thyroid disorders, adrenal disorders, pituitary disorders



7+8	Hematology lectures	Anemia, platelet disorders, leukemia, lymphoma, multiple myeloma, myeloproliferative disorders, coagulopathies
8+9	Infectious disease lectures	TB, HIV, sepsis, meningitis, UTI, fever of unknown origin
9+10	Rheumatology lectures	Approach to patient with rheumatological disease, Rheumatoid arthritis, SLE, seronegative spondylarthropathy, crystal-induced arthritis, myositis, scleroderma, vasculitis
10	OSCE exam	

List of lectures and their objectives

No.	Topic	Objectives
1	Thyroid Disorders	<ol style="list-style-type: none"> 1. Review important points in the anatomy and physiology of the thyroid gland 2. Describe common thyroid diseases causing thyrotoxicosis or hypothyroidism 3. Describe the clinical manifestations of common thyroid diseases 4. Outline the management of common thyroid diseases
2	Diabetes Mellitus (DM)	<ol style="list-style-type: none"> 1. Define DM 2. Classify DM 3. Describe clinical manifestations of DM 4. Define the investigations used to diagnose DM 5. Identify complications of DM 6. Outline the management of DM
3	Adrenal Disorders	<ol style="list-style-type: none"> 1. Review the anatomy and physiology of the adrenal glands 2. Describe the presentation and clinical manifestations of common adrenal gland diseases (Cushing's and Addison's) 3. Suggest a diagnostic approach to common adrenal gland diseases
4	Acute Coronary syndrome and Ischemic Heart Disease (IHD)	<ol style="list-style-type: none"> 1. Describe the presentation of chronic IHD 2. List the causes of IHD 3. Identify the risk factors for atherosclerosis 4. Define the investigations used to diagnose IHD 5. Outline the current management of chronic IHD
5	Arrhythmias	<ol style="list-style-type: none"> 1. Define arrhythmias 2. Describe the mechanisms of arrhythmias 3. Describe the presentation of arrhythmias 4. Define the investigations used to diagnose arrhythmias 5. Outline the treatment of common arrhythmias
8	Rheumatic Fever (RF)	<ol style="list-style-type: none"> 1. Define and discuss RF 2. Define the epidemiology of RF 3. Describe the criteria for diagnosing RF 4. Discuss complications of RF



		5. Outline treatment of RF
9	Infective Endocarditis (IE)	<ol style="list-style-type: none"> 1. Define the etiologic factors of IE 2. Discuss clinical manifestations of IE 3. Identify diagnostic methods for IE 4. Describe complications of IE requiring surgical treatment 5. Discuss the lines of treatment for IE
10	Heart Failure (HF)	<ol style="list-style-type: none"> 1. Define and list causes of HF 2. Review the pathophysiology of HF 3. Describe clinical manifestations of HF 4. Suggest appropriate investigations for HF 5. Outline the treatment for HF 6. Point out the prognostic markers and mortality of HF
11	Essential Hypertension	<ol style="list-style-type: none"> 1. Define essential hypertension 2. Mention WHO classification of hypertension 3. Suggest initial investigations for hypertensive patients 4. Identify complications of hypertension 5. Outline the management of hypertension 6. Describe the classes of antihypertensive drugs
12	Liver Cirrhosis	<ol style="list-style-type: none"> 1. Define liver cirrhosis 2. Describe common types of liver cirrhosis 3. Identify the clinical manifestations of liver cirrhosis resulting from both liver cell failure and portal hypertension 4. Outline the management of liver cirrhosis
13	Diseases of the Esophagus	<ol style="list-style-type: none"> 1. Review the anatomy and physiology of the esophagus 2. List common esophageal diseases 3. Describe the pathogenesis of gastroesophageal reflux disease (GERD) 4. Identify the clinical manifestations of GERD 5. Identify the complications of GERD 6. Outline the management of GERD
14	Peptic Ulcer Disease (PUD)	<ol style="list-style-type: none"> 1. Describe the pathogenesis of PUD 2. List the causes of PUD Describe the epidemiology and role of Helicobacter pylori in PUD 3. Identify diagnostic tests of H. pylori infection 4. List complications of PUD and outline their management 5. Identify effective drug regimens for eradication of H. pylori
15	Inflammatory Bowel Disease (IBD)	<ol style="list-style-type: none"> 1. Review the pathogenesis of IBD (ulcerative colitis and Crohn's) 2. Describe the clinical, endoscopic and pathological manifestations of IBD 3. Identify the complications of IBD 4. Outline the management of IBD
16	Investigations in Liver Disease	<ol style="list-style-type: none"> 1. Select appropriate biochemical, serological and imaging studies for various liver diseases 2. List the indications and contraindications of liver biopsy 3. Identify the complications of liver biopsy 4. Describe the pathological features of common liver diseases
18	Viral Hepatitis	<ol style="list-style-type: none"> 1. Outline the epidemiology of viral hepatitis 2. Classify viral hepatitis



		<ol style="list-style-type: none"> 3. Describe the manifestations of acute and chronic viral hepatitis 4. Interpret serologic tests to accurately diagnose the specific cause of acute hepatitis 5. Identify the role of liver biopsy in the management of chronic hepatitis 6. Define complications of acute and chronic hepatitis 7. Outline the treatment for viral hepatitis 8. Identify appropriate candidates for vaccination against HAV and HBV
19	Lymphomas	<ol style="list-style-type: none"> 1. Define lymphomas 2. Classify lymphomas 3. Identify the clinical manifestations of lymphomas 4. Arrange appropriate investigations to diagnose lymphoma 5. Provide a staging system for lymphomas 6. Outline the management of lymphomas
21	Disseminated Intravascular Coagulation (DIC) and Thrombotic Thrombocytopenic Purpura (TTP)	<ol style="list-style-type: none"> 1. Define DIC and TTP 2. List the causes of DIC and TTP 3. Define the investigations used to diagnose DIC and TTP 4. Contrast the differences in management in both conditions 5. Identify the indications for platelet transfusion
22	Myeloproliferative disorders	<ol style="list-style-type: none"> 1. Understand the concept of myeloproliferative disorder 2. Identify the different types of myeloproliferative disorders 3. Describe the clinical manifestations of myeloproliferative disorders 4. Arrange appropriate investigations for diagnosing myeloproliferative disorders, with emphasis on cytogenetics and bone marrow examination 5. Outline the management of myeloproliferative disorders
23	Pneumonia	<ol style="list-style-type: none"> 1. Define pneumonia 2. Outline the epidemiology of pneumonia 3. Classify pneumonias 4. Describe the clinical and radiological features of pneumonia 5. Provide a diagnostic approach to pneumonia 6. Identify markers of severity of pneumonia 7. Outline the principles of management of pneumonia
24	Venous Thromboembolism (VTE)	<ol style="list-style-type: none"> 1. List the risk factors for VTE 2. Describe the presentation and clinical features of VTE 3. Provide a diagnostic algorithm for deep venous thrombosis (DVT) and pulmonary embolism 4. Outline the treatment and prophylaxis of VTE
25	Hemoptysis	<ol style="list-style-type: none"> 1. Define hemoptysis 2. List common causes of hemoptysis 3. Suggest a diagnostic approach to patients with hemoptysis 4. Describe the etiology and management of massive hemoptysis
26	Bronchogenic Carcinoma	<ol style="list-style-type: none"> 1. Identify the epidemiology and risk factors for bronchogenic carcinoma 2. Review the pathological classification of bronchogenic carcinoma 3. Describe the clinical manifestations of bronchogenic carcinoma 4. Outline the staging of bronchogenic carcinoma 5. Outline the treatment of bronchogenic carcinoma
27	Chronic Obstructive Pulmonary Disease (COPD)	<ol style="list-style-type: none"> 1. Describe the defining features and epidemiology of COPD 2. Describe the clinical manifestations of COPD 3. Define the investigations used to diagnose COPD 4. Describe the classes of drugs and modes of delivery available in the



		<p>management of COPD</p> <p>5. Outline the management of COPD</p>
28	Bronchial Asthma	<ol style="list-style-type: none"> 1. Define bronchial asthma 2. Classify asthma and list triggering factors of asthma 3. Describe clinical features of asthma with emphasis on markers of severity 4. Define the investigations used to diagnose asthma 5. Outline the stepwise approach to management of asthma based on established international guidelines
29	Pulmonary Function Tests (PFTs)	<ol style="list-style-type: none"> 1. Define the various lung volumes and capacities 2. Describe the tests used to identify abnormal lung function 3. List the indications for performing PFTs 4. Summarize the basic characteristic features of obstructive and restrictive ventilatory defects 5. Provide a grading system of severity of ventilatory defects
30	Acid-Base Disorders (ABD)	<ol style="list-style-type: none"> 1. Review the biochemical bases of ABD 2. Discuss metabolic and respiratory ABD 3. Describe the utility of arterial blood gases in ABD 4. Discuss examples of simple and complex ABD
31	Rheumatoid Arthritis (RA)	<ol style="list-style-type: none"> 1. Define RA 2. Describe the pathogenesis of RA 3. Describe the clinical manifestations of RA, articular and extrarticular 4. Identify laboratory investigations used for diagnosing RA and list the diagnostic criteria for RA 5. Suggest a differential diagnosis of RA and conditions simulating RA 6. Outline the management of RA, with emphasis on the classes of drugs used in the treatment of RA and their adverse effects
32	Gout	<ol style="list-style-type: none"> 1. Define gout 2. Describe the epidemiology and pathophysiology of gout 3. Describe the clinical manifestations of gout 4. Suggest a list of differential diagnosis and identify diagnostic methods 5. Outline the management of acute gouty attacks 6. Know the indications for maintenance treatment with allopurinol and other drugs
33	Behcet's Disease	<ol style="list-style-type: none"> 1. Define Behcet's disease 2. Describe the clinical manifestations of Behcet's disease 3. Outline the diagnostic criteria for Behcet's disease 4. Provide a differential diagnosis for oral and genital ulcerations 5. Outline the principles of management of Behcet's disease
34	Familial Mediterranean fever (FMF)	<ol style="list-style-type: none"> 1. Define FMF 2. Describe the clinical manifestations of FMF 3. Outline the diagnostic criteria for FMF 4. Suggest a differential diagnosis for FMF 5. Identify complications of FMF 6. Outline the management of FMF
35	Connective Tissue Diseases (CTD)	<ol style="list-style-type: none"> 1. Define CTD, with emphasis on SLE, scleroderma and polymyositis 2. Describe the clinical features of CTD 3. Identify diagnostic methods for diagnosing CTD, with emphasis on



		serological profiles 4. Outline the management of CTDs
36	Electrolyte Disturbances	1. Identify the electrolyte composition of different compartments (e.g. intracellular, intravascular, interstitial) 2. Describe the major electrolyte disturbances (Hypo- and hyper kalemia, hypo- and hypernatremia, hypo- and hypercalcemia) 3. Outline principles of management of electrolyte disturbances
37	Acute Renal Failure (ARF)	1. Define ARF 2. List major causes of ARF 3. Discuss how to assess renal function using creatinine clearance and radiological/ultrasonographic studies 4. List the indications for renal biopsy 5. Discuss briefly lines of management for ARF
38	Chronic renal failure (CRF)	1. Define CRF 2. List causes of CRF 3. Describe the presentation and clinical manifestations of CRF 4. Suggest a diagnostic approach to patients with CRF 5. Outline the treatment of CRF 6. Identify the indications for renal replacement therapy (dialysis and renal transplantation)
39	Nephrotic Syndrome (NS)	1. Define NS 2. List causes of NS 3. Suggest a diagnostic approach to patients with NS 4. Identify the indications and role of renal biopsy in the management of NS 5. List the complications of NS 6. Outline the treatment of NS
40	Secondary Hypertension	1. Recall common causes of secondary hypertension 2. Define the specific features to be included in the history, physical exam, or investigations to suspect secondary hypertension 3. Describe common forms of secondary hypertension, namely: renal artery stenosis, pheochromocytoma and Conn's syndrome 4. Outline the treatment of secondary hypertension
41	Glomerulonephritis (GN)	1. Define GN 2. List causes of GN 3. Identify the clinical manifestations of GN 4. Suggest a diagnostic approach to patients with GN 5. List the indications for renal biopsy and identify common histological patterns of GN 6. Outline the management of GN
42	Hypersensitivity Reactions (HSR)	1. Discuss the 4 mechanisms of HSR 2. List major clinical examples for each type of HSR 3. Explain the principles of management of each type
43	Immunodeficiency Syndromes (IDS)	1. Classify IDS 2. List examples and manifestations of common types of IDS 3. Suggest relevant investigations for evaluation of IDS 4. List different treatment modalities for IDS
44	AIDS	1. Definition 2. Virology, transmission, and prevention 3. AIDS defining illnesses 4. Opportunistic infection in AIDS 5. Management of AIDS



45	OSCE	<ol style="list-style-type: none"> 1. What is OSCE? 2. Describe OSCE exam process 3. Scoring method
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COURSE LEARNING RESOURCES

- Clinical rounds
- Outpatient clinics
- Lectures
- Seminars
- E-learning

ASSESSMENT TOOLS

(Write assessment tools that will be used to test students ability to understand the course material and gain the skills and competencies stated in learning outcomes

ASSESSMENT TOOLS	%
Participation, seminars & attendance	15
OSCE	35
Final written exam	50
TOTAL MARKS	100

THIRD: COURSE RULES

ATTENDANCE RULES

Attendance and participation are extremely important, and the usual University rules will apply. Attendance will be recorded for each class. Absence of 10% will result in a first written warning. Absence of 15% of the course will result in forfeiting the course and the student will not be permitted to attend the final examination. Should a student encounter any special circumstances (i.e. medical or personal), he/she is encouraged to discuss this with the instructor and written proof will be required to delete any absences from his/her attendance records.

**GRADING SYSTEM : Example**

Points	Grade
	A
	A-
	B+
	B
	B-
	C+
	C
	C-
	D+
	D
	D-
	F

REMARKS

Students will be encouraged to participate in research

COURSE COORDINATOR

Course Coordinator: Dr. Bandar Ghazal

Department Head:

Signature:

Signature:

Date:

Date: