

# First Term

## Foundation I

**Module Title** : Foundation I (Anatomy - Embryology and histology)

**Credit hours:** 5.5 credit hours. **Theoretical hours:** 33 actual hours **Practical:** 49.5 credit hours **Activities:** 99 hours

### Anatomy:

No.	LECTURES
1	Overview and Introduction to Anatomy
2	Anatomical position and Body planes
3	Movements and position terminology
4	Skeletal system ( Overview and types of bone )
5	Joints (General)
6	Body parts and cavities
7	Introduction and Overview of Human Embryology
8	Ovarian and Uterine Cycles
9	Gametogenesis
10	Fertilization ,cleavage ,migration and Implantation
11	Second Week of Development
12	Third Week of Development ( development of chorion ,gastrulation , Notochord , Intraembryonic mesoderm)
13	Development of chorion ,gastrulation , Notochord , Intraembryonic mesoderm
14	Trilaminar Germ Disc
15	ng of the embryo
16	Foetal Membranes
17	Birth Defects and Fetal therapy
18	Pharyngeal Arches
19	Development of Face and eye
20	Development of the Tongue and Thyroid Gland
21	Development of eye
No	<b>Practical</b>
1	Anatomical terminology
2	Skeletal system
3	Overview of Female Genital System
4	Overview of Male Genital System
5	Radiological anatomy
6	Introduction to Cardiovascular and lymphatics
7	Introduction to endocrine system

<b>8</b>	Introduction to gastrointestinal system
<b>9</b>	Clavicle , Scapula
<b>10</b>	Humerus ,Radius
<b>11</b>	Ulna ,bone of the hand
<b>12</b>	Hip
<b>13</b>	Femur ,Tibia
<b>14</b>	Fibula ,foot
<b>15</b>	Vertebral column

<b>No</b>	<b>Tutorial</b>
<b>1</b>	Introduction to urinary system
<b>2</b>	Introduction to central nervous system
<b>3</b>	Coverings of the Body (Skin and Fascia)
<b>4</b>	Osteoporosis and Arthroscopy
<b>5</b>	Bone fracture
<b>6</b>	Spread of Cancer
<b>7</b>	Bodylines, skin incisions
<b>8</b>	In vitro fertilisation
<b>9</b>	Prenatal Diagnosis
	Stem cells
<b>No</b>	<b>Activities</b>
	Visit to central lab

## Histology:

<b>Topics</b>	<b>Teaching methods</b>	<b>Title of lecture or practical lessons</b>	<b>Actual hours</b>
Microtechnique	lecture	Microscope & Microtechnique	1.5
<b>Microtechnique</b>	<b>practical</b>	<b>Microscope &amp; Microtechnique</b>	1.5
<b>Microtechnique</b>	<b>homework</b>	<b>Types of Staining</b>	<b>3</b>
Cytology	lecture	Membranous organelles	1.5
Cytology	lecture	Membranous organelles	1.5
Cytology	lecture	Non Membranous organelles	1,5

<b>Cytology</b>	<b>practical</b>	<b>(cell memb + mitochondria)</b>	<b>1.5</b>
<b>Cytology</b>	<b>practical</b>	<b>Golgi+ RER+ SER</b>	<b>1.5</b>
<b>Cytology</b>	<b>practical</b>	<b>lysosomes+coated vesicles</b>	<b>1.5</b>
<b>Cytology</b>	<b>practical</b>	<b>Non memb. Organelles + Cell inclusion</b>	<b>1.5</b>
<b>Cytology</b>	<b>practical</b>	<b>Revision</b>	<b>1.5</b>
<b>Cytology</b>	<b>homework</b>	<b>Membranous organelles</b>	<b>3</b>
<b>Cytology</b>	<b>Tutorial</b>	<b>Membranous organelles</b>	<b>2</b>
<b>Cytology</b>	<b>Class activity</b>	<b>Membranous organelles</b>	<b>2</b>
<b>Cytology</b>	<b>homework</b>	<b>Non Membranous organelles</b>	<b>3</b>
<b>Cytology</b>	<b>Tutorial</b>	<b>Non Membranous organelles</b>	<b>2</b>
<b>Cytology</b>	<b>Class activity</b>	<b>Non Membranous organelles</b>	<b>2</b>
<b>cytogenetics</b>	<b>Lecture</b>	<b>Nucleus &amp; Nucleolus&amp; Cell division</b>	<b>1.5</b>
<b>Cytology</b>	<b>practical</b>	<b>exam</b>	<b>1.5</b>
<b>cytogenetics</b>	<b>practical</b>	<b>Nucleus &amp; Nucleolus</b>	<b>1.5</b>
<b>cytogenetics</b>	<b>practical</b>	<b>Cell division</b>	<b>1.5</b>
<b>cytogenetics</b>	<b>homework</b>	<b>Chromosomal abnormalities</b>	<b>3</b>
<b>cytogenetics</b>	<b>Tutorial</b>	<b>Chromosomal abnormalities</b>	<b>2</b>
<b>cytogenetics</b>	<b>Class activity</b>	<b>Cell division</b>	<b>2</b>
<b>Epith</b>	<b>Lecture</b>		<b>1.5</b>

<b>Epith</b>	<b>homework</b>	<b>Surface Epith</b>	<b>4</b>
<b>Epith</b>	<b>Tutorial</b>	<b>Glandular +Neuro-epit</b>	<b>2</b>
<b>Epith</b>	<b>Class activity</b>	<b>Data show</b>	<b>2</b>
<b>Connective tissue</b>	<b>Lecture</b>	<b>C.T cells +Fibers+ Matrix</b>	<b>1.5</b>
<b>Connective tissue</b>	<b>Lecture</b>	<b>Types of CT proper</b>	<b>1.5</b>
<b>Connective tissue</b>	<b>Practical</b>	<b>C.T (lig. Nuchae + umbilical cord) 1+2</b>	<b>1.5</b>
<b>Connective tissue</b>	<b>Practical</b>	<b>Revision practical</b>	<b>1.5</b>
<b>Connective tissue</b>	<b>Practical</b>	<b>Exam</b>	<b>1.5</b>
<b>Connective tissue</b>	<b>homework</b>	<b>CT cells</b>	<b>4</b>

# Foundation II

**Course title:** Foundation 2 ( Physiology and Biochemistry)

**Taught hours:**

**Total hours:** 2.5 credit hours. **Theoretical hours:** 15 actual hours **Practical:** 22.5 hours  
**Activities:** 45 hours

## III. Course contents:

Week	Title	Teaching method	Credit hours	Actual hours	Pre-requisite
1	Transport across cell membrane	Lecture	0.4	2	Cell membrane (Histo)
2	Homeostasis	Lecture		2	
3	Body fluids	Lecture		2	
1	Osmotic fragility test	Practical	0.3	1.5	
1	Homeostasis	Practical		1.5	
2	Dye-dependent dilution methods	Practical		1.5	
2	Estimation of plasma volume	Practical		1.5	
3	Volume contraction and expansion	Practical		1.5	
3	Revision	Practical		1.5	
1	Functions of cell membrane and organelles.	Small group	0.3	2	

2	Homeostasis	Tutorial		2	
3	Body fluids and fluid compartments	Tutorial		2	
1	Mechanisms of Na and K transport	SDL		1	
2	Glucose and amino acids transport	SDL		1	
3	Autonomic receptors	SDL		1	

### **A. Physiology**

### **Biochemistry:**

No.	Titles	Lecture s hrs.	Practi cal hrs.	Activi ty hrs.
1	*1- CHO chemistry Monosaccharaides , Disaccharides, and Polysaccharaides structure properties and their biomedical importance.	3	4.5	6
	2- lipid chemistry Fatty acids, eicosanoids, triacylglycerol, phospholipids, and glycopropholipids and medical their importance.	1.5	1.5	6
	3- Protein chemistry The structure of protein and types of amino acid. Grades of proteins. The functions of protein. The biological importance of protein.	3	4.5	6

	<p>4- Enzymes:</p> <p>Enzyme structure</p> <p>the mechanism of action and factors affecting the rate of enzyme action</p> <p>Enzyme activators and inhibitors. Enzyme kinetics.</p>	1.5	3	7
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# Foundation III

**Module Title:** Foundation 3 (Pathology/ Pharmacology)

**Taught hours:**

**Total hours:** 6.5 credit hours. **Theoretical hours:** 39 actual hours      **Practical:**  
58.5 credit hours      **Activities:** 117 hours

## **III. Course contents:-**

### **Pathology:**

- ❖ Introduction
- ❖ Inflammation
- ❖ Tissue accumulation
- ❖ Repair
- ❖ Cell energy
- ❖ Chronic inflammation
- ❖ Bilharzias
- ❖ TB
- ❖ Hemodynamic disorders
- ❖ Neoplasia

### **Pharmacology**

- ❖ general pharmacology
- ❖ Routes of drug administration
- ❖ Dosage forms of drugs
- ❖ adverse drug reactions
- ❖ pharmacodynamics
- ❖ Pharmacokinetics
- ❖ drugs at the extreme of age
- ❖ General chemotherapy
- ❖ Autonomic nervous system (sympathomimetics, sympatholytics, parasympathomimetics, parasympatholytics)



# Foundation IV

**Module Title: Foundation 4 (Parasitology & Microbiology)**

**Credit hours/Taught hours:**

**Total hours:** 4.5 credit hours. **Theoretical hours:** 27 actual hours      **Practical:** 40.5 credit hours      **Activities:** 81 hours

## Module Contents

### Microbiology

Topic	Course	Theoretical Hours		Practical hours	Activities
General Bacteriology	1- Structure.	4	1	10	15
	2- Physiology.		1		
	3- Bacterial genetics.		1		
	4- Antimicrobial chemotherapy and Host-parasite relationship		1		
Systematic Bacteriology	1- Staphylococci and Streptococci.	11	1	18.9	40
	2- Pneumococci, Enterococci and Neisseria		1		
	3- Non-spore forming Gram +ve bacilli: <i>Corynebacterium</i> and <i>Listeria</i>		1		
	4- Spore forming Gram +ve bacilli: <i>Bacillus</i> and <i>Clostridium</i>		1		
	5- Enteric Gram –ve: <i>E. coli</i> , <i>Shigella</i> , <i>Salmonella</i> .		1		
	6- Respiratory Gram –ve: <i>Klebsiella</i> , <i>Haemophilus</i> , <i>Bordetella</i>		1		
	7- <i>Vibrio cholerae</i> , <i>Campylobacter</i> , <i>Helicobacter</i>		1		
	8- Zoonotic: <i>Brucella</i> and <i>Yersinia</i>		1		
	9- Spirochetes: <i>Treponema</i> , <i>Borrelia</i> , <i>Leptospira</i>		1		
	10- Mycobacteria: <i>M. tuberculosis</i> , <i>M. leprae</i>		1		
	11- Miscellaneous: <i>Mycoplasma</i> , <i>Chlamydia</i> , <i>Legionella</i> , Anaerobic Gram –ve bacilli.		1		
Mycology	1- General Mycology.	2	1	5	5
	2- Systematic Mycology.		1		
General Virology	1- Structure, pathogenesis, antiviral drugs.	7.6	1	3	13.8

<b>Systemic Virology</b>	<b>1- Non-enveloped RNA viruses: Picornaviruses and Reoviruses.</b>		1		
	<b>2- Enveloped RNA viruses: Orthomyxoviruses, Paramyxoviruses &amp; Rubella.</b>		1		
	<b>3- Enveloped DNA viruses: Herpes viruses, Pox viruses.</b>		1		
	<b>4- Hepatitis viruses.</b>		1		
	<b>5- Non-enveloped DNA viruses: Parvovirus, Adenovirus, Papilloma virus</b>		0.6		
	<b>6- Retroviruses (HIV)</b>		1		
	<b>7- Rhabdoviruses, Corona viruses, Arboviruses (Yellow fever, Dengue fever).</b>		1		
<b>Total hours</b>		<b>24.6</b>	<b>36.9</b>	<b>73.8</b>	

## **Parasitology**

<b>subject</b>	<b>theoretical</b>	<b>Practical</b>	<b>activities</b>
<b>1. Introduction to medical parasitology &amp; ILOs awareness Class trematode</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>2. Class nematode, medical protozoa and vectors transmitting parasitic infections</b>	<b>1.5</b>	<b>1</b>	<b>1.5</b>
<b>3. Snails of medical important and snail control</b>	<b>-</b>	<b>1</b>	<b>2</b>
<b>4. Vectors transmitting parasitic infections</b>	<b>-</b>	<b>1</b>	<b>2</b>

## Second Term

### Musculoskeletal (1)

**Module Title :** Musculoskeletal (1)

**Department offering the course :** Anatomy, Physiology, Histology, and Biochemistry departments

**Taught hours:**

**Total hours:** 5 credit hours. **Theoretical hours:** 30 actual hours **Practical:** 45 hours

**Activities:** 90 hours

**Six weeks –total marks 125**

#### E)Module Syllabus:

##### 1. Course content:

#### A. ANATOMY

No.	LECTURES		ACTUAL HOURS
	TITLES	SUBTITLES	
1	Development of limbs:	<ul style="list-style-type: none"> <li>- Timing</li> <li>- Stages</li> <li>- Differences between upper and lower limb development</li> <li>- Congenital anomalies</li> </ul>	1
2	overview on the bone and innervation of the upper limb	<ul style="list-style-type: none"> <li>- Bones of upper limb</li> <li>- Cervicoaxillary canal</li> <li>- Brachial plexus (formation, stages)</li> </ul>	1
3	Pectoral region	<ul style="list-style-type: none"> <li>- Muscles of pectoral region</li> <li>- Attachment, action, nerve supply</li> <li>- Clinical notes</li> </ul>	1
4	muscles connecting the back to the upper limb - Scapular region	<ul style="list-style-type: none"> <li>- Attachment, action, nerve supply</li> <li>- Clinical notes</li> </ul>	1
5	Muscles of the arm	<ul style="list-style-type: none"> <li>- Attachment, action, nerve supply</li> <li>- Clinical notes</li> </ul>	1
6	Muscles of the front of forearm and cubital fossa	<ul style="list-style-type: none"> <li>- Attachment, action, nerve supply</li> <li>- Clinical notes</li> </ul>	1

		Boundaries and contents of the cubital fossa	
7	<b>Muscles of the back of forearm</b>	Attachment, action, nerve supply Clinical notes	1
8	<b>Hand</b>	Retinacula Anatomical snuff box Palmar aponeurosis Muscle overview Overview on hand spaces	1
9	<b>Peripheral nerves and its injury.</b>	Origin, course, important relations, branches, distribution and effect of injury of each.	1
10	<b>Vascularization of the muscles upper limb and its related bony areas</b>	Overview on their origin, important branches and its relation to the bony areas	1
11	<b>Joints of upper limb (1)</b>	Type, articulation, structure, movement of each joint	1
12	<b>Joints of upper limb (2)</b>	Type, articulation, structure, movement of each joint	1
13	<b>Anterior thoracic wall</b>	Articulation of thoracic cage Overview on its muscles Intercostal nerve	1
14	<b>Anterior abdominal wall (Role of muscle in inguinal canal &amp; rectus sheath)</b>	Layers of anterior abdominal wall Overview on the muscles of the anterior abdominal wall Inguinal canal Rectus sheath	1
15	<b>Posterior abdominal wall and diaphragm</b>	Overview on the muscles of the posterior abdominal wall Diaphragm (attachment, location of its major foramina)	1
<b>NO.</b>	<b>PRACTICAL</b>		<b>ACTUAL HOURS</b>
	<b>TITLES</b>	<b>SUBTITLES</b>	
1	<b>Bone of upper limb (Clavicle, scapula and humerus) + radiology</b>	General features of each X ray finding	2
2	<b>Bone of upper limb (Radius, ulna and bone of hand)+ radiology</b>	General features of each X ray finding	1.5
3	<b>Muscles of pectoral region + brachial plexus</b>	Demonstration of the origin and insertion of each Demonstration of the formation and main branches of the brachial plexus	2
4	<b>Muscles of back and scapular region</b>	Demonstration of the origin and insertion of each	1.5
5	<b>Muscles of the arm+ cubital fossa</b>	Demonstration of the origin and insertion of each Demonstration of the boundaries and contents of the cubital fossa	2

6	<b>Muscles of the front of forearm</b>	- Demonstration of the origin and insertion of each	1.5
7	<b>Muscles of back of forearm</b>	- Demonstration of the origin and insertion of each	2
8	<b>Joint radiology + revision 1</b>	- x-ray radiology on the joint articulation and dislocation - revision on upper limb muscles	1.5
9	<b>Thoracic cage</b>	Bones of thoracic wall and demonstration of muscle attachment	2
10	<b>Anterior abdominal wall</b>	- Demonstration of the origin and insertion of each	1.5
11	<b>Posterior abdominal wall</b>	- Demonstration of the origin and insertion of each	2
12	<b>Revision</b>	Final revision	1.5
<b>NO</b>	<b>TUTORIALS</b>		<b>ACTUAL HOURS</b>
	<b>TITLES</b>	<b>SUBTITLES</b>	
1	<b>Articulation of the bones of upper limb and different movements of the upper limb</b>	- different movements of the upper limb (How)	1.5
2	<b>Fracture clavicle &amp; humerus and its effects</b>	- common site - effect of injury	1.5
3	<b>Colle's fracture</b>	- definition - effect of fracture	1.5
4	<b>How to test peripheral nerves in the upper limb</b>	- median - ulnar - radial - long thoracic - axillary	1.5
5	<b>Hand space infection</b>	- anatomy of hand spaces - common causes and effect	1.5
	<b>TITLES</b>	<b>SUBTITLES</b>	
1	<b>Intermuscular spaces</b>	- Boundaries - Contents	1.5
2	<b>Joint dislocation</b>	- common dislocation	1.5

		- effect	
<b>NO</b>	<b>EXTRA DEPARTMENT ACTIVITIES</b>		<b>ACTUAL HOURS</b>
<b>1</b>	<b>Visit Orthopaedic unit</b>	- Demonstrate management of limb fracture. - Diagnosis of joint dislocation.	<b>2 h</b>
<b>No.</b>	<b>TBL</b>		<b>actual hours</b>
	<b>TITLES</b>	<b>SUBTITLES</b>	
<b>1</b>	<b>Bone fracture and healing</b>		<b>2</b>
<b>2</b>	<b>Tendinitis</b>		<b>2</b>
<b>3</b>	<b>Nerve injury</b>	- Nerve injury - nerve degeneration - Nerve regeneration - Nerve conduction	<b>2</b>

## 1.HISTOLOGY

<b>No.</b>	<b>LECTURES</b>		<b>ACTUAL HOURS</b>
	<b>TITLES</b>	<b>SUBTITLES</b>	
<b>1</b>	<b>Cells &amp; types of cartilage</b>	1- Perichondrium 2- Cartilage cells 3- Matrix 4- Hyaline cartilage 5- Elastic cartilage 6-Fibro cartilage	<b>1.5</b>
<b>2</b>	<b>Types of bone and Bone cells</b>	1-Bone Matrix 2- Periosteum 3- Endosteum 4- Bone cells 5-Compact bone 6- Cancellous bone	<b>1.5</b>
<b>3</b>	<b>Ossification</b>	1- bone formation 2- Intramembranous bone ossification 3- Endochondral ossification 4- Joints	<b>1.5</b>
<b>4</b>	<b>Skeletal Muscle&amp; Smooth Muscle</b>	1- Skeletal muscle 2-Shape, Structure and types 3- Myofibrils 4- Sarcomere 5-Smooth Ms	<b>1.5</b>
<b>5</b>	<b>Neurons, Nerve fibers</b>	1. Neuron 2. Types	<b>1.5</b>

		3. The nerve fiber 4. The ganglia	
<b>ACTUAL No. HOURS</b>	<b>PRACTICAL</b>		
	<b>TITLES</b>	<b>SUBTITLES</b>	
<b>1</b>	<b>Practical cartilage</b>	(Hyaline + Elastic cartilage) 3,4	<b>1.5</b>
<b>2</b>	<b>Practical bone</b>	(ground+ decalcified compact bone +cancelous bone) slide 5.6.7	<b>1.5</b>
<b>3</b>	<b>Practical bone 2</b>	Growing bone slide 8	<b>1.5</b>
<b>4</b>	<b>Practical muscle</b>	Skeletal ms (L.S + T.S+ ms spindle) 11,12	<b>1.5</b>
<b>5</b>	<b>Practical nervous</b>	Nerve trunk H& E + osmic acid) 15, 16	<b>1.5</b>
<b>6</b>	<b>Practical nervous</b>	Spinal gang H&E silver&) slide 17,18 sympath gang. 19	<b>1.5</b>
<b>7</b>	<b>Revision</b>	Revision	<b>1.5</b>
<b>No.</b>	<b>TUTORIAL</b>		<b>ACTUAL HOURS</b>
	<b>TITLES</b>	<b>SUBTITLES</b>	
<b>1</b>	<b>Types of joints &amp; arthritis</b>	Types of joints Structure of joints Arthritis	<b>1.5</b>
<b>2</b>	<b>Neuralgia &amp; myelination of nerve</b>	Types of neuroglia Neuroglia of PNS The myelin sheath The neurilemmal sheath Myelination in PNS	<b>1.5</b>
<b>3</b>	<b>Synapse &amp; Nerve ending</b>	Structure of synapse Types of synapses The exteroceptors The proprioceptors The interoceptors (visceroceptors)	<b>1.5</b>
<b>No.</b>	<b>SDL</b>		<b>ACTUAL HOURS</b>
	<b>TITLES</b>	<b>SUBTITLES</b>	
<b>1</b>	<b>Bone repair</b>	Bone remodeling Repair of bone fracture Formation of bony callus Factors affecting bone growth	<b>H.W</b>
<b>2</b>	<b>Myofibrils &amp; Types of skeletal muscle fibers</b>	Myofilaments The sarcomere Sarcoplasmic reticulum The triad Type I fibers (red fibers) and Type II	<b>H.W</b>

		fibers (white fibers)	
3	Nerve injury	Nerve injury nerve degeneration Nerve regeneration Nerve conduction	H.W.
No.	TBL		actual hours
	TITLES	SUBTITLES	
1	Bone fracture and healing		2
3	Nerve injury	Nerve injury nerve degeneration Nerve regeneration Nerve conduction	2
2	muscle dystrophy	Causes of Muscle Dystrophy Histological changes in muscle Electromyogram (EMG)	2 h

## 2. PHYSIOLOGY

No.	LECTURES		ACTUAL HOURS
	TITLES	SUBTITLES	
1	Membrane & Action potential	Causes of the resting membrane potential Action Potential Phases and Its Ionic Basis Excitability Changes during Action Potential All or none law	1
2	Neuromuscular transmission	Neuromuscular junction Structure Mechanism of signal transmission Properties of Neuromuscular junction.	1
3	Excitation contraction coupling	Molecular Participants Six steps of excitation contraction Relaxation as an active process	1
No.	PRACTICAL		ACTUAL HOURS
	TITLES	SUBTITLES	
1	Simple muscle twitch	Kymograph apparatus Phases of simple muscle twitch	1.5
2	Factors affecting skeletal muscle contraction	Effect of temperature effect of increasing stimulus strength (gradation) Number of motor units recruited	1.5



		- Fatigue on simple muscle twitch- - Site of fatigue	
3	<b>Effect of changing frequency of stimulation on muscle contraction</b>	- Effect of two successive - Effect of several stimuli on muscle contraction - Clonus - Tetanus	<b>1.5</b>
<b>No.</b>	<b>TUTORIAL</b>		<b>ACTUAL HOURS</b>
	<b>TITLES</b>	<b>SUBTITLES</b>	
1	<b>Ion channels involved in RMP &amp; action potential and effect of ions</b>	- Na <sup>+</sup> ion channels and effect of conc. - K <sup>+</sup> ion channels and effect of conc. - Ca <sup>2+</sup> ion channels and effect of conc.	<b>1.5</b>
3	<b>Types of muscle contraction &amp; muscle fibers</b>	- Isotonic and isometric muscle contraction. - Fast and slow twitch muscle fibers	<b>1.5</b>
<b>No.</b>	<b>SDL</b>		<b>ACTUAL HOURS</b>
	<b>TITLES</b>	<b>SUBTITLES</b>	
1	<b>Nernst equation</b>	- Role of equilibrium potential of K <sup>+</sup> in membrane potential - Role of equilibrium potential of Na <sup>+</sup> in membrane potential	<b>E-learning</b>
2	<b>Myasthenia gravis and agents blocking neuromuscular transmission</b>	- Effect of drugs (curare, cholinesterase inhibitor, BOTOX) - Myasthenia gravis	<b>0.5</b>
3	<b>Smooth muscle contraction</b>	- Structure and types of smooth muscle. - Electrical activity of the Visceral Smooth Muscles - Mechanism of Smooth Muscle contraction - Factors affecting excitability of smooth muscle	<b>0.5</b>
<b>No.</b>	<b>EXTRA DEPARTMENT ACTIVITIES</b>		<b>ACTUAL HOURS</b>
2	<b>Visiting Rheumatology department</b>	- Demonstrate skeletal muscle examination. - Identify devices used in nerve conduction & EMG.	<b>2h</b>
<b>No.</b>	<b>TBL</b>		<b>actual hours</b>
	<b>TITLES</b>	<b>SUBTITLES</b>	

3	<b>Nerve injury</b>	<ul style="list-style-type: none"> <li>- Nerve injury</li> <li>- nerve degeneration</li> <li>- Nerve regeneration</li> <li>- Nerve conduction</li> </ul>	2
2	<b>muscle dystrophy</b>	<ul style="list-style-type: none"> <li>- Causes of Muscle Dystrophy</li> <li>- Histological changes in muscle</li> <li>- Electromyogram (EMG)</li> </ul>	2 h

## BIOCHEMISTRY

No.	LECTURES		ACTUAL HOURS
	TITLES	SUBTITLES	
1	<b>Bone mineralization</b>	<ul style="list-style-type: none"> <li>- Calcium metabolism.</li> <li>- phosphorus metabolism.</li> <li>- magnesium metabolism.</li> </ul>	<b>1:30 h</b>
2	<b>Extracellular matrix:</b>	<ul style="list-style-type: none"> <li>- Collagen</li> <li>- Elastin</li> <li>- Fibrin</li> </ul>	<b>1:30 h</b>
3	<b>Bioenergetics and sources of ATP</b>	<ul style="list-style-type: none"> <li>- Major sources of high energy bond</li> <li>- High energy compounds</li> <li>- Collection and Storage of Energy</li> </ul>	<b>1:30 h</b>
No.	PRACTICAL		ACTUAL HOURS
	TITLES	SUBTITLES	
	<b>1 Main lab. Instrumentation; centrifuge and colormetry</b>	<ul style="list-style-type: none"> <li>- The centrifuge works principles</li> <li>- Principles and Uses of Spectrophotometry</li> </ul>	<b>1:30 h</b>
	<b>2 Measurement of blood Creatinine</b>	<ul style="list-style-type: none"> <li>- Practice measurement of serum creatinine</li> </ul>	<b>1:30 h</b>
	<b>3 Measurement of serum protein</b>	<ul style="list-style-type: none"> <li>- Practice measurement of serum protein</li> </ul>	<b>1:30 h</b>
	<b>4 Results interpretation</b>	<ul style="list-style-type: none"> <li>- Discussion of result reports</li> </ul>	<b>1:30 h</b>
No.	TUTORIAL		ACTUAL HOURS
	TITLES	SUBTITLES	
	<b>1 Hormones affecting bone density and calcium metabolism</b>	<ul style="list-style-type: none"> <li>- Osteocalcin, Vitamin D, PTH</li> <li>- Osteoporosis, tetany, rickets and osteomalacia</li> </ul>	<b>2</b>
	<b>2 Defective extracellular matrix disease. Genetic collagen diseases</b>	<ul style="list-style-type: none"> <li>- Osteogenesis Imperfecta</li> <li>- Ehlers-Danlos Syndrome</li> <li>- Marfan's Syndrome</li> </ul>	<b>2</b>

No.	SDL		ACTUAL HOURS
	TITLES	SUBTITLES	
1	Bone demineralization	<ul style="list-style-type: none"> <li>- Osteoporosis.</li> <li>- Osteopenia.</li> <li>- Tetany and hypocalcaemia</li> </ul>	1
No.	<b>T B L</b>		actual hours
	TITLES	SUBTITLES	
	Rickets	<ul style="list-style-type: none"> <li>- Causes, prevention and clinical manifestation of rickets</li> <li>- Osteoporosis and osteomalacia</li> </ul>	2
2	muscle dystrophy	<ul style="list-style-type: none"> <li>- Causes of Muscle Dystrophy</li> <li>- Histological changes in muscle</li> <li>- Electromyogram (EMG)</li> </ul>	2 h

# Musculoskeletal (2)

**Module Title:** Musculoskeletal (2)

**Department offering the course:** Anatomy, pathology, pharmacology, parasitology and microbiology departments

**Total hours:** 4 credit hours. **Theoretical hours:** 24 actual hours

**Practical:** 36 hours                      **Activities:** 72 hours

**Four weeks –total marks 100**

## 3. Course content

### Lecture:

#### 1<sup>st</sup> week

Anatomy	Parasitology	Pathology
Front, medial compartment of thigh and femoral triangle. (1h)	Trichinella spiralis (1.5h).	Healing of bone, metabolic (rickets- osteomalacia and osteoporosis) (1h).
Gluteal region and back of the thigh. (1h).		
Anterior and lateral compartment of leg (1h).		
Popliteal fossa and posterior compartment of leg (1h).		
Team based learning (TBL)	Rickets (Anatomy and Pathology).	

#### 2<sup>nd</sup> week

Anatomy	Pharmacology	Pathology	Microbiology
Sole of foot (1h)	NSAID (1.5h).	Osteomyelitis (1h).	Osteomyelitis and osteoarthritis – myositis and skin infection (1.5 h).
Peripheral nerve injury (1h).			
Joints (2h).			

<b>Development and anatomy of vertebral column (1.5h).</b>			
<b>Team based learning (TBL)</b>	<b>Rheumatoid arthritis + osteoporosis (Anatomy – Pathology – Pharmacology).</b>		

**3<sup>rd</sup> week**

<b>Anatomy</b>	<b>Pharmacology</b>	<b>Pathology</b>
Scalp and face (1h)	Neuromuscular blockers (1.5h).	Benign, malignant and locally malignant tumor (1h).
Neck triangles (1h).		
Temporal and infra-temporal fossa (1h).		
Team based learning (TBL)	Bone tumor (Anatomy and pathology).	
Formative exam	Tuesday ( 11 P.M).	

**4<sup>th</sup> week**

<b>Anatomy</b>	
Submandibular region (1h)	
Blood supply of head and neck (1.5h).	
Team based learning (TBL)	<b>Osteomyelitis</b>
End module written exam	<b>Thursday</b>

**Practical and activity:**

**1<sup>st</sup> week**

<b>Anatomy</b>	<b>Parasitology</b>	<b>Pathology</b>
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<b>Bone of lower limb (1)</b>	<b>Trichinella spiralis</b>	
<b>Bone of lower limb (2)</b>		
<b>Front, medial compartment of thigh and femoral triangle.</b>		
<b>Gluteal region and back of the thigh.</b>	<b>Trichinella spiralis</b>	

**2<sup>nd</sup> week**

<b>Anatomy</b>	<b>Pharmacology</b>	<b>Pathology</b>	<b>Microbiology</b>	<b>Parasitology</b>
<b>Anterior and lateral compartment of leg</b>	<b>Gout</b>	<b>Osteomyelitis, metabolic disorders, gout and rheumatoid arthritis.</b>	<b>Bacterial cause of osteomyelitis</b>	<b>Cysticercosis</b>
<b>Popliteal fossa and posterior compartment of leg</b>				
<b>Joints (Models) Radiology.</b>				
<b>Sciatica (Case study).</b>	<b>Pharmacotherapy of gout</b>			

### 3<sup>rd</sup> week

<b>Anatomy</b>	<b>Pharmacology</b>	<b>Pathology</b>	<b>Microbiology</b>	<b>Parasitology</b>
Skull (1)	Osteoporosis (case)	Benign tumor and locally malignant tumor.	Bacterial causes of arthritis, muscle and skin infection.	
Skull (2) and mandible				
Head and neck specimens				
Vertebral column (Tutorial)	Myasthenia gravis			

### 4<sup>th</sup> week

<b>Anatomy</b>	<b>Pharmacology</b>	<b>Microbiology</b>	<b>Pathology</b>
Revision (1)	Effect of drugs on isolated frog rectus		Malignant tumor
Revision (2)			
Joints and Radiology of head and neck (Tutorial)		Reactive arthritis (Tutorial)	
End module practical exam	Wednesday		

# Blood and lymphatics

**Module Title** : Blood and lymphatics

**Department offering the course** : Anatomy, Physiology, Histology, Biochemistry, Pathology, Pharmacology, Microbiology and Parasitology departments

**Taught hours:**

**Total hours:** 6 credit hours. **Theoretical hours:** 42 actual hours

**Practical:** 63 hours **Activities:** 126 hours

**Six weeks –total marks 175**

## 3. Course content

### 1-Anatomy topics:

No.	LECTURES
1	Anatomy of Tonsils and thymus
2	Anatomy of spleen and bone marrow
3	Lymphatics of head & neck and upper limb
4	Lymphatics of lower limbs , abdomen and thorax
No.	PRACTICAL
1	Anatomy of spleen
2	Anatomy of tonsils
NO	TUTORIALS
1	Lymph Flow in Clinical Medicine
2	Lymph Vessels and the Spread of Malignant Disease
3	Anatomical basis of bone marrow biopsy



<b>4</b>	PBL ( Splenomegaly)
<b>NO</b>	<b>ACTIVITIES</b>
<b>1</b>	Examination of different lymph node groups

## 2-Pharmacology topics:

- Drug therapy of anemia
- Anticoagulants, Coagulants
- Antiplatelets
- Fibrinolytics and antifibrinolytics

## 3-Pathology topics:

<b>Topic</b>	<b>Lectures 3h</b>	<b>Practical 4.5h</b>	<b>Activities 9h</b>
<b>Infectious diseases of lymph node</b>	1h	1.5 h	3h
<b>Reactive lymphoid hyperplasia and hypersplenism</b>	1h	1.5h	3h
<b>Tumors of lymphoid system</b>	1h	1.5h	3h

### Cases for integration:

1. Lymphadenitis
2. Hypersplenism

## 4-Parasitology topics:

<b>Topic</b>	<b>Theoretical</b>	<b>Practical</b>	<b>Activities</b>
<b>1. Schistosomiasis</b>	<b>2</b>	<b>1</b>	
<b>2. Lymphatic filariasis</b>	<b>2</b>	<b>1</b>	
<b>3. Leishmaniasis</b>	<b>2</b>	<b>1</b>	
<b>4. Malaria</b>	<b>2</b>	<b>1</b>	
<b>5. Babesia</b>		<b>1</b>	<b>1</b>

## 5-Histology topics:

Topics	Teaching methods	Title of lecture or practical lessons	Actual hours
Blood	lecture		1.5
Blood	practical	Blood film+ Bone marrow	1.5
Blood	Tutorial	RBCs	2
Blood	Class activity	WBCs	2
Lymphatic System	lecture		1.5
Lymphatic System	practical	LN+ spleen	1.5
Lymphatic System	practical	Tonsils + Thymus	1.5
Lymphatic System	Tutorial	LN+ spleen	2
Lymphatic System	Class activity	Tonsils + Thymus	2
Lymphatic System	homework		1

## 6- Microbiology topics:

Topic	Course	hours
Immune System	Innate & acquired immunity (CMI & humoral)	1
	Immune-prophylaxis & mechanism of antibacterial, antiviral and antifungal immunity	1
	Basics of hypersensitivity & autoimmunity	1
	Immunological aspects of tumors (tumor antigens, tumor escape & tumor markers)	1
	HLA & basics of transplantation & immunodeficiency	1

<b>Systemic infections</b>	Septicemia Bacteremia Fever of unknown origin	<b>1</b>
<b>Total hours</b>		<b>6</b>

**7- physiology topics:** Total credit hours: 1.5hours (Lect.0.6 + Pract. 0.45 + Activ 0.45 credit hours)

week	Title	Teaching method	Credit hours	Actual hours	Pre-requisite
	General functions of blood&function of plasma protein	Lecture	0.6	1.5	Blood composition & film(Histo)
	Functions of RBCs	Lecture		1.5	RBCs (Histo)
	Anemias & polycythemias	Lecture		1.5	
	Function of leukocytes	Lecture		1.5	
	Hemostasis	Lecture		1.5	Platelets (Histo)
	Blood coagulation-function of lymphatics	Lecture		1.5	Lymphatic system (Anat & Histo)
	Erythrocyte sedimentation rate	Practical	0.45	1.5	
	Hematocrit value	Practical		1.5	
	Measurement of hemoglobin content	Practical		1.5	
	Blood indices	Practical		1.5	
	Revision	Practical		1.5	
	Bleeding time	Practical		1.5	Histology of platelets (Histo)
	Coagulation time	Practical		1.5	
	Blood grouping	Practical		1.5	
	Revision	Practical		1.5	

week	Title	Teaching method	Credit hours	Actual hours	Pre-requisite
	types of Common anemias in Egypt	Tutorial	0.45	1.5	
	of leucocytic Disorder count			1.5	
	transfusion Blood			1.5	
	types of Common anemias in Egypt	SDL		3	
	Thrombocytopenic purpura	SDL		3	
	Anticoagulants	SDL		3	

## 8- Biochemistry topics:

Titles	Lectures hrs.	Practical hrs.	Activity hrs.
1- Blood composition and Hemolysis.	1.5	3	4.5
2- Hemoglobin synthesis Types of hemoglobin and related disorders.	1.5	2	4.5
3- Heam synthesis and related disease.	1.5	1.5	4.5

# Medical professionalism and communication skills

**Department offering the course:** Family medicine department

**Taught hours:**

**Total hours:** 1 credit hours.

**Total mark:** 25

## Contents:

week	Title	Teaching method
1	Introduction to Communication skills first impression dealing and respect	Lecture
2	Application	Role play
3	Rapport and Listening technique	Lecture
4	Application	Role play
5	Types of communication skills (verbal and non verbal)- hidden agenda	Lecture
6	Application	Role play
7	Negotiation and difficult patient	Lecture
8	Application	Role play
9	Breaking bad news	Lecture
10	Application	Role play

11	Presentation principles	Lecture
12	Application	Role play
13	Presentation skills	Lecture
14	Application	Role play
15	Revision and exam	

# Integrated longitudinal course

## Early clinical experience

### Second semester

**Department offering the course:** Family medicine department

**Taught hours:**

**Total hours:** 1/2 credit hours.

**Total mark : 12.5**

#### Contents:

week	Topic
1 <sup>st</sup> week	approach to a case of low back pain from anatomical view
2 <sup>nd</sup> week	approach to a case of low back pain from physiological view
3 <sup>rd</sup> week	approach to a case of low back pain from pharmacological view
4 <sup>th</sup> week	approach to a case joint pain and joint examination
5 <sup>th</sup> week	Case presentation (role play)
6 <sup>th</sup> week	Mass examination
7 <sup>th</sup> week	Case presentation (role play)
8 <sup>th</sup> week	approach to a case of pallor from physiological view pediatric age
9 <sup>th</sup> week	approach to a case of pallor from physiological view adult age
10 <sup>th</sup> week	approach to a case of pallor from pharmacological view
11 <sup>th</sup> week	Case of infection continued (non- specific lymphadenitis ) different etiology
12 <sup>th</sup> week	Case of infection continued (specific lymphadenitis) different etiology

<b>13<sup>th</sup> weeks</b>	Designing a case from the student surrounding community
<b>14<sup>th</sup> week &amp;15<sup>th</sup> week</b>	Revision and Exam



## مقرر إختياري

### (إدارة الوقت)

القسم مقدم المقرر: قسم الفسيولوجي

توزيع الساعات المعتمدة و الساعات التدريسية:

ساعات معتمدة: ١ ساعة

تدريس نظري: ٩ ساعات (٦,٠ credit)

تطبيق عملي: ٣ ساعات (0.1 credit)

أنشطة: 18 ساعة (0.3 credit)

### المحتوى العلمي

الرقم	المحاضرات	الساعات التدريسية
١	طبيعة الوقت و تحليل الأنشطة	١,٥ ساعة
٢	تحليل سوات الرباعي	١,٥ ساعة
٣	الأهداف الذكية	١,٥ ساعة
٤	ترتيب الأولويات بمصفوفة ايزنهاور	١,٥ ساعة
٥	تنظيم الوقت و وضع الجداول	١,٥ ساعة
٦	تنفيذ الجداول و التعامل مع مضيعات الوقت	١,٥ ساعة
		٩ ساعات

الرقم	التطبيق العملي	نوع التطبيق	الساعات التدريسية
١	دراسة حالة عن أهمية ادارة الوقت	دراسة حالة	١٥ دقيقة
	دراسة حالة عن مضيعات الوقت		١٥ دقيقة
٢	تقييم ذاتي لمدى التحكم الشخصي بالوقت	استخدام مؤشر التحكم	٣٠ دقيقة
٣	وضع اهداف ذكية لكل مجال من مجالات الحياة التسعة	ورش عمل	٣٠ دقيقة

٣٠ دقيقة	ورش عمل	مصفوفة ايزنهاور لتحديد الهام و العاجل	٤
٣٠ دقيقة	تعليم تعاوني (TBL)	مراجعة على المعلومات السابقة	٥
٣٠ دقيقة	لعب ادوار (role play)	التعامل مع مضيعات الوقت	٦
٣ ساعات			

الرقم	الأنشطة و التكاليفات	الساعات التدريسية
١	جدول النشاط الأسبوعي	٢ ساعة
	جدول تحليل الأنشطة	١ ساعة
	رسم منحنى النشاط	١ ساعة
٢	تحديد نقاط القوة و الضعف و التحديات و الفرص باستخدام تحليل سوات الرباعي	١ ساعة
	تحديد نمط الشخصية باستخدام مؤشر مايرز بريجز للانماط الشخصية	٢ ساعة
٣	وضع اهداف ذكية لكل مجال من مجالات الحياة التسعة	٢ ساعة
٤	ترتيب الأولويات في جدول تحليل الأنشطة	٢ ساعة
	تحديد مجموعة الأنشطة اللازمة لتحقيق كل الأهداف	٢ ساعة
٥	وضع جداول اسبوعية وقوائم يومية للتنظيم	٢ ساعة
٦	تحميل قائمة تنظيم الكترونية	٣ ساعة
		١٨ ساعة

