

-Environmental Emergencies (4311)

- Heat related illnesses
 - Introduction
 - Physics of heat transfer
 - Physiology of temperature regulation
 - Thermal health effects
 - Environmental heat stress guide activity

- Lightning injuries
 - Historical aspects
 - Physics of lightning stroke
 - Injuries from lightning
 - Rescue and Treatment
 - Precaution for avoiding lightning injury

- High altitude health effects
 - Introduction
 - Environment of high altitude
 - Health effects of high altitude
 - Acclimatization to high altitude

- Foreign travelers and exotic diseases
 - Introduction
 - Vaccination required
 - Prevention of water borne diseases
 - Viral haemorrhagic fever
 - Hepatitis

-Occupational Health II (4310)

Part one General

- Introduction to occupational health
- Occupational health and safety services
- Some chemical hazards at place of work
- Solvents
- Metals
- Assessing environmental data
- Education and occupational health
- Industrial Emissions
- Welding
- Fertilizers
- Pneumoconiosis and occupational chest diseases

Part Two Specific – Radiation

- Introduction
- Structure of matter
- Radioactivity and radiation
- Radiation unit
- Internal and External radiation hazards
- Biological effects of radiation
- X rays and isotops production and their application in medicine
- Radiation protection in medical practice
- Legislation and regulation of radiation

- - Marine Environment (4312)

- Introduction to marine environment
- Historical aspects
- Extent and Depth of the ocean

- Parameters of sea environment
 - Physical parameters
 - Chemical parameters

- Sea shore and shore environment
 - Zonation
 - Rocky shore
 - Muddy shore
 - Sandy shore
 - Problems of shore life
 - Food sources in sea zone

- Biological features of marine environment
 - Marine plankton
 - Phytoplankton
 - Zooplankton
 - Measuring and sampling

- Sea bottom

- Sea fisheries
 - Fishing problems
 - Over fishing problems
 - Fishery research
 - Regulation of fisheries
- Pollution of sea water
- Marine pollution and their effects
- Mediterranean sea
- Libyan marine environment

- Toxicology (4313)

Part one:

- Definition of the term and scope of biochemical toxicant
- Penetration, absorption of toxicants through biological membranes and mechanism involved in the process
- Distribution of toxicants by body fluids and ligand protein interaction
- Metabolism of toxicants phase (I) and phase (II) reactions and enzymes involved
- Factors effecting metabolism
- Elimination of toxicants and their metabolites renal, hepatic and respiratory excretion
- Heavy metols

Part Two: Food Toxicity

- Infective agents in food
 - Salmonella infections
 - Staphylococcal infections
 - Botulism
 - Brucellosis
 - Bovin tuberculosis
 - Aflatoxins
- Toxic substances in food
- Agricultural chemicals and food Additives

Part Three: Plant Emergencies

- Toxic plant ingestion
 - General terminology related to plants and their toxic contents
 - Physical examination and management
- Toxic plant constituents
 - Different types of alkaloids and glycosides and psychoactive plants
 - Phytotoxins
 - Poisonous muschrooms
 - Description of fungi
 - Toxic content of fungi
 - Morphological characteristics of fungi and the toxic constituents
- Identification of different syndroms developed after ingestion of toxic fungi and their treatment

-Analytical Chemistry (4314)

- Introduction to instrumental analysis
- Spectrophotometry, atomic absorption and flame emission
- Emission spectrography
- Infra red separation methods
- Solvent extraction
- Ion exchange chromatography
- Thin layer chromatography
- Gas layer chromatography
- Liquid layer chromatography
- Electro analytical chemistry
- Ion selective electrodes
- Water quality
- Control theoretical and practical

Practical: Analytical chemistry

- Standarization of HCL with 0.1N N₂CO₃
- Determination of total hardness of water
- Determination of chloride in tap water
- Determination of carbonate and bicarbonate in tap water
- Determination of sulphate ion by gravimetric method
- Determinatio of Ca⁺², Na⁺ and k⁺ by flamphotometer
- Determination of F⁺³ in tap water by spectrophotometer
- Determination of TDS in tap water by ignition

- Computer (4121)

- 1.0 نبذة عن الحاسوب (Introduction to comuter)
- 2.0 أجيال الحاسوب (Computer Generations)
- 3.0 وحدات الادخال والايخراج (Input / Output units)
- 4.0 مقدمة عن لغات البرمجة ونظم التشغيل ونظام النوافذ (Programming Languages, Operating Systems and MS- WINDOWS)
- 5.0 أسلوب الكتابة الجيد (Writing Skills)
- 6.0 برنامج وورد العربي (MS – WORD)
- 7.0 مهارات العروض المرئية الناجحة (Presentation Skills)
- 8.0 برنامج بوربوينت (MS – POWER POINT)
- 9.0 مقدمة عن قواعد البيانات (Data Bases)
- 10.0 مقدمة للغة (MS – ACCESS)
- 11.0 مقدمة للجداول الالكترونية (MS – EXCEL)
- 12.0 مقدمة عن شبكات الحاسوب (Introduction to computer Networks)
- 13.0 مقدمة عن الانترنت (Introduction to Internet)
- 14.0 برمجة الانترنت (Internet Programming)

**Public health pest management (4318)
Year Syllabus**

Part A: Pesticide Applicator Core Training

CHAPTER 1:- Principles of Pest Management

- Pest Management Strategies
- Integrated Pest Management
- Techniques Used in Pest Management
- Pest Control Failures

CHAPTER 2 :-Laws and Regulations

CHAPTER 3:- Pesticides

- Classification
- Pesticide Formulations

CHAPTER 4 :-Pesticide Labeling and Registration .

- Parts of Pesticide Labeling
- Three Methods of Rating Hazardous Materials

CHAPTER 5:- Pesticides in the Environment Sources of Contamination

CHAPTER 6:- Pesticides and Human Health

- Pesticide Hazards
- Exposure: How Pesticides Enter the Body
- Acute Toxicity and Signal Words Acute Effects and First Aid .
- Insecticide Poisonings
- Chronic and Other Delayed Effects
- Allergic Effects
- Heat Stress
- Heat Cramps

CHAPTER 7:- Personal Protective Equipment

Part A: The public health Pest Control

CHAPTER1: Ants

- The Ant Colony
- Foraging
- Ant Control and Management
- Control Methods

CHAPTER 2: Bed Bugs

- The Common Bed Bug (*Cimex lectularius*)
- Inspection
- Habitat Alteration
- Chemical Control

CHAPTER 3: Cockroaches

- German Cockroach (*Blattella germanica*)
- American Cockroach (*Periplaneta americana*)
- Oriental Cockroach (*Blatta orientalis*)
- Smoky-Brown (*Cockroach Periplaneta*)
- Cockroach Control and Management

CHAPTER 4: Fabric Pests

- Fabric Pests
- Carpet Beetles
- Warehouse and Cabinet Beetles (*Trogoderma*)
- Control Methods for Carpet Beetles
- Clothes Moth Species
- Control Methods for Clothes Moths

CHAPTER 5: Fleas

- Cat Flea (*Ctenocephalides felis*)
- Flea Allergy
- Control Methods
- Habitat Alteration

CHAPTER 6: Domestic Non-biting Flies

- Domestic Flies
 - ❖ Habitat Alteration
 - ❖ Pesticide Applications

CHAPTER 7: Paper Pests

- Silverfish
- Firebrats
- Psocids
- Control Methods
 - ❖ Inspection
 - ❖ Habitat Alteration
 - ❖ Chemical Control

CHAPTER 8: Stored Product Pests

- Common stored product pests
- Control and Management
- Pests of Whole Grains and Seeds
- Control Methods
- Cigarette and Drugstore Beetles (*Lasioderma serricornis, Stegobium paniceum*)
- Control and Management

CHAPTER 9: Ticks

- Soft and Hard Ticks
- Tick Attachment and Feeding
- Ticks and Diseases
- Tick Pest Management

CHAPTER 10: Vertebrate Pests

- Pest Behaviour
- Vertebrate Pest Control

CHAPTER 13: Birds

- Common Bird Pests

Faculty of Public health
Syllabus of Environment Department - Fourth year

- Pigeons (*Columba livia*)
- Starlings (*Sturnus vulgaris*)
- Health Hazards
- Defacement and Damage to Structures and Equipment
- Tools and Methods for Managing Pest Birds
- Lethal Alternatives

CHAPTER 11: Rodents

- Common Rodent Pests
- Habits of Rats
- Inspection
- Health Hazards
- Estimating Rat Numbers
- Control and Management
- House Mice
- Habits of House Mice
- Inspection
- Estimating Numbers of Mice
- Control and Management

CHAPTER 12: Wood Destroying Insects

- Powderpost Beetles
- True Powderpost Beetles (Family Lyctidae)
- False Powderpost Beetle (Family Bostrichidae)
- Furniture Beetles (Family Anobiidae)
- Control Methods