



Curriculum for the Bachelor Degree in Medicine and Surgery

Third Year Syllabus



RESPIRATORY SYSTEM MODULE

Course title: Respiratory System Module

Course code: 1500306

Credit hours: 4 hours

Course designation: Third year / First semester

Department: Integrated module

Course syllabus:

Distribution of Sessions:

Discipline	Lectures	Practical	Discussion
Anatomy	7	3 (2 + 1 Hist.)	1
Physiology	10	1	1
Biochemistry	5	0	0
Pathology	9	2	1
Microbiology	11	2	1
Pharmacology	7	0	1
Community Medicine	2	0	0
Multidisciplinary	2	0	0
Total	53	8	5



Lectures:

Anatomy:

- 1- Overview of respiratory anatomy
- 2- Pre and post-natal development
- 3- Upper respiratory tract (1)
- 4- Upper respiratory tract (2)
- 5- Thoracic cage & muscles of the thoracic wall
- 6- Pleura, lung and diaphragm
- 7- Histology of respiratory tract

Physiology:

- 1- Pulmonary ventilation
- 2- Pulmonary volume & capacities
- 3- Alveolar ventilation
- 4- Pulmonary circulation
- 5- Pulmonary capillary dynamic
- 6- Oxygen-haemoglobin dissociation curve shift & significance
- 7- Ventilation:perfusion ratio 1
- 8- Ventilation:perfusion ratio 2
- 9- Regulation of respiration 1, neural control
- 10- Regulation of respiration 2; chemical control, non-chemical effects

Pharmacology:

- 1- Treatment of respiratory bacterial infections
- 2- Treatment of bronchial asthma 1
- 3- Treatment of bronchial asthma 2
- 4- Histamine & anti-histamines 1
- 5- Histamine & anti-histamines 2



- 6- Treatment of tuberculosis
- 7- Treatment of cough

Pathology:

- 1- Atelectasis: disturbances of pulmonary circulation
- 2- Pulmonary infections
- 3- Obstructive lung disease 1
- 4- Obstructive lung disease 2
- 5- Restrictive lung disease 1
- 6- Restrictive lung disease 2
- 7- Pulmonary TB and chronic pulmonary infections
- 8- Lung tumours 1
- 9- Lung tumours 2

Biochemistry:

- 1- Acid-base balance & the respiratory system as a line of defense 1
- 2- Haemoglobins 1
- 3- Haemoglobin 2: oxygen-haemoglobin dissociation curve shift & significance
- 4- Biochemistry of oxygen toxicity
- 5- The molecular basis of lung disease

Microbiology:

- 1- Upper respiratory tract infections 1: Group A β -haemolytic streptococci
- 2- Upper respiratory tract infections 2: *Corynebacterium diphtheriae*
- 3- Upper respiratory tract infections 3: *Haemophilus influenzae*
- 4- Upper respiratory tract infections 4: Influenza virus
- 5- Upper respiratory tract infections 5: Parainfluenza, Rhinoviruses & RSV
- 6- Lower respiratory tract infections 1: *Strept. Pneumoniae* & other species
- 7- Lower respiratory tract infections 1: *Paragonimus w.* & Hydatid cysts

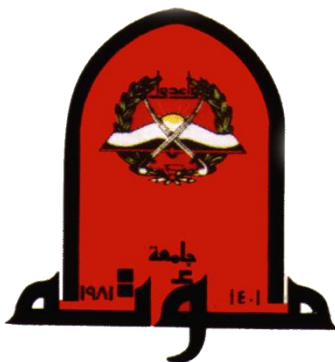


- 8- Mycobacterium tuberculosis
- 9- Lower respiratory tract infections 2: Pseudomonas, Morax & B. anthracis
- 10- Fungal infections
- 11- Lower respiratory tract infections 3: Mycoplasma & Legionella

Community Medicine (2 lectures)

Multidisciplinary (2 lectures)

Total Lectures: 53



CARDIOVASCULAR MODULE

Course title: Cardio-vascular module

Course code: 1500307

Credit hours: 5 hours

Course designation: Third year / First semester

Department: Integrated module

Course syllabus:

Distribution of Sessions:

Department	Lectures	Practicals	Seminars
Anatomy	12	5 (4 Gross +1 Hist. lab.)	0
Physiology	17	2	0
Biochemistry	5	0	0
Pathology	9	3	0
Microbiology	1	0	0
Pharmacology	8	2	0
Public Health	4	0	0
Multidisciplinary	2	0	2
Total	58	12	2

Lectures:

Anatomy

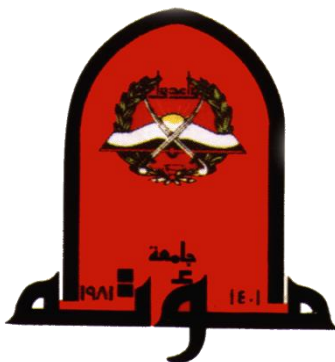
- 1- Mediastinum and Pericardium
- 2- Histology of the myocardium



- 3- Heart chambers and cardiac valves
- 4- Conductive system and innervation of the heart
- 5- Surface anatomy of the CVS
- 6- Development of the heart
- 7- Development of the vascular system
- 8- Blood vessels I: Arterial system
- 9- Histology of blood vessels
- 10- Blood vessels II: Venous system
- 11- Coronary circulation & venous drainage of myocardium
- 12- Blood vessels III: Special circulations

Physiology

- 1- Physiology of cardiac muscle
- 2- Cardiac cycle
- 3- Pumping action of the heart
- 4- Cardiac output and its regulation
- 5- ECG I
- 6- ECG II
- 7- Haemodynamics I
- 8- Haemodynamics II
- 9- Microcirculation
- 10- Blood flow to the tissues
- 11- Blood pressure
- 12- Regulation of blood pressure
- 13- Hypertension
- 14- Exercise
- 15- Special circulations
- 16- Pathophysiology of cardiac failure
- 17- Pathophysiology of Shock



Pharmacology

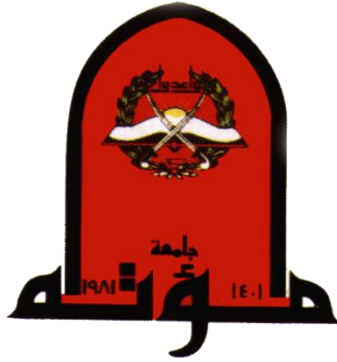
- 1- Cardiac arrhythmias: Types and mechanism
- 2- Anti-arrhythmic drugs
- 3- Anti-Hypertensive drugs I
- 4- Anti-Hypertensive drugs II
- 5- Drugs for treatment of hyperlipidemia
- 6- Drugs for treatment of Angina pectoris and myocardial infarction
- 7- Drugs for treatment of cardiac failure I
- 8- Drugs for treatment of cardiac failure II

Pathology

- 1- Rheumatic heart disease
- 2- Endocarditis and valvular diseases
- 3- Cardiomyopathy, myocarditis, tumors of heart and pericardium
- 4- Hypertensive heart disease
- 5- Vasculitis
- 6- Atherosclerosis and arteriosclerosis
- 7- Ischemic heart disease
- 8- Aneurysms
- 9- Varicose veins and thrombophlebitis. Deep venous thrombosis

Biochemistry

- 1- Metabolism of cardiac muscle I
- 2- Metabolism of cardiac muscle II
- 3- Plasma lipoproteins and Cholesterol I
- 4- Plasma lipoproteins and Cholesterol II
- 5- Cardiac enzymes and Troponins in myocardial infarction



Microbiology

- 1- Microbiology of carditis

Community Medicine

- 1- Epidemiology and Risk factors for cardiovascular disease
- 2- Diet quality and cardiovascular disease
- 3- Epidemiology, risk factors, and risks of hyperlipidemia
- 4- Nutrition Assessment check list in cardiovascular disease

Practical Laboratories:

Anatomy :

- 1- Morphological and surface anatomy of the heart and mediastinum
- 2- Morphological and surface anatomy of blood vessels : Arterial system I
- 3- Histology of the heart and blood vessels
- 4- Morphological and surface anatomy of blood vessels : Arterial system II
- 5- Morphological and surface anatomy of blood vessels : Venous system

Pathology :

- 1- Pathology of the heart : I
- 2- Pathology of the heart : II
- 3- Pathology of the blood vessels

Physiology :

- 1- ECG (Electrocardiogram)
- 2- Blood pressure

Pharmacology :

- 1- The effect of beta-adrenergic blockers on the cardiovascular system
- 2- The effect of smoking on the cardiovascular system



NEUROSCIENCE I

Course title : Neuroscience 1

Course code: 1500308

Credit hours: 5 hours

Course designation: Third year / First semester

Department: Integrated module

Course syllabus:

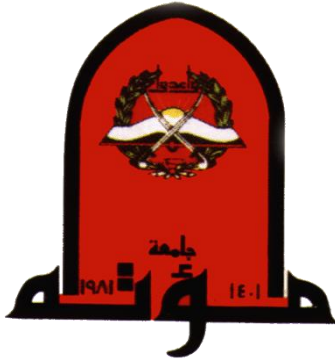
Distribution of Sessions:

DISCIPLINE	LECTURES	PRACTICALS	SEMINARS	DISCUSSIONS
Anatomy	16	3		1
Physiology	8	1		1
Biochemistry	2	0		0
Pharmacology	10	0		1
Pathology	4	1		1
Microbiology	3	1		1
Multidisciplinary	2		2	
Total	45	6	2	5

Lectures:

Anatomy:

- 1- Introduction and basic structural organization
- 2- Microscopic structure of the NS
- 3- Gross morphology of spinal cord
- 4- Structure of Peripheral receptors
- 5- Spinal Cord: General sensory pathways: trunk and limbs



- 6- Spinal nerves and dermatomes, myotome and joint innervation
- 7- Brainstem I: Gross features
- 8- Brainstem II: Internal structure & reticular formation
- 9- Cerebellum:
- 10- Diencephalon:
- 11- Gross morphology of the brain
- 12- Meninges, brain ventricles and CSF
- 13- Skull
- 14- Cerebral hemisphere
- 15- Basal Ganglia
- 16- Development of nervous system

Physiology:

- 1- Sensory receptors and neuronal Circuits
- 2- Somatic sensations: Pain and thermal sensations
- 3- Visceral sensation, referred pain
- 4- Somatic sensations: tactile & proprioceptive sensations
- 5- Spinal cord reflexes
- 6- Limbic system
- 7- Higher functions of the neocortex
- 8- Arousal Mechanisms, Reticular-activating system. Consciousness and Sleep

Biochemistry:

- 1- Metabolism of brain tissue: Biochemistry of neurotransmitters
- 2- Metabolism of brain tissue

Pharmacology:

- 1- Introduction to synaptic transmission
- 2- Sedatives-Hypnotics



- 3- Alcohols
- 4- Drugs used In Epilepsy
- 5- Neurochemical basis of human behavior and drugs used in schizophrenia
- 6- Antidepressants
- 7- Drugs used in Parkinson
- 8- Opioids and opioid antagonists
- 9- CNS stimulants and drugs of abuse
- 10- General Anesthetics

Pathology:

- 1- Characteristic features in CNS pathology
- 2- Inflammatory conditions of the CNS
- 3- Tumors of CNS

Microbiology:

- 1- Bacterial meningitis
- 2- Viral meningitis
- 3- Fungal meningitis



EPIDEMIOLOGY AND HEALTH EVALUATION

Course title: Epidemiology and health evaluation

Course code: 1506303

Credit hours: 2 hours

Course designation: Third year / First semester

Department: Public Health and Community Medicine

Course syllabus:

Description of the course

No	Topics	Method of teaching	Number of hours
1-	Introduction: epidemiology of diseases	Lecture	2
2-	Review: infectious process	Lecture	2
3-	Cholera	Lecture	1
4-	Plague	Lecture	1
5-	Yellow fever	Lecture	1
6-	Small pox	Lecture	1
7-	Louse-borne epidemic typhus	Lecture	1
8-	Louse – borne relapsing fever	Lecture	1
9-	Influenza	Lecture	1
10-	Meningitis	Lecture	1
11-	Tuberculosis	Field visit	1
12-	Food poisoning	Seminar	1
13-	Viral hepatitis	Seminar	1
14-	Enteric fever	Seminar	1
15-	Brucellosis	Lecture	1



16-	Toxoplasmosis	Lecture	1
17-	Tetanus	Lecture	1
18-	Schistosomiasis	Seminar	1
19-	Anthrax	Lecture	1
20-	Rabies	Lecture	1
21-	Leprosy	Seminar	1
22-	Sexually transmitted diseases	Seminar	1
23-	Leishmaniasis	Lecture	1
24-	Malaria	Seminar, Field visit	1
25-	Coronary heart diseases	Lecture	1
26-	Rheumatic heart diseases	Lecture	1
27-	Diabetes mellitus	Lecture	1
28-	Cancer	Lecture	1
29-	Chronic bronchitis	Lecture	1
30-	Bronchial asthma	Lecture	1
31-	Elimination and eradication of diseases	Group discussion	1
32-	Screening for diseases	Group discussion	1
33-	Surveillance for diseases	Group discussion	1
34-	Reporting of infectious disease	Group discussion	1
35-	Investigation of epidemic	Group discussion	1
36-	Health evaluation	Lecture	1



NEUROSCINSE II

Course title : Neuroscience 11

Course code: 1500309

Credit hours: 4 hours

Course designation: Third year / Second semester

Department: Integrated module

Course syllabus:

Distribution of Sessions:

DISCIPLINE	LECTURES	PRACTICALS	SEMINARS	DISCUSSIONS
Anatomy	19	3		1
Physiology	6	2		1
Biochemistry	1			
Pharmacology	6			1
Pathology	3	2		1
Microbiology	6	1		1
Multidisciplina	2		2	
Total	41			5

Lectures

Anatomy:

1- Sensory receptors



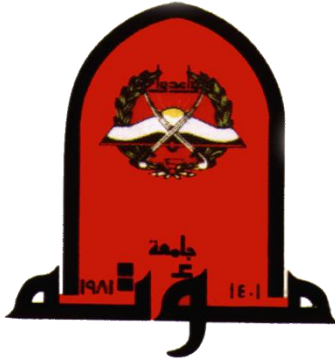
- 2- Skull,
- 3- Face & scalp,
- 4- Anatomy of V cranial nerve,
- 5- Orbit eye and optic nerve,
- 6- Triangles of the neck,
- 7- Histology of eye and ear,
- 8- Visual pathways,
- 9- Tongue and submandibular region,
- 10- External and middle ear & Cr VII,
- 11- Inner ear & Cr VIII,
- 12- Cervical plexus & nerves and its branches,
- 13- Development of the head and neck,
- 14- Histology of the peripheral nervous system,
- 15- Cr IX,X,XI & XII,
- 16- Brachial plexus & nerves of upper limb,
- 17- Lumbosacral plexus and nerves of lower limb,
- 18- Sympathetic nervous system,
- 19- Parasympathetic nervous system

Physiology:

- 1- Sensory reception and transduction,
- 2- Vision,
- 3- Hearing
- 4- Equilibrium
- 5- Chemical senses; smell, taste and physiology of peripheral nerves,
- 6- Function of autonomic nervous system and central regulation of viscera

Pharmacology:

- 1- Directly acting agonists,



- 2- Indirectly acting agonists,
- 3- Cholinergic antagonists,
- 4- Adrenergic agonists,
- 5- Adrenergic antagonists,
- 6- Local anaesthetics

Pathology:

- 1- Inflammatory conditions of the nervous system,
- 2- Characteristic features of the nervous system pathology,
- 3- Demyelinating diseases

Microbiology:

- 1- Group B streptococci, Listeria & mycobacterium Leprae,
- 2- Prions
- 3- Enteroviruses,
- 4- Rabies and arbour viruses,
- 5- Clostridium tetany and botulism
- 6- Ticks

Biochemistry:

- 1- Visual pigments



HEMAPOEITIC AND LYMPHATIC SYSTEM

Course title : Hemapoeitic and Lymphatic system

Course code: 1500310

Credit hours: 5 hours

Course designation: Third year / Second semester

Department: Integrated module

Course syllabus:

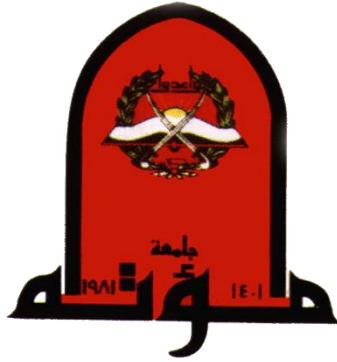
Distribution of Sessions:

DISCIPLINE	LECTURES	PRACTICALS	SEMINARS
Anatomy	7	2	
Physiology	8	2	
Biochemistry	7	0	
Pharmacology	6	0	
Pathology	16	3	
Microbiology	7	1	
Multidisciplinary	2	0	2
Total	53	8	

Lectures:

Anatomy

- 1- Histology of formed blood elements I
- 2- Histology of formed blood elements II
- 3- Hemapoeisis: pre and postnatal
- 4- Erythropoiesis, myelopoeisis and thrombopoeisis



- 5- Lymphovascular circulation and drainage
- 6- Histology of lymphoid tissue I
- 7- Histology of lymphoid tissue II

Physiology

- 1- Blood: composition, function, volume and viscosity
- 2- RBCs: characteristics and functions
- 3- WBCs
- 4- Bone marrow
- 5- Hemoglobin: structure and function, Iron metabolism
- 6- General overview of homeostatic process
- 7- Blood groups
- 8- Blood transfusion and bone marrow transplantation

Biochemistry

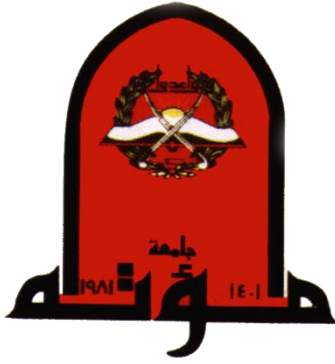
- 1- Erythrocytes metabolism
- 2- Heme structure and catabolism
- 3- Molecular biology of globin chain synthesis
- 4- Hemoglobinopathies and Hb electrophoresis
- 5- Biochemistry of blood coagulation
- 6- Plasma proteins
- 7- Porphyrins and biochemical basis of porphyria

Community medicine

- 1- Community health aspect of anemia
- 2- Supportive treatment lymphoid cancers

Microbiology

- 1- Plasmodium and babesiosis
- 2- Salmonella typhi and enteric fever



- 3- Trypanosomiasis, visceral leishmaniasis and Filiriasis
- 4- Brucella
- 5- EBV and parvovirus
- 6- Yersinia pestis and plague
- 7- Q fever and other rickettsia

Pharmacology

- 1- Drugs used in anemia I
- 2- Drugs used in anemia II
- 3- Drugs used in coagulation disorders I
- 4- Drugs used in coagulation disorders II
- 5- Anti-neoplastic drugs I
- 6- Anti-neoplastic drugs II

Pathology

- 1- Introduction to anemia, classification and strategies for diagnosis
- 2- Nutritional anemias
- 3- Thalasemia and hemoglobinopathies
- 4- Hemolytic anemias
- 5- ITP and TTP
- 6- Congenital bleeding disorders and DIC
- 7- Thrombophilic disorders
- 8- Inherited disorders of platelets functions
- 9- Leukemia I
- 10- Leukemia II
- 11- Lymphadenopathy and Non-Hodgkin lymphoma I
- 12- Lymphadenopathy and Non-Hodgkin lymphoma II
- 13- Hodgkin disease
- 14- Chronic lymphoproliferative disorders
- 15- Plasma cell tumors and monoclonal gammopathies
- 16- Chronic myeloproliferative disorders and MDS



GENITO-URINARY SYSTEM

Course title: Genito-Urinary System

Course code: 1500312

Credit hours: 6 hours

Course designation: Third year / Second semester

Department: Integrated module

Course syllabus:

Distribution of Sessions:

Department	lectures	labs	discussion	seminars	Introductions
Anatomy	14	4	2	ALL	ALL
Physiology	13	0	2		
Biochemistry	3	0	2		
Pathology	17	5	2		
Microbiology	9	3	2		
Pharmacology	7	0	2		
Public Health	2	0	0		
Total	65	12	12	4	4

Lectures:

Anatomy:

- 1- General topography of the urinary system
- 2- Gross anatomy of the kidneys, blood vessels, lymphatic drainage, and innervation
- 3- Histology of Urinary System
- 4- Gross anatomy of Ureter, bladder, and urethra



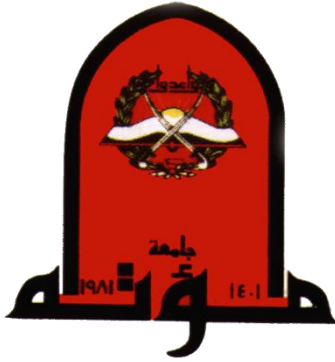
- 5- Histology of Ureter, bladder, and urethra
- 6- Living and radiological anatomy
- 7- Embryology of the urinary system (**Grand Lecture**)
- 8- Anatomical components of male reproductive system
- 9- Histology of male reproductive system
- 10- Pelvic walls, and pelvic diaphragm
- 11- Perineum & Urogenital diaphragm in both males & females
- 12- Developmental anatomy, Embryology of the male reproductive system
- 13- Anatomical components of female reproductive system
- 14- Histology of female reproductive system
- 15- Embryology of the female reproductive system

Physiology:

- 1- Glomerular Filtration (GF)
- 2- Reabsorption & Secretion
- 3- Regulation of the GF & renal blood flow (RBF)
- 4- Parameter of renal active transport
- 5- Renal Clearance
- 6- Renal concentration & dilution of the urine
- 7- Hormonal regulation of sex determination
- 8- Male reproductive physiology
- 9- Erection
- 10- Female reproductive physiology I
- 11- Female reproductive physiology II
- 12- Physiology of Pregnancy
- 13- Parturition & Lactation

Pharmacology

- 1- Diuretics I



- 2- Diuretics II
- 3- Drugs & the kidney
- 4- Androgen & their antagonists
- 5- Female sex hormones + Contraceptive
- 6- Drugs acting on the uterus
- 7- Antimicrobial treatment of sexually transmitted diseases

Pathology

- 1- The kidneys & the urinary tract glomerulonephritis
- 2- Diseases of urinary tract infections & Pyelonephritis
- 3- Nephrotic syndrome
- 4- Tubulo-interstitial diseases
- 5- Tubulo-interstitial injury in various systemic diseases
- 6- Congenital and cystic diseases of the kidney. Anomalies of the kidneys & urinary tract
- 7- Chronic renal failure & urinary tract obstructions
- 8- Tumors of the kidney & urinary tract
- 9- Diseases of male reproductive system & Testicular tumors
- 10- Diseases of the Prostate & Tumors
- 11- Diseases of female reproductive tract; vulva & vagina
- 12- Diseases of uterus, cervix, CIN, and Malignancy
- 13- Diseases of the uterus, endometrium, and tumors of endometrium
- 14- Diseases of fallopian tubes & ovaries; Tumors of the ovaries
- 15- Gestational Diseases: Diseases and abnormalities related to pregnancies & congenital anomalies
- 16- Benign and malignant tumors of breast I
- 17- Diseases and tumors of the breast II

Biochemistry:



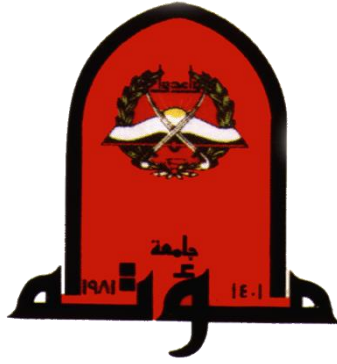
- 1- Special aspects of renal metabolism. Role of kidney in acid-base balance
- 2- Inherited diseases-I
- 3- Inherited diseases-II

Microbiology:

- 1- Urinary tract infection
- 2- Schistosomiasis
- 3- Trichomoniasis & Ectoparasites
- 4- Infection by Chlamydia, Gardnerella, & Ureaplasma
- 5- Gonorrhoea
- 6- Syphilis
- 7- Candidiasis
- 8- HIV & AIDS
- 9- Herpes, cytomegalovirus, Human Papilloma virus, and Moluscum contagiosum

Public Health:

- 1- Genito-urinary tract infections
- 2- Menses, menstrual cycle, and fertility



HEALTH ADMINISTRATION

Course title: Health administration

Course code: 1506304

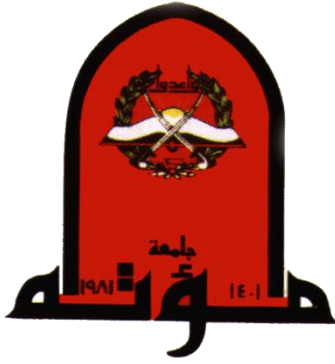
Credit hours: 1 hour

Course designation: Third year / second semester

Department: Public Health and Community Medicine

Course syllabus:

- 1- Overview of the Health Care Delivery System
- 2- Organizational Change and Strategic Planning
- 3- Legal Aspects of Health Administration (2 credits)
- 4- Managerial Ethics (1 credit)
- 5- Management Accounting for Health Care Organizations
- 6- Health Economics
- 7- Health Finance
- 8- Health Program Evaluation
- 9- Decision Making in Health Care Organizations
- 10- Health Policy Development



OCCUPATIONAL HEALTH

Course title: Occupational health

Course code: 1506305

Credit hours: 2 hours

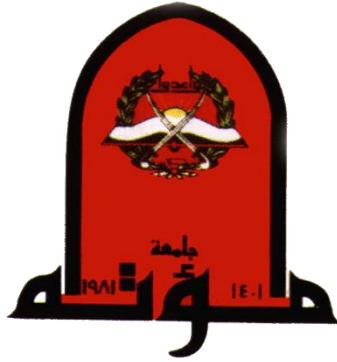
Course designation: Third year / Second semester

Department: Public Health and Community Medicine

Training in Occupational Health

Lectures

- 1- Occupation and health
Work-related diseases, magnitude of the problem, epidemiology, classification of environmental hazard
- 2- Industrial hygiene
Assessment of work environment, industrial safety, environmental sanitation
- 3- Recognition of occupational disease
Occupational history, diagnosis, surveillance and screening for occupational diseases
- 4- Chemical hazards
Industrial toxicology, occupational diseases of the respiratory, skin, liver, renal, cardiovascular systems
- 5- Physical hazards
Thermal environment, noise, dysbarism, ionizing and non-ionizing radiation, vibration and light
- 6- Biological hazards



- T.B, HBV, CMV, anthrax, brucellosis, Laboratory acquired infection
- 7- Mechanical hazards
Musculo-skeletal disorders, Low back pain, Accidents
 - 8- Socio-psychological
Sickness absence, fatigue, psychiatric health hazards problems
 - 9- Occupational health program
objectives, elements, staffing, resources pre-employment, and periodic examinations
 - 10- Prevention of Occupational diseases
Engineering, environmental, medical and personal measures

Practical training:

Field visits to factories in the industrial city