Faculty of Medicine
Cairo University

Curriculum

Bachelor of Medicine and Surgery MBBCh

for students who joined the faculty from September 2004 till 2017

Curriculm Attended
For The Degree of M.B., B.Ch.
Faculty of Medicine - Cairo University

Name: STUDENT NAME

Place of Birth : Place of Birth :

Date of Birth : Date of Birth :

Nationality : Nationality :

He/She enrolled in Enrolling Year

He/She graduated in DEC. 2010

With grade : VERY GOOD WITH HONOUR

English is the language of study and examinations.

Registrar Controller Dean

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CONTENT

Curriculum Introduction

Basic Information

1. **Program title:** **Bachelor of Medicine and Surgery MBBCh**
2. **Program type:** Single
3. **Language of study:** English
4. **Departments:**

Human anatomy and Embryology, Histology, Medical Physiology, Medical Biochemistry, Psychiatry, Pathology, Medical Pharmacology, Medical Microbiology and Immunology, Parasitology, Ophthalmology, Ear-Nose-Throat , Forensic Medicine and Clinical Toxicology, Community Medicine, Family Medicine, Occupational and Environmental Medicine, Paediatrics, Obstetrics and Gynaecology, Tropical Medicine, Dermatology and Venereology, Radiology, Cardiovascular Medicine, Chest, Rheumatology and Rehabilitation, Urology, Orthopaedic Surgery, Anaesthesiology, Oncology and Radiotherapy, Neurosurgery, Plastic Surgery, Cardiothoracic Surgery, Internal Medicine and General Surgery.

5. **Coordinator:**

Vice Dean for Education and Student Affairs

These bylaws were approved in 2004 by the Supreme Council of Universities and were applied for students who joined the faculty from September 2004 till 2017 .*

*The Supreme Council of Universities is authorized by the government to approve bylaws for all faculties.

Information in this paper is based on the curriculum and the detailed teaching plan as provided by the different faculty departments.

6. **One teaching hour = 60 minutes**

Program Aims

The aim of the program is to provide the graduate with educational experiences necessary for further training and practice in medicine through:

1. A core body of scientific knowledge, skills and attitudes essential for the practice of medicine.
2. Diagnostic, problem solving and decision-making skills necessary for proper evaluation and management of common diseases and emergencies.
3. Awareness and participation in the social and community aspects of national health care system.
4. Appropriate ethical and professional attitudes necessary for establishment of excellent communication with patients, relatives, staff and colleagues.
5. Lifelong learning competencies and self-evaluations necessary for continuous professional development.
6. Research methodology to facilitate research in their careers.

*Intended Learning Outcomes **(ILOs)**, details of the curriculum and study plan can be found on our website or in the detailed curriculum book.*

2. Intended Learning Outcomes

a. Knowledge and Understanding

By the end of the program, the graduate will gain knowledge and understanding to be able to:

a.1 Describe the normal structure and function of human body.

a.2 Describe molecular, biochemical and cellular mechanisms needed in maintaining homeostasis.

a.3 Identify the developmental changes in humans and the effect of growth and aging on individuals and their family.

a.4 Describe basics of normal and abnormal human behaviors.

a.5 Identify altered structure and function of humans in various diseases and conditions in relation to gender and age.

a.6 Describe the common diseases and life-threatening conditions as regards etiology, pathogenesis, clinical features, differential diagnosis and complications throughout the different age groups.

a.7 Define the principles of management for common diseases and life-threatening conditions including pharmacological basis of drugs, non-invasive and invasive interventions, basic pre- and post operative care, pain relief and palliative care.

a.8 Describe the theoretical basis of professional, practical skills and evidence based medicine (EBM).

a.9 Describe the role of genetics in health and disease and the basic principles of gene therapy and genetic counseling.

a.10 Identify the determinants of health, principles of health promotion, disease prevention, early detection and control of common community health problems including disease surveillance and screening.

a.11 Define the principles of management and appropriate quality concepts and processes required for healthcare facilities.

a.12 Describe the epidemiologic principles and the effect of social and demographic patterns on disease and vulnerability.

a.13 Describe the Egyptian health systems and different population-based approaches of health care including disease burden, quality of life and well-being.

a.14 Recognize basics of ethics, medico legal aspects of health problems, malpractice and common medical errors.

a.15 Recognize basics of health and patient's safety and safety procedures during practical and clinical years.

a.16 Define principles of clinical audit.

Professional Skills : (b, c, d, and e):

b. Practical and Clinical Skills

By the end of the program, the graduate will be able to:

b.1 Demonstrate basic sciences' practical skills relevant to the future practice b.2 Interview and record a structured patient-centered history.

b.3 Perform full physical examination appropriate to age and gender in acute and chronic clinical conditions.

b.4 Assess the mental state of the patient.

b.5 Construct appropriate management strategies both diagnostic and therapeutic for patients with common acute and chronic diseases including medical, psychiatric and surgical conditions.

b.6 Design an initial plan of management for stabilization of injured and critically-ill patients. b.7 Perform first aid measures for injured and critically-ill patients.

b.8 Work out drug dosage based on patient's criteria and health condition. b.9 Write safe prescriptions of different types of drugs.

b.10 Conduct community diagnosis for prioritization of community health problems.

Procedures and technical skills acquired under appropriate supervision

By the end of the program, the graduate will acquire the model-based skills(using manikin and simulators)

required to:

b.11 Perform venepuncture and collect blood samples. b.12 Insert a cannula into peripheral veins.

b.13 Practice enteral, parenteral, inhalational and topical methods for drug administration b.14 Perform suturing of superficial wounds.

b.15 Demonstrate competency in cardiopulmonary resuscitation and basic life-support. b.16 Interpret ECG.

b.17 Perform and interpret basic respiratory function tests. b.18 Use a nebulizer for administration of inhalation therapy. b.19 Administer basic oxygen therapy.

b.20 Insert a nasogastric tube.

b.21 Perform bladder catheterization.

b.22 Observe the procedure of normal labor.

b.23 Perform and interpret basic bedside laboratory tests.

b.24 Administer compulsory childhood vaccines in manikin.

b.25 Adopt suitable measures for safety and infection control.

c. Professional Attitude and Behavioral Skills

By the end of the program, the graduates will acquire the skills required to:

c.1 Adopt an empathic and holistic approach to patients and their problems, taking into consideration beliefs values, goals and concerns.

c.2 Respect the patient's right to know and share in decision making as well as dignity, privacy, information confidentiality and autonomy.

c.3 Respect the different cultural beliefs and values regardless of their disabilities in the community they serve.

c.4 Recognize the important role played by other health care professions in patients' management, respecting

their contributions in patient's management regardless of degree or occupation.

c.5 Apply the national code of ethics issued by the Egyptian Medical Syndicate.

(لائحة اداب المهنة الصادرة من نقابة الاطباء)

c.6 Respect and follow the institutional code of conduct.

c.7 Counsel patients suffering from different conditions as well as their families.

c.8 Recognize one's own limitations of knowledge and skills referring patients to appropriate health facility at the appropriate stage.

d. Communication Skills:

By the end of the program, the graduate will be able to:

d.1 Communicate clearly, sensitively and effectively with patients and their relatives and colleagues from a variety of health and social care professions.

d.2 Communicate effectively with individuals regardless of their social, cultural, ethnic backgrounds, or their disabilities.

d.3 Cope with situations where communication is difficult including breaking bad news. d.4 Show compassion to patients and their relatives in situations of stress and grief.

d.5 Honor and respect patients and their relatives, superiors, colleagues and any other member of the health profession.

d.6 Use communication styles to bring about behavioral change.

e. Intellectual Skills

By the end of the program, the graduate will acquire the skills required to:

e.1 Integrate basic anatomical, biochemical and physiological facts with clinical data.

e.2 Integrate the results obtained from history, clinical examination and investigational data into meaningful diagnostic formulation.

e.3 Combine clinical and investigational data with evidence based knowledge and skill of deductive reasoning for clinical problem solving.

e.4 Prioritize the medical problems and their differential diagnoses

e.5 Design a management plan for common diseases and emergencies.

e.6 Determine the different strategies for risk management of disease and injury.

e.7 Design scientific research through the formulation of research questions pertinent to medicine and the collection, analysis and interpretation of medical data.

e.8 Recognize and cope with uncertainty that is unavoidable in the practice of medicine by accepting and reacting to uncertain situations through proper counseling, consultation and referral.

f. General and Transferable Skills

By the end of the program, the graduate will acquire the skills required to:

f.1 Adopt the principles of lifelong learning needs of the medical profession (continuous professional development; CPD).

f.2 Use computers efficiently in reaching biomedical information to remain current with advances in knowledge and practice.

f.3 Present information clearly in written, electronic and verbal forms

f.4 Communicate ideas and arguments effectively

f.5 Work effectively within a multidisciplinary team

f.6 Manage time and resources effectively and set priorities

f.7 Apply simple statistical methods.

f.8 Apply English language as needed for appropriate learning and communication in relation to medicine.

3. Academic Standards

The Program Intended Learning Outcomes (ILO's) are developed according to the National Academic Reference Standards(NARS) for Bachelor degree of medicine published by the National Authority for Quality Assurance and Accreditation of Education (NAQAAE) .

Courses, Teaching Hours, Examination methods and Allocated Marks for First Year

Course	Code	Teaching hours		Exams	Allocated marks
		Practical	Theoretical		
Human anatomy and embryology	ANA-101	120	120	- three hours written exam (including embryology) -Practical Exam -Oral Exam	250
Histology	HIS-102	60	60	- three hours written exam, -Practical Exam -Oral Exam	150
Physiology including biophysics	PHY-103	150 Including 10 hours biophysics	60	- three hours written Exam (including biophysics) -Practical Exam -Oral Exam	250
Biochemistry	BIO-104	75	60	- Three hrs written exam, -Practical Exam -Oral Exam	150
English language	ENG-118	30	---	- one hour written exam,	---

Courses, Teaching Hours, Examination methods and Allocated Marks for Second year

Course	Code	Teaching hours		Exams	Allocated marks
		Theoretical	Practical		
Human anatomy and embryology	ANA-201	120	120	- three hours - written exam, - Practical Exam -Oral Exam	250
Histology	HIS-202	60	60	- three hours written exam, -Practical -Oral	150
Medical Physiology	PHY-203	150	60	- three hours written exam -Practical Exam -Oral Exam	250
Medical Biochemistry	BIO-204	75	60	- three hours written exam, -Practical Exam - Oral Exam	150
Behavioral Sciences including psychology	PSY-217	30	-----	one hour written exam	50

Courses, Teaching Hours, Examinations and Allocated Marks for Third year

Course	Code	Teaching hours		Exams	Allocated marks
		Theoretical	Practical		
Parasitology	PAR-305	60	60	- Two and half hours - Written exam ; - Practical Exam - Oral Exam	150
Pathology	PAT-306	120	120	- Two written exams, - two hours each - Practical Exam - Oral Exam	300
Microbiology and Immunology	MIC-307	90	60	- Two and half hours - Written exam ; - Practical Exam - Oral Exam	200
Medical Pharmacology	PHA-308	120	60	- Two written exams , - two hours each - Practical Exam -Oral Exam	300

Courses Teaching Hours Examinations and Allocated Marks for Fourth year

Course	Code	Teaching hours		Exams	Allocated marks
		Theoretical	Practical		
Forensic medicine and Clinical Toxicology	FOR-409	80	64 hours including two weeks Clinical training	- three hours - written exam; - Clinical Exam - Oral Exam	200
Community Medicine	COM-410	128	64 hours including two weeks field training	- three hours - written exam; - Practical Exam - Oral Exam	300
Ophthalmology	OPH-411	80	8 weeks (120 hours)	- Two hours - written exam; - Clinical Exam - Oral Exam	250
Ear-Nose-Throat	ENT-412	64	8 weeks (120 hours)	- two hours - written exam; - Clinical Exam - Oral Exam	200

Courses, Teaching Hours Examinations and Allocated Marks for Fifth year

Course	Code	Teaching hours		Exams	Allocated marks
		Theoretical	Practical		
Internal Medicine	MED-513	20 hours	6 weeks	Written exam (term exam) -Clinical exam	60
Pediatric	PED-514	108	10 weeks (160 hours)	Two written exams: * The first exam for three hours * The second exam for two hours -Clinical exam -Oral exam	500
Obstetrics and Gynecology	OBG-515	108	10 weeks (180 hours)	Two written exams: * The first exam for three hrs * The second exam for two hrs -Clinical exam -Oral exam	500

Course	Code	Teaching hours		Exams	Allocated marks
		Theoretical	Practical		
General Surgery	SUR-516	20 hours	6 weeks (60hours)	Written exam (term exam) -Clinical exam	60

Courses, Teaching Hours Examinations and Allocated Marks for Sixth year

Course	Code	Teaching hours		Exams	Allocated marks
		Theoretical	Practical		
Internal Medicine and its specialties	MED-613	196 hours	20 weeks (280hours)	Three written exams for three hours -Clinical exam -Oral exam	840
General Surgery and its specialties	SUR-616	196 hours	20 weeks (308hours)	Three written exams for three hours each -Clinical exam -Oral exam	840

Teaching methods and learning strategies:

- **Central lectures**

  - Conducted by a Professor/assistant Professor and provide an introduction to the essential concepts and knowledge, the identification of scientific backgrounds, the explanation of complicated issues and topics and the potential for clinical application.

- **Seminars**

- **Tutorial classes and local lectures**

  - Conducted by an assistant Professor and lecturer in small teaching groups to emphasize on complicated and medical topics and clinical cases. They are held in the corresponding department and are included in the teaching plan,

- **Clinical rounds**
  - In the clinical stage students are divided in small groups and distributed in a rotatory manner over different clinical departments each for several weeks according to the study plan. They are presented with clinical cases, perform clinical examination, discuss the differential diagnosis, learn and develop critical thinking, communication skills and teamwork.
- **Practical classes and/or field work**
- **Conferences**
- **Self-learning**
- **Clinical training and internship**
  - The students work several hours a day in diagnosis and therapy in inpatient, outpatient and ER. They learn medical skills as well as medical attitudes in the daily routine of medical practice. This training form is systematically structured and oriented in the timing and content according to the combined learning goals given in a logbook.

Program Structure and duration

- Learning goals given in a logbook.

Program Structure and duration

- The academic year starts at 3rd week of September; the duration varies according to the stage.
- The Supreme Council of Higher Education determines the date of the midyear recess which is two weeks.

The program consists of six academic years consists of:

1- **Preclinical stage:**

It includes first, second and third academic years. The duration of each academic year is 30 weeks. Assessment through midyear and final practical, oral and written examinations.

2- **Clinical stage:**

It includes: the fourth year (32weeks), fifth year (32 weeks) and the sixth academic year (40 weeks).

- Assessment through mid-round, end-round and final clinical, oral and written examinations.

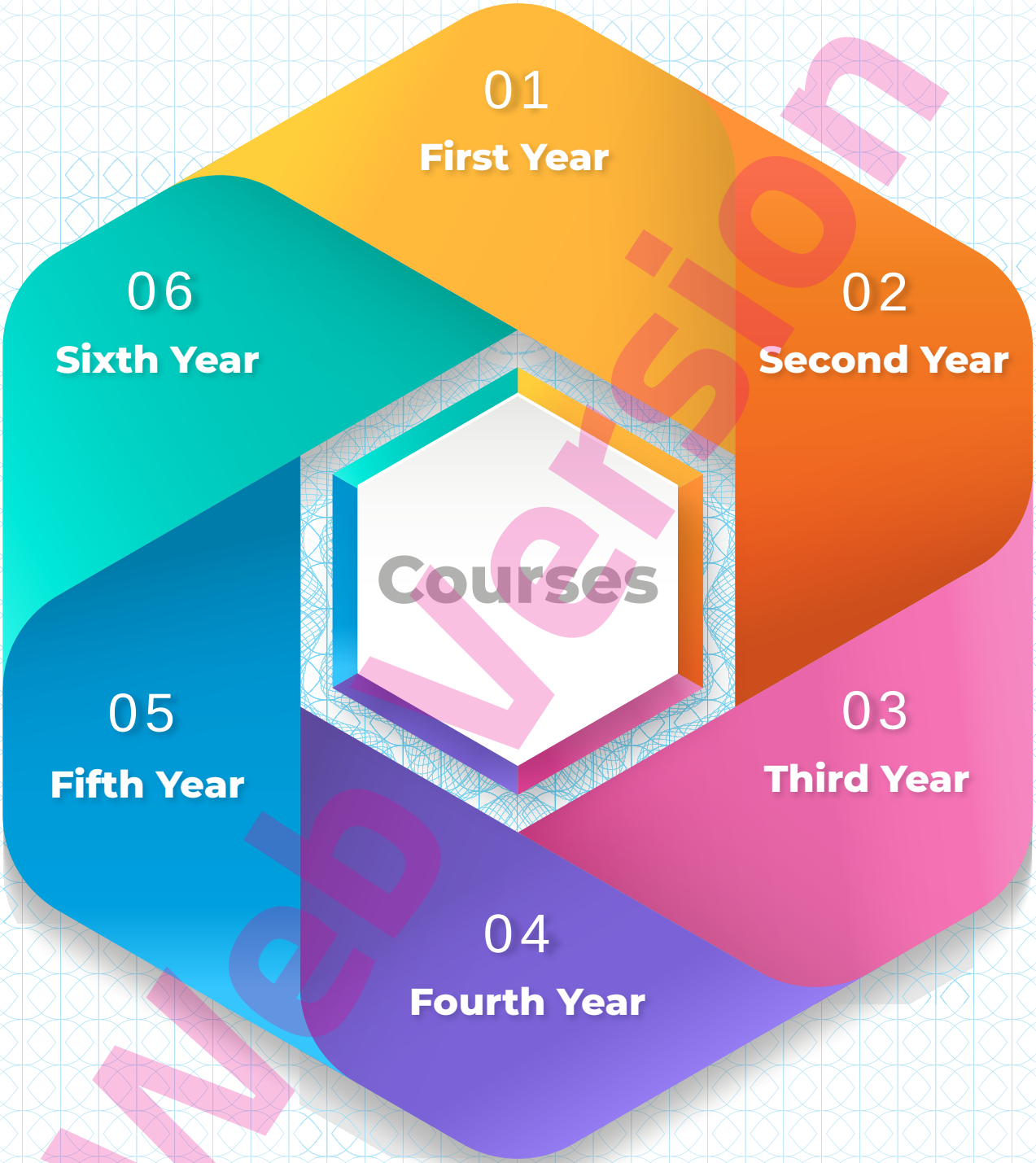
* **Clinical Training Year of the House Officer is obligatory to practice medicine in Egypt according to the bylaw**

- Starts each year from 1 March or from 1 September for a duration of 12 months.
- *Interns attend rotations of 2 months duration in the corresponding departments of the following medical specialties:*
    - Internal Medicine - Surgery – Pediatrics – Obstetrics and Gynecology – Emergency Medicine and Anesthesia
    - Elective Surgical (One month) and Medical (One month) subspecialty.
- The House officers must attend an end round clinical and theoretical assessment examination besides several obligatory courses throughout the training year.

Methods for Assessment in relation to *ILOs:*

The examinations include mid-rotations, end -rotations and end of year examinations in the form of:

1. **Written examinations: to evaluate**
   - Knowledge and understanding.
   - Intellectual skills.
2. **Oral examinations:**
   - Knowledge and understanding.
   - Intellectual skills.
   - General and transferable skills.
3. **Practical and clinical examination:**
   - Practical and clinical skills.
   - Professional attitudes and behavioral skills.
   - Intellectual skills.
   - General and transferable skills.
4. **Log book for house officers: it is obligatory to be completed to obtain certificate of completion pre-employment training program.**
   - Practical and clinical skills.
   - Professional attitudes and behavioral skills.
   - General and transferable skills.


01
First Year
02
Second Year
03
Third Year
04
Fourth Year
05
Fifth Year
06
Sixth Year
Courses

STUDENT NAME

ANA-101 Human Anatomy and Embryology

Human Anatomy and Embryology (1st year)
Code : ANA-101

- **Department offering the course:** Anatomy Department
- **Program title:** **First academic year of M.B B.Ch. program**

A- Basic Information

- **Allocated marks:** 250 marks
- **Course duration:** 30 weeks
- **Teaching hours:** 240 hours
- **Theoretical:** 120 hours
- **Practical:** 120 hours

B- Professional Information

1- **Overall Aim of the Course:**

- To provide a core body of scientific knowledge concerning the normal structure of the human body at the level of organ and organ system with the study of the normal growth and development relevant to anatomical topics.
- To provide appropriate ethical and professional education necessary for dealing with cadavers.
- To correlate anatomical facts with their clinical applications.

2- Intended Learning Outcomes (ILOs):

a- Knowledge and Understanding

By the end of the course, students should be able to:

a.1. Describe the basic principles of structure of the different tissues, organs and systems of the human body **(a.1)**.

a.2. Point out the surface landmarks of the underlying bones, muscles and tendons, and internal structures (main nerves, vessels and viscera) **(a.1)**.

a.3. Outline major clinical applications of anatomical facts **(a.1)**.

a.4. Explain the different stages of human development, evolution and growth **(a.3)**.

a.5. Describe the theoretical basis of professional, practical skills and evidence based medicine (EBM) **(a.8)**.

Professional Skills : (b, c, d, and e):

b- Practical and Clinical Skills

By the end of the course, students should be able to:

b.1. Apply the anatomical facts while examining the living subject in order to reach a proper diagnosis **(b.1)**.

c- Professional Attitude and Behavioral Skills

By the end of the course, students should be able to:

c.1. Apply the national code of ethics issued by the Egyptian Medical Syndicate **(c.5)**.

c.2. Respect and follow the institutional code of conduct **(c.6)**.

d- Communication Skills

By the end of the course, students should be able to:

d.1. Value the ethics and respect to all individuals inside and outside the dissecting room and pay a good deal of respect to the cadavers **(d.2)**.

d.2. Maintain honesty and integrity in all interactions with teachers, colleagues, patients and others with whom physicians must interact in their professional lives **(d.5)**.

d.3. Recognize the scope and limits of their role as students as well as the necessity to seek and apply collaboration with other workers **(d.5)**.

d.4. Be responsible towards work **(d.5)**.

d.5. Maintain a professional image concerning behavior, dress and speech **(d.5).**

e- Intellectual skills

By the end of the course, students should be able to:

e.1. Integrate the basic anatomical facts with clinical data **(e.1)**.

e.2. Identify the different surface markings and determine the position or course of internal structures **(e.1)**.

e.3. Identify the preserved specimens **(e.1).**

e.4. Interpret the different internal structures in cadavers and normal anatomical structures on radiographs and ultrasonography, C.T. scan and nuclear magnetic resonance images **(e.1).**

e.5. Interpret some clinical findings in relation to developmental basis **(e.1)**.

e.6. Design scientific research through the formulation of research questions pertinent to medicine and the collection, analysis and interpretation of medical data **(e.7)**.

f- General and transferable skills

By the end of the course, students should be able to:

f.1. Adopt the principles of lifelong learning needs of the medical profession (continuous professional development; CPD) **(f.1)**.

f.2. Use computers efficiently in reaching biomedical information to remain current with advances in knowledge and practice **(f.2)**.

f.3. Present information clearly in written, electronic and verbal forms (f.3).

f.4. Communicate ideas and arguments effectively **(f.4)**.

f.5. Work effectively within a multidisciplinary team **(f.5)**.

3- Course contents:

Subject	Lectures (hrs)	Tutorial / Small group discussion (hrs)	Practical (hrs)	Total (hrs)	% of Total
1- Biology	14	----------	--------	14	5.8
2- Upper limb	34	10	38	82	34.2
3- Lower limb	32	8	36	76	31.7
4- Thorax	26	6	22	54	22.5
5- General Embryology	14	----------	----------	14	5.8
Total	**120**	**24**	**96**	**240**	**100**

Topics

A) Lectures

I- Introduction

- General concepts (anatomical terms of positions, planes and movements)
- Skin and Fascia (layers and appendages of the skin, characteristics of superficial and deep fascia, parts and function of deep fascia)
- Skeletal system (bones: classifications and types, function, general features, growth, blood supply; cartilage: types, properties and sites)
- Articular system (types of joints: criteria and sites; bursae: structure, function and different sites)
- Muscular system (types, classifications of skeletal muscles, differentiation between a tendon and aponeurosis)
- Cardio-vascular system (structure of heart, types of circulations, characteristics and classification of arteries and arterial anastomoses, the characteristics of veins, factors helping venous return and connections between arteries and veins)
- Lymphatic system (parts of lymphatic system factors helping lymphatic drainage)
- Serous membranes (site, arrangement and function of serous membranes)

II- Upper Limb

- Bones (clavicle, scapula, humerus, radius, ulna, hand bones)
- Pectoral region (fascia, muscles, nerves, arteries)
- Breast (position, structure, function, blood supply, lymphatic drainage)
- Axilla (boundaries, contents)
- Brachial plexus
- Back (muscles related to upper limb, origin, insertion, action, nerve supply)
- Shoulder region (muscles related to upper limb, origin, insertion, action, nerve supply)
- Rotator cuff muscles (origin, insertion, action, nerve supply)
- the anastomoses around the scapula and surgical neck of the humerus
- Arm (compartments, muscles, nerves and vessels of each compartment)
- Cubital fossa (boundaries, contents)
- Anastomosis around elbow
- Forearm (compartments, muscles, nerves and vessels of each compartment)
- Retinacula of the wrist (site, attachment, relation, carpal tunnel and its syndrome)
- Palm of the hand (palmar aponeurosis and palmar fascial spaces, muscles, nerves, arteries, flexor sheaths)
- Dorsum of the hand (anatomical snuff box, dorsal interosseus muscles)
- Venous drainage of the upper limb (superficial and deep veins)
- Nerve injuries (upper and lower trunks of the brachial plexus, radial nerve, axillary nerve, median nerve, ulnar nerve)
- Joints (sternoclavicular and acromioclavicular joints, shoulder joint, elbow joint, superior and inferior radioulnar joints, wrist joint, carpometacarpal, metacarbo-phalangeal and interphalangeal joints)
- Cutaneous innervation of the upper limb

III- Thorax

- Thoracic cage and vertebral column
- Intercostal spaces (Intercostal muscles, nerves, vessels, internal mammary artery)
- Pleura (parts, recesses, surface anatomy, nerve supply).
- Lungs (surfaces, fissures, lobes, pulmonary segments, surface anatomy, blood & nerve supply, lymphatic drainage)
- Mediastinum (parts, boundaries, contents)
- Pericardium (parts, sinuses)
- Heart (size, shape, surfaces, internal features, surface anatomy of valves and borders, site of hearing of heart sound of each valve, blood and nerve supply of the heart,)
- Great vessels of the thorax (aorta and its parts and branches, pulmonary trunk and its divisions, brachiocephalic vein, SVC, IVC)
- Thoracic parts of trachea and esophagus
- Nerves of the thorax
- Lymphatic drainage of the thorax

IV- Lower limb

- Bones (hip, femur, patella, tibia, fibula, foot bones)
- Fascia (superficial and deep fascia)
- Front of the thigh (muscles: origin, insertion, action, nerve supply; femoral triangle: boundaries, contents; femoral sheath;) adductor canal: boundaries and content)
- Medial compartment of the thigh (muscles, nerve and vessels)
- Lumbar plexus (formation, branches)
- Gluteal region (muscles, nerve and vessels)
- The back of the thigh (muscles, nerve and vessels)
- Popliteal fossa (boundaries and contents)

- Leg (front, back and lateral compartment: muscles, nerve and vessels))
- Foot (dorsum and sole: muscles, nerve and vessels))
- Joints (hip, knee, superior & inferior tibiofebular, ankle, subtalar, inertarsal, metatarsopharangeal, and inerpharangeal joints)
- Cutaneous innervation of lower limb
- Lymph drainage of lower limb
- Mechanisms of walking
- Body weight transmission

v- **General Embryology**

- Introduction
- Gametogenesis
- Female reproductive cycles (ovarian and menstrual cycles)
- Fertilization
- Implantation
- Differentiation of the embryo-blast and trophoblast
- Development of trialminar germ disc and chorionic villi
- Embryonic period
- Fetal membranes: A) Placenta B) Amnion and umbilical cord
- Twins & Congenital Anomalies

B) Tutorial / Small Group Discussions

1. **Upper limb:** discussion of the practical topics, before and after the practical classes.
2. **Thorax:** discussion of the practical topics, before and after the practical classes.
3. **Lower limb:** discussion of the practical topics, before and after the practical classes.

C) Practical Classes: The practical classes include the following topics:

1- Upper limb:

- Bones (clavicle, scapula, humerus, radius, ulna, hand bones)
- Pectoral region (muscles, nerves, vessels, clavipectoral fascia)
- Axilla: (boundaries and contents)
- Brachial plexus
- Back: (superficial and deep layers of muscles related to upper limb)
- Shoulder region: (muscles, nerves, vessels)
- Arm: (front and back muscles, nerves and vessels)
- Cubital fossa: (boundaries, contents)
- Forearm: (front and back superficial and deep groups of muscles, nerves, vessels)
- Retinacula of the wrist: (flexor and extensor retinacula)
- Palm of the hand: (palmar aponeurosis, intrinsic muscles of the hand, superficial and deep palmer arches, nerves, flexor sheath)
- Dorsum of the hand (anatomical snuff box, dorsal interosseus muscles)
- Joints

2- Thorax:

- Bones of thoracic cage and vertebral column
- Intercostal muscles, nerves, vessels, internal mammary artery
- Pleura (parts, recesses, surface anatomy, nerve supply).
- Lungs (surfaces, fissures, lobes, pulmonary segments, surface anatomy, blood & nerve supply, lymphatic drainage)
- Mediastinum (parts, boundaries, contents)
- Pericardium (parts, sinuses)
- Heart (size, shape, surfaces, internal features, surface anatomy of valves and borders, site of hearing of heart sound of each valve, blood and nerve

supply of the heart,)

- Great vessels of the thorax
- Thoracic parts of trachea and esophagus
- Nerves of the thorax
- Lymphatic drainage of the thorax

3- **Lower limb**

- Bones (hip, femur, patella, tibia, fibula, foot bones)
- Fascia (superficial and deep fascia)
- Front of the thigh
- Medial compartment of the thigh
- Gluteal region
- The back of the thigh
- Popliteal fossa
- Leg (front, back and lateral compartments)
- Foot (dorsum and sole)
- Joints (hip, knee, superior & inferior tibiofebular, ankle, subtalar, inertarsal, metatarsopharangeal, and inerpharangeal joints)

Teaching and learning methods

Methods Used:

- **Lectures**
- **Practical classes** including**:** practical dissection, demonstration in the dissecting room, museum jars and radiological films.
- **Tutorial classes**

Teaching plan

a. Lectures:

- Student are divided according to the faculty bylaws.
- One hour lecture, five times every week
- Time of the lecture is from 12:00 - 1:00 pm, 1:00-2:00 pm, and 2:00-3:00 pm, for the different groups (According to the Faculty Central Schedules)

b. Tutorials:

- Half an hour session, two times every week, Students are divided into groups of 130-150 and are given a prelab discussion for half an hour, before the beginning of each practical class using data show and videos to demonstrate the important structures of the dissected region(s) of the topic of the week which the student should focus on during the practical classes. In addition, a brief topic discussion and a discussion of the related problem solving questions are done by the end of the practical classes. X-ray images are also demonstrated. There are group discussion and formative assessment questions every session.

c. Practical classes:

- Two hours session time; two times every week held in the dissecting room. The students divided into12 subgroups (18-22 students/dissected body). The demonstrators are responsible for demonstration of the different structures of the dissected region, on cadavers, plastinated and plastic specimens, to the students and helping them to recognize these structures.

Time plan

Item	Time schedule	Teaching hours	Total hours
Lectures	One hour each 5 hours/week	5 hours/week (24 weeks)	120
Practical	Two hours session two times/ week	4 hours/week (24 weeks)	96
Tutorial	Half hour session two times / week	One hour/week (24 weeks)	24
Revisions and Training on Exams		Two weeks	
Total			**240**

5- Students Assessment methods

5-A) Attendance criteria: The Faculty Bylaws

5-B) Assessment tools:

Tool	(ILOs)
Written examination	To assess knowledge and Understanding and Intellectual skills
Practical examination (OSPE) + Oral exam	To assess Practical, transferable and Intellectual skills
Assignment	To assess General and transferable skills

5-C) Time schedule: Faculty bylaws

Exams	Time
Quiz exam	Not predetermined
First half of the academic year (Midterm)	Held in 7th week
Mid-year exam	Held in 14th and 15th weeks
Second half of the academic year (Midterm)	Held in 24th to 26th weeks including revisions
Final Practical exam (OSPE) + Oral exam	Held in 28th week
Final written exam	Held in 30th week

5-D) Grading System:

Examination	Marks allocated	% of Total Marks
1- Continuous assessment	15	6
2- Mid-year written exam	35	14
3- Final exam: a- Written b- Practical (OSPE) + Oral Exam	 125 75	80
Total	**250**	**100**

Formative assessment:

Feedback is given to student after the Formative exams.

5-E) Examination description:

Examination	Description
1-Continuous assessment Midterm exams	Quiz exam, practical notebook, formative assessment, Two spotting exams
2- Mid-year	Written exam: short essay, MCQ, case scenarios.
3- Final exam: a- Written b- Practical (OSPE) + Oral	Written: short essay question including UL, LL, thorax, and embryology, MCQ, case scenarios, Problem solving questions, cross matching questions and filling in the space Practical (OSPE): Including: bone, soft tissues and imaging anat omy Oral: one committee.
Total	**6 exams**

List of references:

1- Course notes: Books authorized by department.

2- Essential Books:

a) Cunningham's Anatomy

b) Gray's Anatomy.

HIS-102

Histology

Histology (1st year)
Code : HIS-102

- **Department offering the course Histology Department**
- **First academic year of M.B.& B.Ch. program**

A) BASIC INF ORMATION

- **Allocated marks:** 150 marks
- **Course duration:** 30 weeks of teaching
- **Teaching hours** **60hours theoretical**

60 hours tutorial & practical

120 Total teaching hours

B) PROFESSIONAL INFORMATION

1- Overall Aim of the Course:

- To inform students about the different histological tools & techniques.
- To teach the students the basic histological structures of different cells and tissues of human body, preparing them for studying organs and systems in the second term & second year
- To make correlation between function and structure of various tissues and their clinical significance

2- Intended Learning Outcomes (ILOs):

A: Knowledge and understanding:

By the end of the course, students should be able to:

a.1 Describe and recognize commonly used microscopes, histological techniques and stains (a.1, 2 and 3)

a.2 Define and describe the histological characteristics of normal cells (a.1, 2 and3)

a.3. Differentiate between normal and abnormal karyotyping (a.1, 2, 3 and9)

a.4. Define and describe cell cycle phases, differentiate between types of cell division and compare between necrosis and apoptosis (a.1, 2, 3 and9)

a.5. Describe and compare between different blood elements and recognize some related clinical applications (a.1,2, 3 and9)

a.6. Define and discuss the basic histological tissues of the body (General histology) and some systems in the second term (Vascular& Lymphatic) (a.1,2 and3)

a.7 Recognize some clinical applications in relation to histological structure.(a1,2,3 and e.1)

a.8. Recognize basics of ethics (a.14)

B: Practical skills:

By the end of the course, students should be able to:

b.1. Identify various types of stains & microtechniques.(b.1)

b.2. Identify different cell organelles in projector slides (a.1, 2 and3)

b.3. Identify different blood elements (RBCs, WBCs and platelets) in blood films seen in projector slides. (a.1, 2, 3 and b.1)

b.4. Identify different types of epithelium, connective tissue cells, connective tis-

sue proper, cartilage, bone & bone cells. (a.1, 2, 3 and b.1)

b.5. Differentiate between tissues (epithelim, connective tissue, muscle and nervous) and organs in histological slide seen under the microscope. (a.1, 2, 3 and b.1)

C. Professional attitude and behavioral skills:

c.1. Respect and follow the institutional code of conduct.(c.6)

c.2. Maintain professional image in manner, dress speech and interpersonal relationships that is consistent with the medical profession's accepted contemporary standards in the community. (c.6 and d.5)

D. Communication skills:

d.1. Communicate effectively with individuals regardless of their social, cultural, ethnic backgrounds, or their disabilities.(d.2)

d.2 Express themselves freely and adequately by improving their descriptive capabilities and enhancing their communication skills.(d2)

d.3. Honor and respect, superiors, colleagues and any other member of the health profession.(d.5)

E. Intellectual skills:

By the end of the course, students should be able to:

e.1 Correlate between histological structure & function of any cell or tissue (e.1,2 and3)

e.2 Diagnose slides different from those seen during his course but of the same organs or tissues previously studied (a.1,2 ,3 and b1)

e.3. Distinguish between normal and abnormal karyotyping (a.9)

e.4. Interpret a complete blood picture report.(e1)

F. General and transferable skills:

f.1. Use the sources of biomedical information to remain current with advances in knowledge and practice.(f.2)

f.2. Present information clearly in written, electronic and verbal forms. (f.3 and f.8)

f.3. Frame a question, search and literature, collect, analyze, critically appraise and utilize the obtained information to solve a particular clinical problem according to the principles of evidenced based medicine.(a.8 and f.5)

f.4. Appreciate the importance of life long learning and show a strong commitment to it. (f.2)

3- COURSE CONTENTS:

Subject	Lectures (hrs)	Tutorial &Practical (hrs)	Total (hrs)	% of Total
1. Introduction, Microtechniques.	2	3	**5**	**4.15%**
2. Cytology	8	9	**17**	**14.11%**
3. Cytogenetics	5	3	**8**	**6.64%**
4. Epithelium	5	6	**11**	**9.13%**
5. Connective Tissue	5	6	**11**	**9.13%**
6. Cartilage	2	3	**5**	**4.15%**
7. Bone	4	6	**10**	**8.3%**
8. Blood	9	6	**15**	**12.45%**
9. Muscle	4	3	**7**	**5.81%**
10.Nervous tissue	6	6	**12**	**9.96%**
11.Vascular	3	3	**6**	**4.98%**
12.Lymphatic System	6	6	**12**	**9.96%**
13.Reticuloendothelial system	1		**1**	**0.83%**
Total(120 hours)	**60**	**60**	**120**	**100%**

III-A) TOPICS:

1-Introduction, microtechnique & cytology

- Histology is the science dealing with the study of the normal microscopical structure of tissues. It helps the student to correlate between the structure & function of tissues and organs. It also, prepares the student to study histopathology.

2-cytology

- General structure of the cell
- Cytoplasmic contents (organelles & inclusion)
- Classification of organelles into membranous & non- membranous organelles
- LM, EM , molecular biology & functions of cell membrane Cell coat & its functions
- Mitochondria
- Golgi complex
- Endoplasmic reticulum
- Lysosomes
- Peroxisomes
- All of the above membranous organelles are described as regarding their EM&LM pictures, molecular biology and function
- Non - membranous organelles:
- Ribosomes, Centrioles, Cilia, Flagella, Microtubules & microfilaments.Regarding their LM, EM, molecular biology & function
- Cell inclusions
- Structure of the nucleus (LM& EM) & its functions

3- Cytogenetics

- Cell division (mitosis & meiosis)
- Cell cycle & interphase
- Chromosomal number & sex chromosomes
- Karyotyping & classification of chromosomes
- Structure of chromosomes
- Sex chromatin
- Abnormalities of cell division
- Causes of chromosomal aberrations
- Aberrations in chromosomal number, e.g. Mongolism
- Aberrations in chromosomal structure
- Aberrations of sex chromosomes e.g. Turner & Kleinfelter syndromes

4- Epithelium

- General characteristics of epithelium & its types
- Types of simple epithelium (structure & sites)
- Transitional epithelium
- Structure & sites of stratified squamous & stratified columnar epithelium
- Glandular epithelium with reference to sites
- Neuro- and myo-epithelium with reference to sites
- General functions of epithelium
- Modifications of epithelial cells surfaces: Apical basal & lateral modifications

5- Connective tissue (C.T.)

- General characteristics & Types of C.T.Cells of C.T. proper (LM, EM & function)

- Fibers of C.T.
- Ground substance
- Types of C.T. proper with reference to sites
- General functions of C.T. proper

6- Cartilage

- Types of cartilage
- Histology of each type
- Sites of each type
- General functions

7- Bone

- Types of bone with reference to sites
- Methods of preparation of bone sections
- Histology of compact bone
- Bone cells & their functions
- Histology of spongy bone
- Differences between cartilage & bone
- Ossification (intramembranous & intracartilagenous)

8-Blood

- What are the blood elements?
- Normal structure, size & number of erythrocytes
- Abnormalities in structure, size & number of RBCs
- Polycythaemia & anemia ad their causes
- How the RBCs are adapted to perform their function

- Differences between RBCs & WBCs
- Types of WBCs & normal % of each
- Total leucocytic count & its clinical importance
- Differential leucocytic count & its importance
- Detailed structure & function of neutrophils
- Detailed structure & function of eosinophils
- Detailed structure & function of basophils
- Structure & function of lymphocytes
- Structure & function of monocytes
- Structure & function of platelets
- Types & structure of bone marrow
- Erythropoiesis
- Granulopoiesis
- Development of lympocytes
- Development of monocytes
- Development of platelets

9- Muscular tissue

- General histological structure of muscle cells (fibers)
- Types & action of muscles
- Skeletal muscle
- Skeletal muscle fibers (LM & EM)
- Types of skeletal muscle fibers
- EM picture of myofibrils

- Smooth muscle fibers (LM & EM)
- Cardiac muscle fibers (LM & EM)
- Conducting system of heart
- Purkinje muscle fibers

10- Nervous tissue

- Neuron structure, classification & examples
- Dendrites & axons
- Types of nerve fibers with examples
- Histology of peripheral nerve fibers
- Structure of nerve trunk
- Spinal & autonomic ganglia
- Synapse
- Degeneration and regeneration
- Stains used for detection of degeneration
- Neuroglia types, sites, structure and functions
- Nerve endings (in epithelium, connective tissue and muscle)

11- Blood vascular system

- General structure of blood vessels & its significance
- Large, medium sized & small arteries
- Small, medium sized & large veins
- Structure of special blood vessels e.g. basilar, coronary, umbilical & penile arteries
- Types, sites & structure of capillaries
- AV shunt

12- Lymphatic system

- Lymph vessels & distribution of lymphoid tissue
- Lymph node & its immunological function
- Spleen & its function
- Differences between lymph node & spleen
- Blood supply of spleen & theories of circulation
- Tonsils
- Structure & functions of thymus
- Thymic barrier

13- Immune system & RES

- Cells involved in the immune system & their functions
- Antigen presenting cells
- Cells of RES & method of their demonstration

III-B) Tutorial / Small Group Discussions

1. Introduction and microtechniques
2. Cytology
3. Cytogenetics.
4. Epithelial tissue
5. Connective Tissue
6. Cartilage
7. Bone
8. Blood
9. Muscular Tissue
10. Blood vessels
11. Lymphatic system
12. Nervous tissue
13. Receptors

III-C) PRACTICAL CLASSES:

I-List of projector slides	П-List of glass slides
1. EM picture of cell membrane.	1. Umbilical cord
2. EM picture of mitochondria	2. Hyaline cartilage
3. EM picture of Golgi apparatus	3. Elastic cartilage
4. EM picture of rough endoplasmic reticulum	4. Ground compact bone
5. EM picture of smooth endoplasmic reticulum	5. Decalcified compact bone
6. EM picture of lysosomes	6. Spongy bone
7. EM picture of centrioles	7. Intercartilagenous ossification
8. EM picture of cilia	8. Skeletal muscle longitudinal section
9. EM picture of microvilli	9. Skeletal muscle transverse section
10. Blood film showing neutrophils	10. Cardiac muscle and valve
11. Blood film showing eosinphil	11. Moderator band
12. Blood film showing basophil	12. Nerve trunk (H & E)
13. Blood film showing lymphocytes	13. Nerve trunk (osmic acid)
14. Blood film showing monocytes	14. Spinal ganglion (H & E)
15. Blood film showing platelets	15. Spinal ganglion (Ag)
16. Bone marrow smear showing megakaryocyte	16. Sympathetic ganglion (Ag)
17. Simple squamous epithelium	17. Medium size artery and vein
18. Simple cubical epithelium	18. Aorta
19. Simple columnar epithelium	19. Basilar artery
20. Pseudostratified columnar ciliated with goblet cells	20. Lymph node
21. Sratified squamous keratinized epithelium	21. Spleen
22. Sratified squamous non keratinized epithelium	22. Palatine tonsil
23. Transitional epithelium	23. Thymus
24. Loose areolar connective tissue	24. Pacinian corpuscle
25. Adipose connective tissue sudan Ш	25. Motor end plate

I-List of projector slides	П-List of glass slides
26.Regular white collagenous connective tissue	26.Muscle spindle
27.Irregular white collagenous connective tissue	27.Hassall's corpuscle
28.Yellow elastic connective tissue	28.Taste bud
29.Reticular connective tissue	
30.Fibroblasts	
31.Plasma cells	
32.Pigment cell	

Ш-Data show photos of sections previously studied in slides but from different sources

4- TEACHING AND LEARNING METHODS

METHODS USED:

1. Lectures
2. Tutorials
3. Practical classes

TEACHING PLAN:

Lectures: Division of students into 2 groups twice /week
Tutorials & Practical classes:
Division of students into 5 groups once / week

The practical training in the labs is every week. The students will be organized by dividing them into 5 big groups, one group each day, and then each group is divided into 4 smaller sub- groups in 4 labs simultaneously. These Sub-groups of students allow interaction, presentations and feedback. The plan for practical training is attached in instructional units section. Each lab includes presentation of the scheduled topic by one of the staff, and explanation of the slides. Then the students examine the slides themselves helped by joiner staff aided with microscopes, projector slides, data show photos. The tutorial data show photos of sections of tissues and organs similar to those studied in practical lab but of different and variable sources for training and Quizzes. This is carried by senior staff members.

Time plan:

Item	Time schedule	Total hours
Lectures	twice / week	60hours
Tutorial & Practical	once / week	60 hours
Revision	two weeks/semester	
Mid-year exam	two weeks	
Total	**30 weeks**	**120**

5- STUDENTS ASSESSMENT METHODS:

5-A) ATTENDANCE CRITERIA: Faculty bylaws

The minimum acceptable attendance is 75%, Students who fail to meet their attendance requirements are deprived of their final practical exams.

5-B) Assessment TOOLS:

Tool	Purpose (ILOs)
Written examination Midyear exam : MCQ & matching End of year: short& long questions, problem solving, MCQ and matching	To assess knowledge and understanding and skills
OSPE (Practical and Oral examination) second midterm and end of year	To assess of knowledge & understanding, general and transferable skills (communication), professional attitudes/skills & intellectual skills To assess descriptive & diagnostic abilities (intellectual skills) and practical skills
Practical book	To assess practical skills and monitor attendance.
Group assignments	To assess the communication skills To assess the ability to use computer to reach biomedical information.

5-C) TIME SCHEDULE: Faculty bylaws

Exam	Week
1- First half of the academic year	November fourth week
2- Mid-year exam	January second week
3- Second half of the academic year	March fourth week
4- Practical exam	May first week
5- Final exam	June fourth week

5-D) GRADING SYSTEM:

Examination	Marks allocated	% of Total Marks
1- First mid term	5	3.3%
2- Mid-year	20	13.3%
3- Second mid term	5	3.3%
4- Final exam: a. Written b. OSPE (Practical &Oral	 75 40	 50% 26.7%
5- Assignments & other activities	5	3.3%
Total	**150**	**100%**

- The minimum passing & Passing grades (Faculty bylaws).
- The minimum passing score is 60% provided at least 40% are obtained in the final written exam. Passing grades :

Excellent ≥85%

Very good ≥75%

Good ≥ 65 %

Fair 60– 65%

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) Examinassions description:

Examination	Description
1- First midterm	**MCQ**
2- Mid-year	Matching, MCQ, case studies and problem solving
3- Second midterm	OSPE identification of tissues and organs in data show photos
4- Final exam: a- Written b- OSPE (Practical &Oral)	• Long question, short questions, matching,MCQ, case studies and problem solving • Identification of tissues and organs in slides using microscopes. • Identification of tissues and organs in data show photos. • Oral station (oral exam in three scheduled chapters 5 marks each).
5- Assignments & other activities	Assignments and practical book

6- LIST OF REFERENCES:

6.1- Basic materials:

- Department book: constructed by staff members.
- Department's colored atlas book.
- Department's practical book

6.2- Essential books (text books):

Basic histology text and atlas

6.3- Recommended books:

Wheater's functional histology

PHY-103

Medical Physiology

Medical Physiology (1st year)
Code : PHY-103

- **Department offering the course:** **Medical Physiology Department.**
- **First academic year of M.B.& B.Ch. program.**

A) Basic Information:

- **Allocated marks:** 250 marks
- **Course duration:** 30 weeks of teaching
- **Teaching hours:** **Total** **210 hrs ,**

  Theoretical **150 hrs,**

  Tutorials **30 hrs**

  Practical **30 hrs**

B) Professional Information:

1- Overall Aim of the Course:

- To acquire an appropriate functional background of cells, tissues & systems.
- To integrate physiological data & mechanisms with the ongoing basic sciences: anatomy, histology & biochemistry and clinical applications.
- To follow the rapidly changing and inflating details about molecular biology & genetics.
- To explore in detail the functions of the autonomic, the neuromuscular, the respiratory and the cardiovascular systems as well as their integration to achieve homeostasis.
- To develop the basic scientific research skills as well as effective communication and team work attitudes.

2- Intended Learning Outcomes (ILOs):

a- Knowledge and understanding:

By the end of the course, students should be able to:

a.1. Describe the body fluid compartments, functions of the cell membrane, physiology of transport through the cell membrane, the intercellular connections and communication and homeostasis (a1). (R1-4; U1-5 in Blueprint)

a.2. Classify the functional organization of sympathetic and parasympathetic nervous systems (a1).

(R5-7;U6, 7; I1, 2 in Blueprint)

a.3. Point out the basis of excitability (membrane potentials) in all living cells especially in nerve cells, conduction of action potential (a2).

(R8-10; U8, 9;I3 in Blueprint)

a.4. Explain the physiology of the muscle fiber grossly and at the molecular level (a1).

(R11-15; U10,-15; I4-9 in Blueprint).

a.5. Point out and explain the functions of different components of blood, evaluate hemostatic mechanisms and clarify types of anaemia (a1, a2, a3).

(R16-22; U16-20; I10-14 in Blueprint)

a.6. Describe the structure, electrical and mechanical properties and functions of cardiac muscle grossly and at the molecular level (a1, a2).

(R23-34; U21-32; I15-29. in Blueprint).

a.7. Point out the dynamics of blood and lymph flow in health and disease conditions and describe physiology of circulation through special organs (a1, a2, a3).

(R35-48,U33-51, I26-45. in Blueprint).

a.8. Describe the functions of respiratory system, physiology of pulmonary ventilation, exchange of gases in the lungs, and gas transport (a1, a2, a3).

(R49- 58, U52-61, I46-52 Blueprint).

a.9. Point out the physiology of control and regulation of respiration in health and disease states (a1, a2, a3). (R59-64, U62-67, I53-58. in Blueprint).

a.10. Describe some biophysical laws and their relation to human physiology (a2).

(R65-67; U68, 69; I59, 60, in Blueprint).

b- practical skills:

By the end of the course, students should be able to:

b.1. Perform hematological tests: estimation of blood Hb, determination of the hematocrit value, the bleeding & clotting times and blood groups (b1, b11).

b.2. Perform the most important respiratory function tests (b17).

b.3. Perform the measurement of the arterial blood pressure (b15).

b.4. Manipulate the stethoscope, hearing the heart and respiratory sounds (b15).

b.5. Record and read an electrocardiogram (b16).

b.6. Present physiological scientific data in a graphical from (b1).

c- Professional attitude and behavioral skills

c.1.Respect and follow the institutional code of conduct (c5, c6).

d- Communication skills

By the end of the course, students should be able to:

d.1. Work effectively in a group in lab (d1, d2) .

d.2.Respects the role of staff and co-staff members regardless of degree or occupation (c5, c6, d1, d2) .

e. Intellectual skills:

e.1. Interpret the most important physiological laboratory results (blood, respiratory, neuromuscular), to distinguish the physiological from the pathological condition (e1, e2).

e.2 Comment on some clinical parameters such as : ECG & pulmonary functions for a normal individual (e2).

e.3. Integrate physiology with other basic and clinical sciences (e1, e2).

f . General and transferable skills:

By the end of the course, students should be able to:

f.1. Work separately or in a team to research and prepare a scientific topic (f1, f2, f3,f4).

F.2.Present clearly and effectively a scientific topic in a tutorial, a staff meeting or the yearly scientific day (f1, f2, f3, f4).

f.3. Present physiological data in a graphical form (f3).

3- Course contents:

Subject	Lectures (hrs)	Tutorial / Small group discussion (hrs)	Practical (hrs)	Total (hrs)	% of Total (approximately)
1- Introduction to human physiology	4	-	-	4	2
2- Autonomic nervous system	20	6		26	12
3- Excitable tissues	26	6	6	38	18
4- Blood	26	6	8	40	19
5- Cardiovascular system	38	8	8	54	26
6- Respiratory system	30	4	8	42	20
8- Biophysics	6			6	3
Total	**150**	**30**	**30**	**210**	**100**

III-A) TOPICS:

1. **Introduction to human physiology.**
    - Body compartments & body fluids & homeostasis.
    - The cell membrane: functions and transport.
    - Intercellular communication & control systems.
2. **Autonomic nervous system.**
    - Functional organization of autonomic outflow
    - Chemical transmission.
3. **Excitable tissues.**
    - Membrane potentials.
    - Nerve action potential.
    - Skeletal muscle contraction & its properties.
    - Neuromuscular transmission.
    - Plain muscles: electrical & mechanical properties.

4. Blood.

- Composition and function.
- Plasma proteins.
- Red blood cells and anemia.
- White blood cells and immunity.
- Blood platelets, hemostasis, abnormalities and anticlotting mechanisms.
- Blood groups.

5- Cardiovascular.

- Cardiac muscle properties.
- Electrical properties of c. muscle: sinus rhythm, action potential.

- ECG: methods of recording normal record and common abnormalities.
- Mechanical properties of c. muscle.
- Cardiac cycle and. Heart sounds.
- Cardiac output and factors affecting it.
- Work of the heart, mechanical efficiency.
- Cardiac reserve & metabolism of cardiac muscle.
- Hemodynamics.
- Arterial blood pressure, factors controlling it and its regulation.
- Capillary & lymphatic circulation, special circulation: coronary, pulmonary and cerebral.
- Hemorrhage, shock and muscle exercise.

6- Respiratory system.

- Functional anatomy.
- Pulmonary ventilation, compliance, work of breathing and V/P ratio.
- Pulmonary functions tests.
- Exchange of gases through the pulmonary membrane.
- Blood gas transport.
- Regulation of respiration.
- Hypoxia , cyanosis , and dyspnea.
- Effect of hyperbaric oxygen & deep sea diving.

7- Biophysics: selected topics related to the excitable tissues, CVS and respiratory system.

III-B) Tutorial / Small Group Discussions

a- Preparation of assignments

b- Presentation

c- Case scenarios, reports and problem solving

III-C) PRACTICAL CLASSES:

1- Performing hematological tests: estimation of blood Hb, bleeding& clotting times, determination of the hematocrite value, the bleeding & clotting times and blood groups.

2- Performing the most important respiratory function tests.

3- Measurement of the arterial blood pressure.

4- Using the stethoscope for hearing the heart and respiratory sounds.

5- Recording and reading the electrocardiogram.

6- Present physiological scientific data in a graphical from.

4- Teaching and learning methods:

A-METHODS USED:

A1-Lectures: the students are divided into 2 groups (according to faculty system).

A2-Tutorials classes: two groups (about 60 students each)

A3-Practical training: small groups training (about 25 students each).

A4-A yearly scientific day for students, in the form of small group presentations.

The titles of the subjects are determined during several meetings with the staff.

B- Methods for disabled students:

- Supporting Learning Classes can be arranged for disabled students.
- Procedures for availability of faculty member for individual student consultations and academic advice:
  1. Office hours of each staff members.
  2. Availability of email communication.

TEACHING PLAN:

Lectures:

One hour lecture daily (for five days /week), Time from September to May; Students will be divided into groups according to faculty system.

Tutorials:

In two small lecture halls (60 students each), two hours/ 2 weeks (during 3 months each term). The tutorial class is scheduled and previously announced (2 weeks before). The subject, which are conversationally directed are lagging by few weeks to the related branches and systems given at that time in the lectures. Special topics from the curriculum- of special interest – are exclusively discussed in the tutorial classes.

Practical classes:

In two big labs a 2hr/ 2 weeks (alternating with the tutorial classes) small groups (25 students) is scheduled and the planned practical tests are announced two weeks before.

A- Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	5 times/week; one hour each between September to May	1hr	150hrs
Practical	2 hours / 2 week	2hrs	30hrs
Tutorial	2 hours /2 week	2hrs	30hrs
Total			**210hrs**

LIST OF REFERENCES:

- **Basic materials:** Department book : written by staff members (5 volumes).

- **Essential books (text books):**

Guyton AC, Hall JE: Textbook of Medical Physiology. Saunders.

Ganong WF: Review of Medical Physiology» . Lange Medical Books/ Mc Graw – Hill.

- **Recommended books:**

Johnson LR: Essential Medical Physiology . Raven Press.

- Periodicals, Web sites, … etc:

BIO-104

Medical Biochemistry &Molecular Biology

Medical Biochemistry and Molecular Biology –I (1st year)
Code : BIO-104

Department offering the course Medical Biochemistry Department

First academic year of M.B.B.Ch. program

A) Basic Information:

Allocated marks: 150 marks

Course duration: 30 weeks of teaching (including revision sessions) with end course exams, midyear exam and final end of year examination.

Total teaching hours: **Total 135 hours**

Theoretical 75 hrs.

Practical and tutorials 60 hrs

B) Professional Information:

1- Aim of the Course:

- To enable students to understand the essential topics of biochemistry including micro- and macromolecules of proteins, carbohydrates, lipids, nucleotides and nucleic acids.
- To enable the student to understand the principles of enzymes: structure, mechanism of action and regulation of enzyme activity.
- To familiarize the students with basic principles of molecular biology, protein synthesis and gene therapy.
- To enable the student to be familiar with biotechnology methods and their clinical implications in diagnosis of diseases.
- To enable the student to understand the functions of different trace elements.

2. INTENDED LEARNING OUTCOMES:

a. Knowledge and Understanding:

By the end of the course, students should be able to:

a.1. Describe the structure, functions and properties of proteins, carbohydrates and lipids of biological importance.

a.2. Describe the structure of heme and proteins of the extra-cellular matrix.

a.3. Demonstrate the structure and importance of immunoglobulins.

a.4. Describe the structure of enzymes, mechanism of action, factors affecting the rate of enzyme action and enzyme activators and inhibitors.

a.5. Describe the chemistry of nucleotides and nucleic acids.

a.6. Point out the processes of replication, transcription and translation.

a.7. Describe recombinant DNA techniques.

a.8. Point out the principles of gene therapy.

a.9. Describe cell cycle and its regulation, and point out how its dysregulation results in either apoptosis or carcinogenesis.

a.10. Point out the causes and possible mechanisms of carcinogenesis, and how to screen, diagnose, and follow-up cancer by detection of tumor markers.

a.11. Orient with the biochemical and clinical significance of trace elements and the effect of their fluctuations on the human health.

b. Practical Skills

By the end of the course, students should be able to:

b.1. Estimate pH of a solution by pH meter.

b.2.Prepare different types of buffer solutions and recognize the causes of acid base imbalance and how it is compensated.

b.3. Perform some basic chemical tests to identify and differentiate between differ-

ent types of proteins, sugars and non protein nitrogenous compounds (NPN).

b.4. Recognize the uses of electrophoresis in separation of proteins and/or nucleic acids in biological samples and identify electrophoresis bands and comment on them.

b.5. Observe how DNA is extracted and demonstrate further techniques for using the extracted DNA.

c. Professional Attitude and Behavioral Skills.

c.1. Respect and follow the institutional code of conduct.

d. Communication Skills:

By the end of the course, students should be able to:

d.1. Work effectively in a group in lab.

d.2. Respects the role of staff and co-staff members regardless of degree or occupation.

e. Intellectual Skills

By the end of the course, students should be able to:

e.1.Interpret the observations of chemical tests to identify unknown sugar, protein solutions or NPN compounds.

e.2. Identify electrophoresis bands and comment on them.

e.3.Do extraction of DNA and interpret the photographs of electrophoresis runs of Polymerase chain reaction (PCR) products.

f. General and Transferable Skills

f.1. Use computers efficiently in reaching biomedical information to remain current with advances in knowledge and practice.

f.2. Present information clearly in written, electronic and verbal forms during preparation of seminars.

f.3. Communicate ideas and arguments effectively.

f.4. Manage time and resources effectively and set priorities.

3. COURSE CONTENTS:

Subject	Lectures hrs	Practical/small groups hrs	Total	% total hrs
Introduction to Biochemistry	2	3	5	3.7
Amino acids and Protein Chemistry	9	12	21	15.6
Hemoproteins	4	1.5	5.5	4.1
Proteins of Extracellular Matrix	4	1.5	5.5	4.1
Immunochemistry	2	1	3	2.2
Carbohydrate Chemistry	10	13	22.5	17.1
Lipid Chemistry	9	3	12	8.8
Enzymes	5	3	8	6.0
Nucleotides and Nucleic acids Chemistry	7	4	11	8.1
DNA Replication and Repair	4	3	7	5.2
Transcription	4	3	7	5.2
Protein Synthesis and Modifications	4	1.5	5.5	4.1
Regulation of Gene Expression	3	1.5	4.5	3.3
Cell cycle; Regulatory factors, Apoptosis, Oncogens and Carcinogenesis	4	1.5	5.5	4.1
Gene Analysis	3	6	9	6.6
Trace elements	1	1.5	2.5	1.8
Total	**75**	**60**	**135**	**100**

3-A) TOPICS:

a. Introduction to biochemistry: covalent and non-covalent bonds, isomerism and its types.

b. Proteins: classification and properties of amino acids. The protein conformation, properties of proteins, isolation and purification, classification into simple and conjugated proteins.

c. Hemoproteins: Chemistry of heme, myoglobin and hemoglobin, organization of the globin gene families, abnormal hemoglobin (hemoglobinopathies); and other hemoproteins.

d. Protein of the extracellular matrix: Structure and functions of collagen, elastin, fibronectin, bone and cartilage proteins.

e. Immunoglobulins: Immune systems, primary and secondary immune response,

structure and types of immunoglobulins.

f. Carbohydrates: classification (monosaccharides-disaccharides and polysaccharides), properties and biological importance.

g. Lipids: Fatty acids, eicosanoids, simple lipids, conjugated lipids (including phospholipids and cerebrosides) and derived lipids (including steroids); their properties and biological importance.

h. Enzymes: definition, chemical nature, mechanism of action, factors affecting the rate of enzyme action, enzyme activators and inhibitors, enzyme classification

i. Chemistry of nucleotides: Structure of nitrogenous bases, nucleosides and nucleotides, free nucleotides of biological importance.

j. Chemistry of nucleic acids: structure of DNA, chromatin and chromosomes. Mitochondrial DNA and types of RNA.

k. DNA replication and repair.

l. Transcription (RNA synthesis), processing of RNA.

m. Protein synthesis (translation): synthesis of polypeptide chain, post-translation processing.

n. Regulation of gene expression.

o. Gene mutation: causes, types and effects.

p. Cell cycle and its regulation.

q. Apoptosis: definition, causes and mechanisms.

r. Carcinogenesis: Proto-oncogenes, oncogenes and tumor suppressor genes.

s. Gene analysis: Restriction enzymes, cloning, PCR, hybridization, DNA sequencing and gene therapy.

t. Trace elements and their functions

3-B) TUTORIAL CLASSES:

a- Preparation of assignments

b- Presentation

c- Case scenarios, reports and problem solving.

3-C) PRACTICAL CLASSES:

i) Estimation of PH

ii)Preparation of different types of buffer solutions

iii) Identification of:

1- Protein: gelatin, caseinogen, egg white (albumin and globulins)

2- Carbohydrates:

a- Monosaccharides: glucose, fructose.

b- Disaccharides: sucrose, maltose.

c- Polysaccharides: starch, dextrin.

3- Uric acid and urea.

iv) Electrophoresis: Demonstration of the apparatus and identification of elecro-phoretic bands of plasma proteins, hemoglobin and PCR products.

v) DNA extraction.

4 . TEACHING AND LEARNING METHODS

4-A) METHODS USED:

1. Lectures
2. Practical classes (practice of laboratory skills):
   - 2.1 Chemical tests.
   - 2.2 Electrophoresis.
   - 2.3 DNA extraction.
3. Tutorials (small group teaching, , AV aids and animations)

4-C) TEACHING PLAN:

Lectures:

4 lectures per week; one hour each between 8.00 a.m and 2.00 p.m according to the current time table in general lecture halls.

Practical classes and tutorials:

The students are divided into 6 groups. Each group has three hours-practical class once per week. Students of each group are divided into 2 subgroups. Both sub-groups will rotate between tutorial classes (the related subjects of the theoretical lectures with AV aids and animations) and practical class.

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	times/week; one 4 hour each between 8.00 a.m and 2.00 p.m	4x18 wks and revision 1x 3	75
Practical	hours every other 3 week	3x10 w	30
Tutorial Group discussion	hours every other 3 week	3x10 w	30
Total			**135**

Extra contact hours :

Lectures:

- One week for orientation, and introduction
- Two weeks; revision first half
- Two weeks; revision second half

Practical:

- two weeks; revision first half
- two weeks; revision second half
- two weeks practical exam

Exams

- One week :end course exam
- One week : midyear exam
- One week :spring exam
- One week : final exam

5- STUDENT ASSESSMENT:

5-A) ATTENDANCE CRITERIA:

The minimum acceptable practical (and tutorial) attendance is 75%; students who fail to attend that percentage of activities will loose 5 marks out of the practical marks. Students need to attend at least 60% in order to attend for the final practical examination.

5-B) Assessment TOOLS:

Tool	Purpose
Formative exams (quizzes)	Assessment of knowledge and understanding with feedback for detection of lagging students
Written examination	Assessment of knowledge and understanding
OSPE	Assessment of practical, intellectual and general skills. (check list) and assessment of knowledge and understanding

5-C) TIME SCHEDULE:

- Mid-year examination: held once in January for all students. Those who don't attend the examination for acceptable reason; their marks will be raised as a proportion from the final written examination score.
- Midterm examination: held in December for all students. The same regulations of Jan. exam. Is applied.
- OSPE exams; held by the end of April.

- Final examination: at the end of the academic year for all students. The exam will be re-held in September for those who fail to pass the final exam or post-pone it

5-D) GRADING SYSTEM:

Examination	Marks allocated
Mid-year examination	20
Midterm Exam	10
Final examination Written OSPE	 75 45
Total	**150**

- Student knows his marks after the formative exams.
- The minimum passing score is 90 marks provided at least 30 marks are obtained in the final written examination.
- Passing grades are: EXCELLENT > 85%, VERY GOOD 75-<85%, GOOD 65-<75% and FAIR 60-<65%.

5-E) Examination description:

Examination		Description	Marks
Mid-year	Written	A one--hour written paper composed of short essay type questions	marks 20
Midterm Exam	Written	A one-hour case study and/or MCQ	10
Final	Written	A 3-hour written paper composed of short essay type questions (65 (marks) and MCQ (10 marks	marks 75
	OSPE	Identification of provided solutions, giving report on provided material. eg: electrophoresis photograph of PCR run + practical sheet (case (study and/or MCQ	marks 45
Total			**150 marks**

LIST OF REFERENCES:

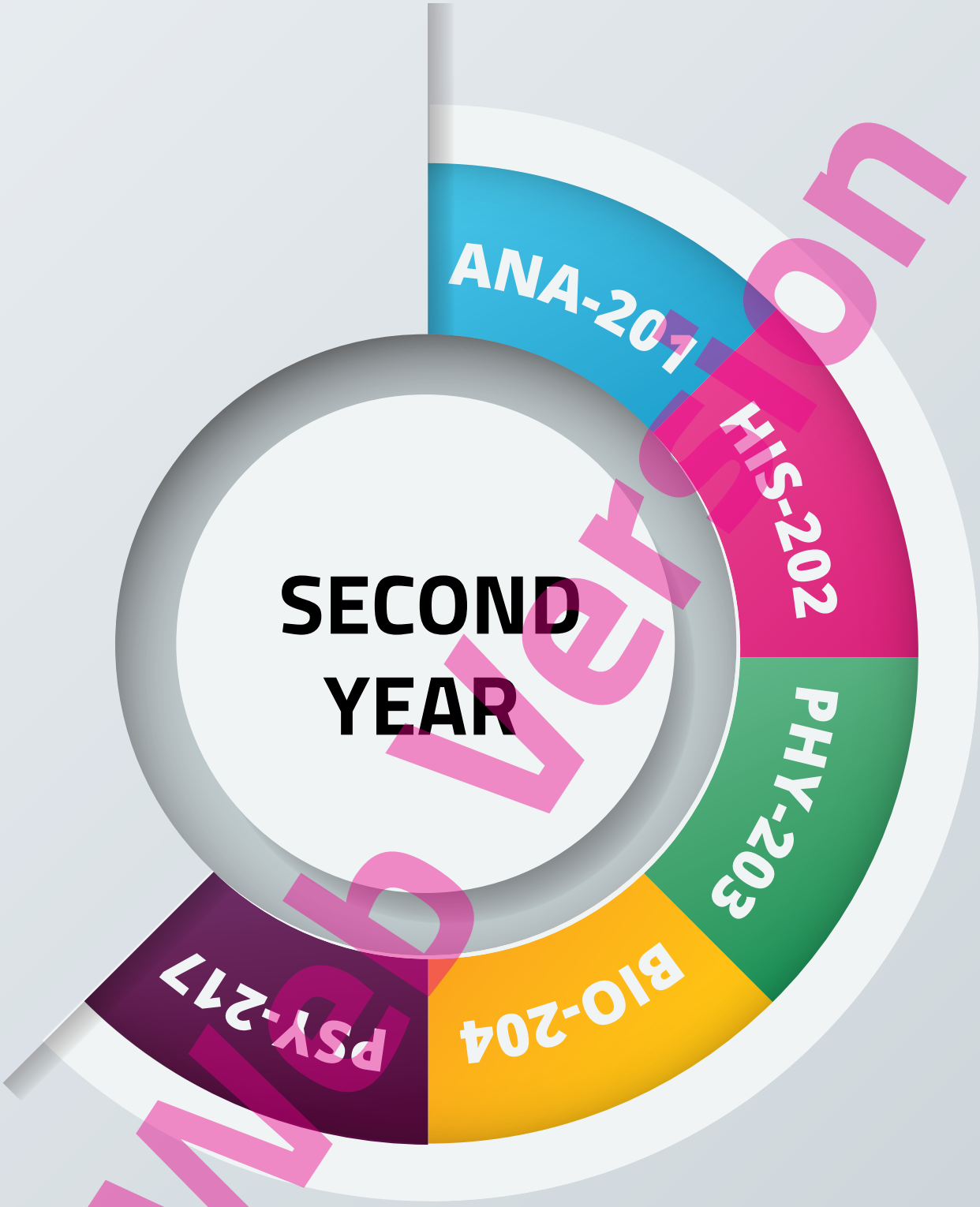
A) Basic materials:

- Department book: available for students .
- Overhead projections and computer presentations used during teaching in tutorial classes.
- Notes on the laboratory practical work.

B) Suggested materials:

- Harper's Biochemistry.
- Lippincott's Illustrated Biochemistry.
- The Department's web site.

STUDENT NAME



ANA-201 Human Anatomy and Embryology

Human Anatomy and Embryology (2nd year)
Code : ANA-201

- **Department offering the course:** Anatomy Department
- **Second academic year of M.B B.Ch. program**

A- Basic Information

- **Allocated marks:** 250 marks
- **Course duration:** 30 weeks
- **Teaching hours:** 240 hours

Theoretical: 120 hours

Practical: 120 hours

B- Professional Information

2- **Overall Aim of the Course:**

- To provide a core body of scientific knowledge concerning the normal structure of the human body at the level of organ and organ system with the study of the normal growth and development relevant to anatomical topics.
- To provide appropriate ethical and professional education necessary for dealing with cadavers.
- To correlate anatomical facts with their clinical applications.

2- Intended Learning Outcomes (ILOs):

a- Knowledge and Understanding

By the end of the course, students should be able to:

a.1. Describe the basic principles of structure of the different tissues, organs

and systems of the human body (a.1).

a.2. Point out the surface landmarks of the underlying bones, muscles and tendons, and internal structures (main nerves, vessels and viscera) (a.1).

a.3 . Outline major clinical applications of anatomical facts (a.1).

a.4. Explain the different stages of human development, evolution and growth (a.3).

a.5. Describe the theoretical basis of professional, practical skills and evidence based medicine (EBM) (a.8).

Professional Skills : (b, c, d, and e):

b- Practical and Clinical Skills

By the end of the course, students should be able to:

b.1. Apply the anatomical facts while examining the living subject in order to reach a proper diagnosis **(b.1)**.

c- Professional Attitude and Behavioral Skills

By the end of the course, students should be able to:

c.1. Apply the national code of ethics issued by the Egyptian Medical Syndicate **(c.5)**.

c.2. Respect and follow the institutional code of conduct **(c.6)**.

d- Communication Skills

By the end of the course, students should be able to:

d.1. Value the ethics and respect to all individuals inside and outside the dissecting room and pay a good deal of respect to the cadavers **(d.2)**.

d.2. Maintain honesty and integrity in all interactions with teachers, colleagues, patients and others with whom physicians must interact in their professional lives **(d.5)**.

d.3. Recognize the scope and limits of their role as students as well as the necessity to

seek and apply collaboration with other workers **(d.5)**.

d.4. Be responsible towards work **(d.5)**.

d.5. Maintain a professional image concerning behavior, dress and speech **(d.5).**

e- Intellectual skills

By the end of the course, students should be able to:

e.1. Integrate the basic anatomical facts with clinical data **(e.1)**.

e.2. Identify the different surface markings and determine the position or course of internal structures **(e.1)**.

e.3. Identify the preserved specimens **(e.1).**

e.4. Interpret the different internal structures in cadavers and normal anatomical structures on radiographs and ultrasonography, C.T. scan and nuclear magnetic resonance images **(e.1).**

e.5. Interpret some clinical findings in relation to developmental basis **(e.1)**.

e.6. Design scientific research through the formulation of research questions pertinent to medicine and the collection, analysis and interpretation of medical data **(e.7)**.

f- General and transferable skills

By the end of the course, students should be able to:

f.1. Adopt the principles of lifelong learning needs of the medical profession (continuous professional development; CPD) **(f.1)**.

f.2. Use computers efficiently in reaching biomedical information to remain current with advances in knowledge and practice **(f.2)**.

f.3. Present information clearly in written, electronic and verbal forms (f.3).

f.4. Communicate ideas and arguments effectively **(f.4)**.

f.5. Work effectively within a multidisciplinary team **(f.5)**.

3- Course contents:

Subject	Lectures (hrs)	Tutorial / Small group discussion (hrs)	Practical (hrs)	Total (hrs)	% of Total
1- Head and neck	43	10	40	93	38.75
2-Neuroanatomy	21	6	22	49	20.4
3-Abdomen & Pelvis	35	8	34	77	32.1
4-Special Embryology	21	----------	----------	21	8.75
Total	**120**	**24**	**96**	**240**	**100**

Topics

A) Lectures

VI- Head and Neck

- Skull (features, structures passing through skull foramina, sex differences, age determination)
- Mandible (features, sex and age differences)
- Cervical vertebrae (features of typical and atypical vertebrae)
- Hyoid bone
- Scalp (layers, blood and Nerve Supply)
- Face (muscles, blood and Nerve supply)
- Parotid (position, features, blood and nerve supply)
- Infratemporal fossa (boundaries, contents)
- Tempromandibular joint (type, structures, movements, nerve supply)

- Intracranial cavity (dural folds, sinuses, intracranial course of cranial nerves, emissary veins, intracranial part of ICA)
- Orbit (boundaries, extraocular muscles, nerves, vessels, lacrimal apparatus)
- Posterior triangle of Neck (boundaries and contents)
- Anterior triangle (boundaries and divisioins:1- submandibular: boundaries and contents 2- carotid triangle: boundaries and contents 3- muscular triangle: boundaries and contents)
- Thyroid gland (position, shape, relation, blood and nerve supply)
- Cervical part of esophagus and trachea (beginning and termination in the neck, relation, blood and nerve supply)
- Carotid arteries (beginning, termination, course, relations and branches)
- Jugular veins (formation, termination, relations, tributaries)
- Root of the Neck (great vessels, muscles)
- Cranial nerves (course, relations and distribution)
- Cervical plexus (position, formation, branches)
- Cervical part of sympathetic chain (position and related ganglia)
- Tongue (parts, muscles, blood and nerve supply and lymphatic drainage)
- Soft palate (muscles, blood and nerve supply and lymphatic drainage)
- Pharynx (parts, features, muscles, muscles, blood and nerve supply and lymphatic drainage)
- Nose (boundaries, features of the lateral wall)
- Paranasal sinuses (position, relations, drainage, nerve supply).
- Larynx (cartilage, membranes, ligaments, muscles, features of the inlet and interior of larynx, blood and nerve supply and lymphatic drainage)

- Ear (parts, communications, contained structures, relations)
- Lymphatic drainage of the head and neck

- **Neuroanatomy**
- Forebrain (A- cerebral hemisphere: external features, surfaces, borders, lobes, sulci & gyri, functional areas, basal nuclei, white matter of cerebral hemisphere,. B- Diencephalon: position, relation, communication and function of its different parts)
- Lateral ventricle (position parts, boundaries, relation, communication)
- Third ventricle (position, boundaries, communication, recesses)
- Midbrain (position, external features, cranial nerves attached to it and the location of their internal nuclei)
- Hind brain (external features of pons and medulla and the cranial nerve attached to them with the internal location of their nuclei. External features of the cerebellum, its functional and anatomical divisions, its cerebellar peduncles and their connection with the types of fibers passing in each of them)
- Fourth ventricle (position, boundaries, communication and recesses)
- Cerebral meninges (their features, positions of the different subarachnoid cisterns)
- Cerebro-spinal fluid (sites of production, circulation, drainage, possible sites of obstruction of its flow)
- Base of the brain (Define the site, boundaries and contents of the interpeduncular fossa. formation, site and clinical importance of the circle of wills)
- Arterial supply of the brain (origin, course and distribution of the arteries of the brain: anterior cerebral, middle cerebral, Posterior cerebral, basilar, 4th part of the vertebral).

- Cerebral veins (sites and draining areas of the veins of the brain)
- Gross anatomy of the spinal cord (external features of the spinal cord, spinal nerve roots, cauda equine and internal features of the spinal cord)
- Spinal meninges
- Pyramidal and extrapyramidal tracts (origin, course, termination and function of the pyramidal tract, origin, course, termination and functions of the different extrapyramidal tracts and the differences between pyramidal and extrapyramidal tracts.
- Sensory pathways (origin, course, termination and functions of proprioception, touch, pain & temperature, visual pathway, auditory pathway and olfactory pathway)

VII- Abdomen and Pelvis

- Anterior abdominal wall (layers of the abdominal wall, characters of the abdominal fascia, origin, insertion, direction of fibers, nerve supply and action of the muscles of the anterior abdominal wall, the structures related to the abdominal muscles, formation and contents of the rectus sheath and arteries, veins, nerves and lymphatics of the anterior abdominal wall)
- Inguinal region (the site, direction, ends, boundaries and contents of the inguinal canal)
- Scrotum and testis (external features and structure of the testis and epididymis, coverings of the testis and blood and nerve supply of the scrotum and testis)
- Planes and regions of abdominal cavity
- Peritoneum (layers and arrangement of the peritoneum, compartments of the peritoneal cavity and their subdivisions, position and boundaries of the lesser sac and epiploic foramen, peritoneal recesses and peritoneal folds: site, attachments and contents)
- Alimentary canal (gross anatomy of the abdominal esophagus, stomach, small intestine and large intestine including position, shape, parts, peri-

toneal covering, relations, blood supply, nerve, lymphatic drainage and surface anatomy).

- Vessels of the gut (origin, course relations and branches)
- Spleen (position, features, peritoneal covering and folds, relations, blood supply and its surface projection)
- Liver and biliary system (position, lobes, peritoneal folds and ligaments, relations and blood supply of the liver. Position, parts, relations, blood and nerve supply of the gall bladder, features of the intrahepatic and extrahepatic biliary passages. Surface projections of the liver and gall bladder)
- pancreas (position, parts, peritoneal covering, relations, ducts, blood supply and surface projection)
- Kidneys, abdominal part of ureter and suprarenal glands (position, fascial and peritoneal coverings, relations and blood supply of the kidney and suprarenal glands. Course, relations, sites of constriction, blood supply and nerve supply of the abdominal part of the ureter)
- Posterior abdominal wall (beginning, end, course, relations and branches of the abdominal aorta, beginning, end, course, relations and tributaries of the inferior vena cava, sites and drainage areas of abdominal lymph nodes, Formation, position and drainage areas of the cisterna chili, formation and branches of the lumbar plexus, lumbar sympathetic chain and autonomic nerve plexuses in the abdomen)
- Diaphragm (origin, insertion, nerve supply, action, relations and openings)
- Muscles of the posterior abdominal wall
- Thoracolumbar fascia
- bony pelvis (features and sex differences)
- muscles and joints of the pelvis
- Nerves and vessels of pelvis (formation and branches of the sacral plexus, formation and distribution of the autonomic plexuses in the pelvis, origin, course, relations and branches of the internal iliac artery)

- Pelvic viscera (gross morphology of the rectum, urinary bladder, ureters, urethra, male and female internal genital organs: peritoneal covering, parts, relations, blood supply, nerve supply and lymphatic drainage)
- perineum (boundaries and division)
- Anal triangle (the walls and contents of the ischiorectal fossa)
- Urogenital triangle (boundaries and contents of the superficial and deep perineal pouches)
- External genitalia in male and female (the parts, blood and nerve supply of male and female external genitalia)

VIII- Special Embryology

- Development of the heart
- Development of arteries
- Development of veins
- Fetal circulation
- Development of the Pharyngeal arches and the associated structures
- Development of the Face, nose, palate and mouth
- Development of the gastro- intestinal tract
- Development of body cavities
- Development of the urinary system
- Development of the genital system
- Development of the endocrine glands
- Development of the Integumentary system
- Development of the skeletal system

B) Tutorial / Small Group Discussions

4. **Head and Neck:** discussion of the practical topics, before and after the

practical classes.

5. **Neuroanatomy:** discussion of the practical topics, before and after the practical classes.
6. **Abdomen and Pelvis:** discussion of the practical topics, before and after the practical classes.

C) Practical Classes: The practical classes include the following topics:

1- Head and Neck:

- Skull and Mandible
- Cervical vertebrae
- Scalp and face
- Parotid gland
- Infratemporal fossa and muscles of mastication
- Intracranial cavity and the orbit
- Posterior triangle of Neck
- Anterior triangle (1- submandibular 2- carotid triangle 3- muscular triangle)
- Thyroid gland
- Cervical part of esophagus and trachea
- Carotid arteries and Jugular veins
- Root of the Neck (great vessels, muscles)
- Cranial nerves
- Cervical plexus
- Cervical part of sympathetic chain
- Tongue (sagittal section)
- Soft palate (sagittal section)

- Pharynx (sagittal section)
- Nose and paranasal sinuses(sagittal section)
- Larynx (sagittal section)

2- **Neuroanatomy:**

- Forebrain (A- cerebral hemisphere: external features, surfaces, borders, lobes, sulci & gyri, functional areas, basal nuclei, white matter of cerebral hemisphere,. B- Diencephalon: position and different parts)
- Lateral ventricle
- Sagittal section of the brain
- Horizontal section of the brain
- Arterial supply of the brain
- Base of the brain and interpeduncular fossa
- Hind brain (external features of pons and medulla and the cranial nerve attached to them with the internal location of their nuclei. External features of the cerebellum, its cerebellar peduncles and their connection)
- Fourth ventricle (position, boundaries, communication, opening and recesses)

3- **Abdomen and Pelvis**

- Anterior abdominal wall (layers of the abdominal wall, the muscles of the anterior abdominal wall and the rectus sheath)
- Inguinal region (the site, direction, ends, boundaries and contents of the inguinal canal)
- Scrotum and testis (external features and structure of the testis and epididymis, coverings of the testis)
- Peritoneum (layers and arrangement of the peritoneum, compartments of the peritoneal cavity and their subdivisions, position and boundaries

of the lesser sac and epiploic foramen, peritoneal recesses and peritoneal folds)

- Alimentary canal (abdominal esophagus, stomach, small intestine and large intestine)
- Vessels of the gut
- Spleen (position, features, peritoneal covering and folds, relations, and its surface projection)
- Liver (position, lobes, peritoneal folds and ligaments, relations of the liver.)
- pancreas (position, parts, peritoneal covering, relations, ducts and surface projection)
- Kidneys, abdominal part of the ureter and suprarenal glands (position, fascial and peritoneal coverings and relations of the kidney and suprarenal glands. Course, relations and sites of constrictions abdominal part of the ureter)
- Posterior abdominal wall
- Diaphragm
- Muscles of the posterior abdominal wall
- Thoracolumbar fascia
- bony pelvis (features and sex differences)
- Nerves and vessels of pelvis
- Rectum, urinary bladder, ureters,
- Urethra, male and female internal genital organs)
- Ischiorectal fossa
- Urogenital triangle (boundaries and contents of the superficial and deep perineal pouches)
- External genitalia in male and female

Teaching and learning methods

Methods Used:

- **Lectures**
- **Practical classes** including**:** practical dissection, demonstration in the dissecting room, museum jars and radiological films.
- **Tutorial classes**

Teaching plan:

- **Lectures:**
  Student are divided according to the faculty bylaws.
  One hour lecture, five times every week
  Time of the lecture is from 8:00 - 9:00 am, 9:00-10:00 am, and 10:00-11:00 am, for the different groups (According to the Faculty Central Schedules)
- **Tutorials:**
  Half an hour session, two times every week, Students are divided into groups of 130-150 and are given a prelab discussion for half an hour, before the beginning of each practical class using data show and videos to demonstrate the important structures of the dissected region(s) of the topic of the week which the student should focus on during the practical classes. In addition, a brief topic discussion and a discussion of the related problem solving questions are done by the end of the practical classes. X-ray images are also demonstrated. There are group discussion and formative assessment questions every session.

- **Practical classes:**
  Two hours session; two times every week held in the dissecting room. The students divided into 12 subgroups (18-22 students/dissected body). The demonstrators are responsible for demonstration of the different structures of the dissected region, on cadavers, plastinated and plastic specimens, to the students and helping them to recognize these structures.

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	One hour each between 8:00 and 11:00 am 5 hours/week	5 hours/week (24 weeks)	120
Total			**240**

Item	Time schedule	Teaching hours	Total hours
Practical	Two hours session two times/ week	4 hours/week (24 weeks)	96
Tutorial	Half hour session two times / week	One hour/week (24 weeks)	24
Revisions and Training on Exams		Two weeks	
Total			**240**

5- Students Assessment methods

5-A) Attendance criteria: The Faculty Bylaws

5-B) Assessment tools:

Tool	(ILOs)
Written examination	To assess knowledge and Understanding and Intellectual skills
Practical examination (OSPE) + Oral Exam	To assess Practical, transferable and Intellectual skills
Assignment	To assess General and transferable skills

5-C) Time schedule: Faculty bylaws

Exam	Time
4. Quiz exam	Not predetermined
5. First half of the academic year	Held in 7th week
6. Mid-year exam	Held in 14th and 15th weeks
7. Second half of the academic year	Held in 24th to 26th weeks including revisions
8. Final Practical exam (OSPE)+ Oral exam	Held in 28th week
9. Final written exam	Held in 30th week

5-D) Grading System:

Examination	Marks allocated	% of Total Marks
1- Continuous assessment + 2 Midterm exams	15	6
2- Mid-year written exam	35	14
3- Final exam: a- Written b- Practical (OSPE) + Oral exam	 125 75	80
Total	**250**	**100**

Formative assessment:

Feedback is given to student after the Formative exams.

5-E) Examination description:

Examination	Description
1-continuous assessment + Midterm exams	Quiz exam, practical notebook, Projects, researches, two spotting exams
2- Mid-year	Written exam: short essay, MCQ, case scenario.
3- Final exam: a- Written b- Practical (OSPE) + Oral exam	Written: essay question including Head and Neck, Neuroanatomy, Abdomen and Pelvis and Special embryology, MCQ, case scenario, Problem solving & applied anatomy, matching questions and filling in the space Practical (OSPE): Including: bone, soft tissues and imaging anatomy Oral: one committee
Total	**6 exams**

LIST OF REFERENCES:

1- Course notes: Books authorized by department.

2- Essential Books:

a) Cunningham's Anatomy

b) Gray's Anatomy for students

HIS-202

Histology

Histology (2nd year)
Code : HIS-202

- **Department offering the course Histology Department**
- Second academic year of M.B.& B.Ch. program **MBBCh. Program**

A) BASIC INFORMATION:

- **Allocated marks:** 150 marks
- **Course duration:** 30 weeks of teaching
- **Teaching hours** **60hours theoretical**

60 hours tutorial & practical

120 Total teaching hours

B) PROFESSIONAL INFORMATION:

1- Overall Aim of the Course:

- To enable the students to know theoretically and practically the normal organs of various body systems.
- To enable students to correlate between structure and functions of various tissues and organs.
- To make the students aware of the subculture structure and their function (functional ultra structure).
- To enable the students to interpret the color and electron photomicrographs to know the clear details of normal cell & tissue organization.
- To make the students oriented with the special sensory organs and their central connections.
- To enable the students to correlate between the histology and physiology of the endocrine tissue and the mechanism of hormone control.

- To enable the students to be familiar with the various parts of the CNS regarding levels of various sections in the brain stem as ascenders sensory tracts & descending motor tracts.
- To recognize some clinical application in relation to histological structure.
- To prepare students for studying histology pathology in second year.

2- Intended Learning Outcomes (ILOs):

A- Knowledge and understanding:

By the end of the course, students should be able to:

a.1. Describe normal histological structure of various organs of: skin,respiratory, digestive, endocrine, urinary, male and female genital systems, eye and ear.(a1,2 and 3)

a.2. Describe the ultra-structure of the cells of different organs.(a1,2 and 3)

a.3. Correlate between histological structure and function.(a1,2 and 3)

a.4. Correlate the prevalence of some sub cellular structure & predict cell functions (Functional ultra structure).(a1,2 and 3)

a.5. Describe various levels in the spinal cord and brain stem.(a1,2 and 3)

a.6. Describe descending & ascending tracts.(a1,2 and 3)

a.7. Describe various types of lemnisci and medial longitudinal bundle.(a1,2 and 3)

a.8. Define the different parts of cerebrum (a1,2 and 3)

a.9. Recognize some clinical applications in relation to histological structure.(a1,2,3 and e.1)

a.10. Recognize basics of ethics (a.14)

- Practical skills:

By the end of the course, students should be able to:

b.1. Differentiate between different organs in histological slides seen under the microscope. (a.1, 2, 3 and b.1)

b.2. Identify various types of special stains for various tissues.(b.1)

b.3. Recognize ultra structure of different cells studied in various organs. (a.1,2 and 3)

b.4. Identify & describe photomicrographs and diagrams of different cells. (a.1, 2 and 3)

b.5. label diagrams of different levels in spinal cord, brain stem and cerebellum. (a.1,2 and 3)

C-Professional attitude and behavioral skills:

By the end of the course, students should be able to:

c.1. Respect and follow the institutional code of conduct.(c.6)

c.2. Maintain professional image in manner, dress speech and interpersonal relationships that is consistent with the medical profession's accepted contemporary standards in the community. (c.6 and d.5)

D. Communication skills:

By the end of the course, students should be able to:

d.1. Communicate effectively with individuals regardless of their social, cultural, ethnic backgrounds, or their disabilities.(d.2)

d.2 Express themselves freely and adequately by improving their descriptive capabilities and enhancing their communication skills.(d2)

d.3. Honor and respect, superiors, colleagues and any other member of the health profession.(d.5)

E. Intellectual skills:

By the end of the course, students should be able to:

e.1. Correlate between histological structure and function of different organs of all systems.(a.1,2 and 3)

e.2. Diagnose slides different from those during his course but of the same organs previously studied.(a.1,2,3 and b.1)

e.3. Identify the different levels of spinal cord and brain stem, cerebellum and cerebrum. (a.1,2 and 3)

F. General and transferable skills:

By the end of the course, students should be able to:

f.1. Use the sources of biomedical information to remain current with advances in knowledge and practice.(f.2)

f.2. Present information clearly in written, electronic and verbal forms. (f.3 and f.8)

f.3. Frame a question, search and literature, collect, analyze, critically appraise and utilize the obtained information to solve a particular clinical problem according to the principles of evidenced based medicine.(a.8 and f.5)

f.4. Appreciate the importance of life long learning and show a strong commitment to it. (f.2)

3- COURSE CONTENTS:

Subject	Lectures (hrs)	Tutorial &Practical (hrs)	Total (hrs)	% of Total
1. Skin	4	3	7	4.15%
2. Respiratory system	4	3	7	5.81%
3. Digestive tract	8	12	20	16.6%
4. Digestive glands	6	6	12	9.96%
5. Endocrine glands	5	3	8	9.13%
6. Urinary system	5	6	11	9.13%
7. Male genital system	5	6	11	9.13%
8. Female genital system	6	6	12	9.96%
9. Eye	4	3	7	5.81%
10.Ear	3	3	6	4.98%
11.CNS	10	9	19	15.77%
Total (120)	**60**	**60**	**120**	**100%**

III-A) TOPICS:

- Skin Integument :Types, structure (LM and EM) & sites of skin,Structure of hair, hair follicles & nails, Skin glands (sweat & sebaceous glands)

- **Respiratory system**

Conduction portion (nasal cavity – nasopharynx – larynx -Trachea – bronchi - terminal bronchi)

Respiratory portion (Respiratory bronchioles – alveolar ducts - Alveoli)

- **Digestive tract**

a) Oral Cavity: (Lips – Cheeks – Tongue – Palate - Pharynx – Teeth)

b) Gastrointestinal Tract (GIT): (Esophagus - Stomach – Small intestine -Large intestine- Appendix - Anal canal)

- **Digestive glands**

a) Salivary Glands: (major salivary glands e.g.: the parotid, the submandibular and the sublingual gland, and the minor salivary glands)

b) Pancreas

c) Liver

- **Endocrine system**

a) Pituitary b) Suprarenal Glands c) Thyroid and Parathyroid Glands

d) Pineal Body e) APUD Cells

- **Urinary system**

Kidney and urinary passages.

- **Female genital system**

Ovary, fallopian tube, uterus and vagina

Mammary gland and placenta

- **Male genital system**

Testis, testicular ducts, epididymis, vas deference male urethra

Prostate and seminal vesicles

- **Eye**

Outer fibrous, middle vascular coats and retina

Eye lid

- **Ear**

Inner, middle and outer ear

- Central nervous system

Spinal cord, mid brain, Pons and medulla (tracts and pathways)

Cerebrum and cerebellum

III-B) TUTORIAL / SMALL GROUP DISCUSSIONS

- Respiratory system
- Digestive tract
- Digestive glands
- Endocrine system
- Urinary system
- Female genital system
- Male genital system
- Eye
- Ear
- Central nervous system

III-C) PRACTICAL CLASSES:

I-List of slides	
1. Thick skin	33.Thyroid gland
2. Thin skin	34.Suprarenal gland
3. Trachea	35.Testis and epididymis
4. Lung	36.Vas deference
5. Lip	37.Spermatic cord
6. Tongue human	38.Penis
7. Tongue rabbit	39.Prostate
8. Oesophagus cat	40.Eye lid
9. Oesophagus dog	41.Cornea
10.Gastroesophageal junction	42.Retina
11.Fundus	43.Organ of Corti
12.Pylorus	44.Cervical spinal cord
13.Pyloroduodenal junction	45.Thoracic spinal cord
14.Duodenum and pancreas	46.Lumbar spinal cord
15.Ileum	47.Closed medulla sensory
16.Large intestine	48.Closed medulla motor
17.Appendix rabbit	49.Open medulla
18.Liver pig	50.Pons
19.Liver and gall bladder	51.Mid brain superior colliculus
20.Pancreas	52.Mid brain inferior colliculus
21.Parotid	53.Cerebrum
22.Submandibular	54.Cerebellum
23.Kidney	55.High power slides
24.Ureter	56.Taste buds
25.Urinary bladder	57.Malpighian renal corpuscle
26.Ovary	58.Classic hepatic lobule
27.Fallopian tube	59.Islets of langerhans
28.Uterus	60.Seminephrous tubule
29.Vagina	61.Mature graffian follicle
30.Mammary gland	62.Retina
31.Placenta	63.cornea
32.Pituitary gland	64.Thyroid follicle

Π-Data show photos of sections previously studied in slides but from different sources	
• Skin and appendages	• Pancreas
• Trachea	• Parotid
• Lung	• Submandibular
• Lip	• Kidney
• Tongue human	• Ureter
• Tongue rabbit	• Urinary bladder
• Oesophagus cat	• Ovary
• Oesophagus dog	• Fallopian tube
• Gastroesophageal junction	• Uterus
• Fundus	• Vagina
• Pylorus	• Mammary gland
• Pyloroduodenal junction	• Placenta
• Duodenum	• Testis and epididymis
• Ileum	• Vas deference
• Large intestine	• Eye lid
• Appendix rabbit	• Cornea
• Liver pig	• Retina
• Liver and gall bladder	• Organ of corti

4- TEACHING AND LEARNING METHODS

METHODS USED:

1. Lectures
2. Tutorials
3. Practical classes

TEACHING PLAN:

Lectures: Division of students into 2 groups twice/week
Tutorials &Practical classes:
Division of students into 5 groups once / week

The practical training in the labs is every week. The students will be organized by dividing them into 5 big groups, one group each day, and then each group is divided into 4 smaller sub- groups in 4 labs. These Subgroups of students allow interaction, presentations and feedback. The plan for practical training is attached in instructional units section. Each lab includes presentation of the scheduled topic by one of the staff, and explanation of the slides. Then the students examine the slides themselves helped by joiner staff aided with microscopes, projector slides, data show photos. Each 3 students share a microscope. The tutorial data show photos of sections of tissues and organs similar to those studied in practical lab but of different and variable sources for training and Quizzes. This is carried by senior staff members.

TIME PLAN:

Item	Time schedule	Total hours
Lectures	Twice / week	60
Tutorial &Practical	Once / week	60
Revision	Two weeks /semester	
Mid-year exam	Two weeks	
Total	**Total 30 weeks**	**120 hours**

5- STUDENTS ASSESSMENT METHODS:

5-A) ATTENDANCE CRITERIA: Faculty bylaws

The minimum acceptable attendance is 75%, Students who fail to meet their attendance requirements are deprived of their final practical exams.

5-B) ASSESSMENT TOOLS:

Tool	Purpose (ILOs)
Written examination Mid year exam : MCQ & matching End of year: short& long questions, problem solving, MCQ and matching	To assess knowledge and understanding and skills
OSPE (Practical and Oral examination) second midterm and end of year	To assess of knowledge & understanding, general and transferable skills (communication), professional attitudes/skills & intellectual skills To assess descriptive & diagnostic abilities (intellectual skills) and practical skills
Practical book	To assess practical skills and monitor attendance.
Group assignments	To assess the communication skills To assess the ability to use computer to reach biomedical information.

5-C) TIME SCHEDULE: Faculty bylaws

Exam	Week
1- First half of the academic year	November fourth week in the department labs
2- Mid-year exam	January second week in the faculty halls
3- Second half of the academic year	March fourth week in the department labs
4- Practical exam	May first week in the department labs
5- Final exam	June fourth week in the faculty halls

5-D) GRADING SYSTEM:

Examination	Marks allocated	% of Total Marks
1- First mid term	5	3.3%
2- Mid-year	20	13.3%
3- Second mid term	5	3.3%
4- Final exam: a. Written b. OSPE (Practical &Oral	 75 40	 50% 26.7%
5- Assignments & other activities	5	3.3%
Total	**150**	**100%**

- The minimum passing score is 60% provided at least 40% are obtained in the final written exam. Passing grades :

Excellent ≥ 85%

Very good ≥75%

Good ≥ 65 %

Fair 60– 65

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) EXAMINASSIONS DESCRIPTION:

Examination	Description
1- First midterm	MCQ
2- Mid-year	Matching, MCQ, case studies and problem solving
3- Second midterm	OSPE identification of tissues and organs in data show photos
4- Final exam: a- Written b- OSPE (Practical &Oral)	Long question, short questions, matching,MCQ, case studies and problem solving Identification of tissues and organs in slides using microscopes. Identification of tissues and organs in data show photos. Oral station (oral exam in three scheduled chapters 5 marks each).
5- Assignments & other activities	Assignments and practical book

LIST OF REFERENCES:

- **Basic materials:**
  - Department book: constructed by staff members.
  - Department's atlas book
  - Department's practical book
- **Essential books (text books):**
  - Basic histology text and atlas
- **Recommended books:**
  - Wheater's functional histology

PHY-203

Medical Physiology

Medical Physiology (2nd year)
Code : PHY-203

- **Department offering the course : Medical Physiology Department**
- **Second academic year of M.B.& B.Ch. program**

A) Basic Information:

- **Allocated marks:** 250 marks
- **Course duration:** 30 weeks of teaching with a final year examination.
- **Teaching hours:** **Total 210 hrs ,**

  Theoretical 150 hrs,

  Tutorials 30 hrs

  Practical 30 hrs

B) Professional Information:

1- Overall Aim of the Course:

The aims of the course are to enable student:

- To continue upgrading the physiology basis taken in the first year.
- To explore in details the function of the nervous, the endocrinal, the reproductive, renal & the digestive systems as well their integration to achieve homeostasis.
- To integrate physiological data & mechanisms with the ongoing basic sciences anatomy, histology & biochemistry and their clinical applications.
- To follow the rapidly changing and inflating details about molecular physiology & genetics.
- To develop the basic skills and ethical behavior required for scientific research, as well as effective communication and team work attitude.

2- Intended Learning Outcomes (ILOs):

a- Knowledge and understanding:

By the end of the course, students should be able to:

a.1. Describe the main morphologic features of the nervous system (a1).

a.2. Review the physiology of sensory receptors, synaptic transmission, different sensory pathways, sensory coding and sensory lesions (a1,a2,a3).

a.3. Describe the motor functions of spinal cord, brain stem, motor cortex and subcortical centers (a1,a2,a3).

a.4. Point out the neural basis of sleep, alertness , instinctual behavior, emotions , learning and memory(a1,a2,a3).

a.5. Discuss the functional anatomy of the eye, the physiology of the image –forming mechanism, physiology of retina, visual pathway, visual cortex and eye movements (a1,a2,a3).

a.6. Describe the various parts of ear , and summarize the mechanism of hearing , auditory pathway , and various forms of deafness (a1,a2,a3)..

a.7. Point out the physiology of receptor organs and pathways of smell and taste sensations(a1,a2,a3)..

a.8. Describe the gross and microscopic anatomy of endocrine glands, mechanism of action of hormones, control of hormone secretion (a1,a2,a3).

a.9. Point out the effects of hormones in health and disease states (a3).

a.10. Describe the physiology of the male reproductive system and abnormalities of testicular functions (a1,a2,a3).

a.11. Describe the physiology of female reproductive system as regards ovarian cycle, puberty, pregnancy, parturition, lactation and menopause (a1,a2,a3).

a.12. Describe the functional anatomy of the digestive system, action

and regulation of the gastrointestinal secretion and motility (a1,a2).

a.13. Describe the metabolism from the physiologic point of view and

identify mechanisms of regulation of metabolic rate , body temperature, food intake and physiology of exercise (a2,a3).

a.14. Point out the functional anatomy of the kidney, physiology of glomerular filtration, renal tubular function and micturition (a1,a2).

a.15. Discuss regulation of extracellular fluid composition and volume (a1,a2,a3).

b- Professional and practical skills:

By the end of the course, students should be able to:

b.1. Perform a systematic examination of the nervous system : types of sensation , motor system , tendon jerks and muscle tone.

b.2. Use the most important visual tests: corneal, light & accommodation reflexes , visual acuity , color vision and visual field defects (b1).

b.3. Do a preliminary examination and diagnosis of common endocrinal conditions: Acromegaly, Dwarfism, Thyroid disease (hypo or hyper), Cushing and Addison's diseases (b1)

b.4. Perform the most important renal function tests (b1).

b.5. Integrate physiological with other basic and clinical sciences (b1).

c- Professional Attitude and Behavioral skills.

c.1. Respect and follow institutional code of conduct (c5,c6).

d- Communication Skills:

By the end of the course, students should be able to:

d.1. Work effectively in a group in lab (d1,d2, d6).

d.2. Respects the role of staff and co- staff members regardless of degree or occupation (d1,d2,d6). .

e- Intellectual skills:

e.1. Distinguish between physiological and pathological performance of different body systems (e1,e3).

e.2. Suggest the basic physiological measurements used to test different body functions (e1).

e.3. Comment, on some clinical parameters such as using nerve conduction velocity for calculation of synaptic delay and number of synapses (e3).

e.4. Integrate physiology with other sciences (e3).

f- General and transferable skills:

By the end of the course, students should be able to:

f.1. Identify the essential ethical issues involved in scientific research (f1,f2).

f.2. Work separately or in groups to research and prepare a scientific topic (f1, f2, f3, f4, f5).

f.3. Use available presentation aids (e.g overhead projectors or Data show) to present clearly and effectively a scientific topic in a tutorial, a staff meeting or the yearly scientific day(f2,f3,f4).

3- Course contents:

Subject	Lectures (hrs)	Tutorial / Small group discussion (hrs)	Practical (hrs)	Total (hrs)	% of Total
1- The central nervous system & special senses	68	12	15	95	45.2
2- Endocrine & Reproductive system	42	9	6	57	27.2
3- Gastrointestinal system	18	3	3	24	11.4
4-Renal System &body fluids	16	3	3	22	10.5
5- Metabolism & Regulation of body temperature	6	3	3	12	5.7
Total	**150**	**30**	**30**	**210**	**100**

III-A) TOPICS:

1. **The central nervous system & special senses:**
    - General functional organization.
    - Receptors.
    - Somatic sensations.
    - Synapses of the CNS, & chemical transmitters.
    - Organization of the motor control system: spinal, descending motor system, cortical motor areas.
    - Spinal cord reflexes, stretch reflex, upper and lower motor neuron lesions.
    - Basal ganglia & cerebellum: functions and syndromes.
    - Vestibular apparatus & control of posture.
    - Hypothalamus & limbic system.
    - RAS, consciousness and sleep.
    - The neurophysiological basis of learning & memory.
    - Functional structure of the eye, lacrimal apparatus and protection of the eye.
    - Refractive power of the eye, functions of iris, aqueous humour , and retina.
    - Visual acuity, color and binocular vision.
    - Visual pathways and role of cortical areas in perception of vision.
    - Functional structure of the external, middle and internal ears.
    - Mechanism of sound transduction, auditory pathway and auditory perception.
    - Deafness and testing for deafness.
    - Smell & taste , receptors and pathway

2. **Endocrine & Reproductive system.**

- Introduction.
- Hormones: characters & mechanism of action.
- Pituitary gland: anterior & posterior and their syndromes.
- Thyroid gland, syndromes and function tests.
- Parathyroid gland, vitamin D3 and calcitonin.
- Calcium homeostatsis and tetany.
- Suprarenal cortex: glucocorticoids, mineralocorticoids and adrenal androgens.
- Supernal medulla.
- Endocrine pancreas: insulin and glucagon pancreatic polypeptide and somatostatin and diabetes mellitus.
- Glucose homeostatis.
- Male reproduction: functional structure, spermatogenesis, blood testis barrier, male sex hormones control & actions.
- Female reproduction: functional structure , female sex cycles, Ovulation, female sex hormones control & actions
- Physiology of pregnancy and lactation.
- Physiology of puberty.

3. **Gastrointestinal system.**

- Salivary secretion, mastication and deglutition.
- Gastric secretion, gastric mucosal barrier , motility , gastric evacuation and vomiting
- Hepatic secretion, gall bladder, control of bladder evacuation, jaundice.
- Small & large intestine, digestive and absorptive functions.
- Gastrointestinal motility and GIT hormones.
- Defecation

4. **Metabolism & regulation of body temperature.**
   - Energy balance and metabolic rate.
   - Control of food intake, obesity estimation of body fat.
   - Body temperature, control of body temperature.
   - Exercise physiology.

5. **Renal physiology**
   - Functional structure of the kidney.
   - Glomerular filtration, tubular segments function, renal handling of different plasma constituents.
   - Renal function tests plasma clearance concept.
   - Micturition.

III-B) Tutorial / Small Group Discussions

b1- Preparation of assignments.

b2- Presentation.

b3- case scenarios , reports and problem solving.

III-C) PRACTICAL CLASSES:

c1-Perform a systematic examination of the nervous system: types of sensation , motor system , tendon jerks and muscle tone.

c2- Use the most important visual tests : corneal , light & accommodation reflexes , visual acuity , color vision and visual field defects.

c3-Do a preliminary examination and diagnosis of common endocrinal conditions: Acromegaly, Dwarfism, Thyroid disease(hypo or hyper), Cushing and Addison's diseases

c4-Perform the most important renal function tests.

c5- Integrate physiological with other basic and clinical sciences

4- Teaching and learning methods

A-METHODS USED:

A1-Lectures: the students are divided into groups (according to faculty system).
A2-Tutorials classes: two groups (about 60 students each)
A3-Practical training: small groups training (about 25 students each)
A4-A yearly scientific day for students, in the form of small group presentations. The titles of the subjects are determined during several meetings with staff.

B- Methods for disabled students:

- Supporting Learning Classes can be arranged for disabled students.
- Procedures for availability of faculty member for individual student consultations and academic advice:
  1. Office hours of each staff members.
  2. Availability of email communication.

TEACHING PLAN:

Lectures: One hour lecture daily (for five days /week), Time from September to May; Students will be divided into groups according to faculty system.

Tutorials: In two small lecture halls (60 students each), a 3hr/ 2 weeks (during 3 months each term). The tutorial class is scheduled and previously announced (2 weeks before). The subject, which are conversationally directed are lagging by few weeks to the related branches and systems given at that time in the lectures. Special topics from the curriculum- of special interest – are exclusively discussed in the tutorial classes.

Practical classes: In two big labs a 3hr/ 2 weeks (alternating with the tutorial classes) small groups (25 students) is scheduled & the planned practical tests are announced two weeks before.

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	5 times/week; one hour each between September to May	1	150
Practical	3 hours / 2 weeks	3	30
Tutorial	3 hours / 2 weeks	3	30
Total			**210**

5- Students Assessment methods

5-A) ATTENDANCE CRITERIA:

The minimal acceptable attendance in the practical & tutorial is 70%. Students who fail to attend this percentage (in each half of the year will not be allowed to take the midyear and end of the year final theoretical exam and the end of the year practical exam.

5-B) Assessment TOOLS:

Tool	Purpose (ILOs)
Written examination	To assess knowledge , understanding & intellectual skills.
Oral examination	To assess knowledge & understanding , intellectual and pre-sentation skills.
Practical examination	To assess some practical and intellectual skills

5-C) TIME SCHEDULE: Faculty bylaws

Exam	Week
1- Mid term test1 at First half of the academic year	November
2- Mid-year exam	January
3- Mid term test2 at Second half of the academic year	March
4- Practical exam	April
5- Final exam	May

5-D) GRADING SYSTEM:

Examination	Marks allocated	% of Total Marks
1- Formative assessment	-	
2- Mid-term	10	20%
3- Mid-year	40	
4- Second half	-	
5- Final exam: a- Written b- Practical c- Oral	 125 40 30	 50% 16% 12%
6- Assignments & other activities	5	2%
Total	**250**	

- The minimum passing score is **150 marks**, provided at least **50 marks** are obtained in the final written exam.
- Passing grades are: **EXCELLENT** ≥85%, **VERY GOOD** 75-<85%, **GOOD** 65-<75% **AND FAIR** 60-<65%.

5-E) Examinassions description:

Examination	Description
1- Formative Assessment	Usually carried out during the course, to give feedback to students. It is not be part of grading process
2- Mid term test1	Objectively structured questions.
3- Mid-year	MCQ (single best opinion) + true & false + cases + problem solving + matching items .
4- Mid term test2	Objectively structured questions.

Examination	Description
5- Final exam: a- Written b- Practical c- Oral	MCQ (single best opinion) + true & false + cases + problem solving + matching items +short essay Qs. In the lab , at multiple phases through the practical courses . In front of two separate examiners (an internal & external)
6- Assignments & other activities	Distributed according to the performance of students in practical & tutorial classes between: Attendance, Attitude, Discussion ,Assignments &Presentations

LIST OF REFERENCES:

- **Basic materials:** Department book : written by staff members (5 volumes) .
- **Essential books (text books):**

Guyton AC, Hall JE: Textbook of Medical Physiology . Saunders.

Ganong WF: Review of Medical Physiology» . Lange Medical Books/ Mc Graw – Hill.

- **Recommended books:**

Johnson LR: Essential Medical Physiology .Raven Press.

- **Periodicals, Web sites, … etc:**

BIO-204

Medical Biochemistry &Molecular Biology

Medical Biochemistry and Clinical Chemistry-II (2nd year)
Code : BIO-204

Department offering the course Medical Biochemistry Department

A) Basic Information:

Allocated marks: 150 marks

Course duration: 30 weeks of teaching (including revision sessions) with end course exams, midyear exam and final end of year examination.

Total teaching hours: 135 hours

- Theoretical 75 hours
- Practical and tutorials 60 hours

B) Professional Information:

I- Aim of the Course:

- To enable the student to be oriented with the biochemical importance of macro- and micronutrients.
- To enable the student to illustrate and/or describe the metabolic pathways of macronutrients, nucleotides, and important trace elements.
- To enable the students to point-out hereditary and acquired metabolic disturbances and their biochemical laboratory and clinical outcomes.
- To enable the student to explain the bioenergetics of the concerned metabolic pathways under different physiological circumstances and their integrator regulations with other working metabolic pathways.
- To enable the student to describe the metabolism of erythrocytes and the related metabolic disorders.
- To enable the student to list non-protein nitrogenous compounds (NPN)

and their normal range in blood.

- To enable the student to list some non functional plasma enzymes and their clinical implications.
- To enable the student to interpret medical laboratory reports.

2- INTENDED LEARNING OUTCOMES:

2- a) KNOWLEDGE AND UNDERSTANDING:

By the end of the course, students should be able to:

a.1. Define the metabolic pathways of carbohydrates, lipids, proteins, nucleotides and their micro-molecules and determine the site of each. (a1,2)

a.2. Explain the bioenergetics of the concerned metabolic pathways under different physiological circumstances

a.3. Illustrate the steps and regulatory mechanisms of these pathways. (a1,2)

a.4. Point out the related metabolic disorders and their clinical prints on biochemical and molecular basis.(a5,6)

a.5. Describe micronutrients, their biochemical, clinical and laboratory importance and deficiency manifestations of each.(a1,9)

a.6. Describe the metabolism of erythrocytes and the related metabolic disorders.

a.7. List NPN and their levels in blood as well as some important plasma enzymes and their clinical implications.

2- b) Practical Skills:

By the end of the course, students should be able to:

b.1.Identify the physical and chemical characters of normal urine under different physiological conditions.(b1)

b.2. Perform chemical tests to detect abnormal constituents of urine.(b1)

b.3. Estimate serum levels of glucose, total proteins, albumin, cholesterol,

creatinine and uric acid by colorimetric methods.(b1)

b.4. Assess glucose tolerance by glucose tolerance test.(b1)

2.c) Professional Attitude and Behavioral Skills.

c.1. Respect and follow the institutional code of conduct.(c6)

2.d) Communication Skills:

By the end of the course, students should be able to:

d.1 Work effectively in a group in lab . (d2,d6)

d.2. Respects the role of staff and co-staff members regardless of degree or occupation.(d2,d6)

2. e) Intellectual Skills

By the end of the course, students should be able to:

e.1. Interpret symptoms, signs and biochemical laboratory findings of some metabolic disorders.e1,2,3

e.2. Interpret urine report outcome. e1,2,3

e.3. Point out the significance of determination of serum levels of glucose, total proteins, albumin, cholesterol, creatinine and uric acid. e1,2,3

e.4. Diagnose the type of abnormality of pathological glucose tolerance curve e1,2,3

e.5. Diagnose a metabolic disturbance etiology on basis of case-study reports. e1,2,3

f. General and Transferable Skills

f.1. Use efficiently sources of biomedical information to remain current with

f.2. advances in knowledge and practice.f1,2,4

f.3. Present information clearly in written, electronic and verbal forms during

preparation of seminars.f3,5

f.4. Communicate ideas and arguments effectively f3,4,5

f.5. Manage time and resources effectively and set priorities f6

3. COURSE CONTENTS:

Subject	Lectures	Practical/small groups	Total	% Total hrs
Bioenergetics, TCA cycle	7	4	11	8.2
Carbohydrate Metabolism	16	8	24	17.8
Lipid Metabolism	18	8	26	19.3
Insulin, Diabetes Mellitus	4	8	12	8.9
General Protein Metabolism	4	6	10	7.4
Amino acid Metabolism	8	6	14	10.5
Heme Metabolism	4	4	8	5.5
Purine & Pyrimidine Metabolism	4	4	8	6.0
Metabolic Integration	2	2	4	2.9
Reactive Oxygen Species	2	1	3	2.3
Vitamins	6	6	12	8.9
Blood	1	2	3	2.3
Total	**75**	**60**	**135**	**100**

3-A) TOPICS:

1. Bioenergetics and tricarboxylic acid cycle: steps, regulation, and importance.
2. Metabolism of carbohydrates: Dietary carbohydrates, digestion and absorption, pathways of glucose oxidation, glycogen metabolism, gluconeogenesis, special metabolism of fructose, and galactose, pathological aspects of carbohydrate metabolism and their clinical implications with special emphasis on diabetes mellitus and biochemistry of insulin and other disorders of carbohydrate metabolism and their clinical importance.
3. Metabolism of lipids: Dietary lipids, digestion and absorption, metabolism of triacylglycerol, fatty acid metabolism, metabolism of: eicosanoids, conjugated lipids, cholesterol, ketone bodies, classification and disorders of plasma lipoproteins. Pathological aspects of lipid metabolism and their clinical implications.
4. Metabolism of proteins: Dietary proteins, digestion and absorption, general as-

pect of protein metabolism, metabolism of ammonia, metabolism of individual amino acids with related errors of metabolism, pathological aspects of protein and amino acid metabolism and their clinical implications.

5. Metabolism of Heme: Synthesis of porphyrins and heme, catabolism, hyperbilirubinemia and porphyrias.
6. Metabolism of purines and pyrimidines: Digestion and absorption of nucleic acids, biosynthesis and catabolism of purines and pyrimidines with the related errors of metabolism (including gout), and synthetic base analogues and their clinical use.
7. Metabolic integration: Metabolic changes, adaptation and regulation during starve-feed cycle, aerobic and anaerobic exercises. Special metabolism of ethyl alcohol and its pathological effects.
8. Vitamins: Types, structure, functions, deficiency manifestations and recommended daily allowance.
9. Reactive oxygen species; generation, combating, and biological and pathological effects.
10. Blood (metabolism of erythrocytes, NPN compounds, and non functional plasma enzymes).

3-B) TUTORIAL CLASSES:

d- Preparation of assignments

e- Presentation

f- Case scenarios, reports and problem solving.

3-C) PRACTICAL CLASSES:

1. Urine report.
2. Colorimetric measurement of plasma glucose, total proteins, albumin, cholesterol, creatinine and uric acid.
3. Variations in glucose tolerance curve under different clinical conditions.
4. Case report studies applying the out-comes of previous parameters.

4 . TEACHING AND LERNING METHODS

4-A) METHODS USED:

1. **Lectures** (general and small group lectures).
2. **Practical classes** (small group teaching, practice of laboratory skills, AV aids)

2.1 Urine report.

2.2 Colorimetric methods in clinical chemistry.

2.3 Biochemical laboratory report comments.

Lectures:

4 lectures per week; one hour each between 8.00 a.m and 2.00 p.m according to the current time table in general lecture halls.

Practical classes and tutorials:

The students are divided into 6 groups. Each group has three hours-practical class once per week. Students of each group are divided into 2 subgroups. Both subgroups will rotate between tutorial classes (the related subjects of the theoretical lectures with AV aids and animations) and practical class.

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	4times/week; one hour each between 8.00 a.m and 2.00 p.m	4x18 wks and 1x3 revision	75
Practical	hours every other week 3	3x10 w	30
Tutorial	hours every other week 3	3x10 w	30
Total			**135**

Extra contact hours:

Lectures:

- One week for orientation, introduction
- Two weeks; revision first half
- Two weeks; revision second half

Practical:

- two weeks; revision first half
- two weeks; revision second half
- two weeks exam

Exams

- One week :end course exam
- One week ; midyear exam
- One week :spring exam
- One week : final exam

4-D) TEACHING AND LEARNING FACILITIES

Facilities used for teaching this course include:

- Lecture halls: provided by the Faculty.
- Small group classes: in the Department.
- Information technology / AV aids: available in computer- assisted classes in the Department.
- Laboratory: laboratory facilities to perform the required experiments are available in the department.

5. STUDENT ASSESSMENT:

5 -A. ATTENDANCE CRITERIA:

The minimum acceptable practical (and tutorial) attendance is 75%; students who fail to attend that percentage of activities will not attend the practical exam.

5-B. Assessment TOOLS:

Tool	Purpose
Formative exams (quizzes)	Assessment of knowledge and understanding with feedback for detection of lagging students
Written examination	Assessment of knowledge and understanding
Oral examination	Assessment of knowledge and understanding
Practical examination	Assessment of practical, intellectual and general skills. (check list)
Assignment ,and presentations	Assessment of knowledge and understanding, communication and general and transferable skills

- Midyear examinations: one in *January* for all students and the other in *April.* The students who don't attend the examination(s) for acceptable reason; their marks will be raised as a proportion from the final written examination score.
- Final examination: at the end of the academic year, in *May*, for all students. The exam will be re-held in *September* for those who fail to pass the final exam or postpone it.

5-D) GRADING SYSTEM:

Examination	Marks allocated
Midterm examinations	10
Midyear examinations: (January)	20
Final examination: Written OSPE	 75 45
Total	**150**

- Student knows his marks after the Formative exams.
- The minimum passing score is 90 marks provided at least 30 marks are obtained in the final written examination.
- Passing grades are: EXCELLENT > 85%, VERY GOOD 75-<85%, GOOD 65-<75% and FAIR 60-<65%.

5-E) Examination description:

Examination		Description	Marks
Mid-year	Written	A one--hour written paper composed of short essay type questions	marks **20**
Midterm Exam	Written	A one-hour case study and/or MCQ	**10**
Final	Written	A 3-hour written paper composed of short essay type questions (65 marks) and MCQ (10 marks)	marks **75**
	OSPE	Giving report on provided urine samples Measurement of provided samples (glucose, urea, uric acid) using spectophotometer ,clinical interpretation + practical sheet (case study and/or MCQ)	marks **45**

LIST OF REFERENCES:

A) BASIC MATERIALS:

- Department Book: available for students .
- Overhead projections and computer presentations used during teaching in tutorial classes.
- Notes on the laboratory practical work.

B) SUGGESTED MATERIALS:

- Harper's Biochemistry.
- Lippincott's Illustrated Biochemistry.
- The Department's web site. http://www.biomed.eg.net

PSY-217

Behavioral Sciences & Psychology

Behavioral Sciences & Psychology (2nd year)
Code : PSY-217

Department offering the course: The Department of Psychiatry
Second academic year of M.B. B.Ch. program
Date of specification approval: Department Council September 2010

A) Basic Information:

- **Allocated marks:** 50 marks
- **Course duration:** 30 weeks of teaching
- **Teaching hours:** 30 total teaching hours

B) Professional Information:

1- Overall Aim of the Course:

- To establish ethical medical practice as a pivotal attitude for the medical student and later physician (medical ethics).
- To provide medical students with the opportunity to understand 'illness' and not only 'disease', and see illness in its various aspects through the view point of the patient (medical psychology).
- To understand and practicing skillful communication with patients, colleagues and other clinicians working within a multidisciplinary team.
- To develop a basic understanding of normal human behavior and mental functioning (human psychology).
- To understand the relation ship between biological functions and behavior (psychophysiology).
- To develop the understanding of inner conflict, and basic principles of human interaction to establish a mode of introspective, self-conscious and developing clinical practice (dynamic and social psychology)

2- Intended Learning Outcomes (lLOs):

a. Knowledge and Understanding

By the end of the course, students should be able to:

a.1- Identify the psycho-social determinants of positive mental health and mental health promotion (a.IO). ‘

a.2- Describe the role of genetics in behavior and personality formation, and biological mechanisms underlying mental functioning and reactions to stress (a.2).

a.3- Describe the epidemiological facts related to mental health and mentalill (a.l 0).

a. 4- Describe the life cycle from a psychosocial perspective especially the effects of the adolescence and ageing (a.3).

a. 5-Explain basic mental functions and their relation to behavior (aA).

a. 6-Explain Illness behavior at various points of contact with health services and the sick role (a.7).

3. 7-Describe effective professional communication with colleagues and other clinicians (a.8).

a. 8-Describe the behavioral aspects of medical interviewing (a.8).

a. 9-Understand and explain the principles of ethical medical practice (a.14).

Professional Skills : (b, c, d, and e):

b. Practical and Clinical Skills

By the end oj the course, students should be able to:

b. 1- Adopt an empathic and holistic approach to patients and their problems, taking into consideration beliefs values, goals and concerns. (b.l).

b. 2- Respect the patient’s right to know and share in decision making as well as dignity, privacy, information confidentiality and autonomy. (b.8).

b. 3-Understand and respect the different cultural beliefs and values regardless of their disabilities in the community they serve (b. 1 0).

b. 4- Recognize the important role played by other health care professions in patients' management, respecting their contributions in patient's management regardless of degree or occupation (b. 1).

b. 5- Apply the national code of ethics issued by the Egyptian Medical Syndicate.

لائحة آداب المهنة الصادرة من نقابة الأطباء (c. 5).

b. 6- Respect and follow the institutional code of conduct (c. 5).

b. 7- Counsel patients suffering from different conditions as well as their families (b.1).

b. 8- Recognize one's own limitations of knowledge and skills referring patients to appropriate health facility at the appropriate stage (b.l).

b. 9- Ensure confidentiality and privacy of patients information (c.5).

b. 10- Treat all patients equally, and avoid stigmatizing any category regardless of beliefs, culture, and behaviors (b.5).

b. 11- Work cooperatively demonstrating respect with other health care professions for effective patient management (b.5).

b.12-Notify about or report any physical or mental conditions related to himself, colleagues or any other person that might jeopardize patients' safety (b.25).

c. Professional Attitude and Behavioral Skills By the end oj the course, students should be able to:

c. 1- Accept medical suffering as a problem within a person rather than from the limited perspective of disease (c. 1).

c. 2- Display consideration to listening and identifying the actual needs of patients (c.2).
c. 3- Demonstrate a sense of respect for patients and their families (c.2).

c. 4- Support and reinforce the principles of medical ethics in practice (c.2).
c. 5- Respect privacy, and body integrity when dealing with patients (c.6).
c. 6- Conform to patient's rights and confidentiality (c.5).

c. 7- Accept the need to practice with informed patient consent at all levels of medical practice (c.5).

c. 8- Maintain professional boundaries in doctor patient relationships (c.6).

d. Communication Skills By the end of the course/ students should be able to:

d. 1- Communicate clearly, sensitively and effectively with patients and their relatives and colleagues from a variety of health and social care professions (d. 1).

d. 2- Communicate effectively with individuals regardless of their social, cultural, ethnic backgrounds, or their disabilities (d.2).

d. 3- Cope with situations where communication is difficult including breaking bad news (d.3).

d. 4- Show compassion to patients and their relatives in situations of stress and grief (d.4).

d. 5- Honor and respect patients and their relatives, superiors, colleagues and any other member of the health profession (d.5).

e. Intellectual Skills

By the end of the course/ students should be able to:

e. l-Taking a psychosocial history including the availability and adequacy of family support (e.l).

e.2-Elicit life events, and chronic social difficulties associated with medical problems (e.2).

e.3-Define the principles of passing information to patients about the illness including breaking bad news, the effects and side effects of medication, and the consequences of a diagnosis (e.4).

e. 4-Integrate basic socio-psychological behavioral principles with clinical data (e.4).

e. 5- Report verbally and in writing to medical colleagues, patient's families, and non medical organizations involved in patients care (e.l).

e.6-Recognize and cope with uncertainty that is unavoidable in the practice of medicine by accepting and reacting to uncertain situations through proper counseling, consultation and referral (e.8).

e.7-Recognize the importance of the longitudinal perspective in etiology, and in consideration of treatment approaches to illnesses in general (e. 1).

f. General and Transferable Skills

By the end of the course/ students should be able to:

f. 1- Adopt the principle of lifelong learning to the behavioral component of medical practice (f.1).

f. 2- Access behavioral sciences data bases (f.2).

f. 3-Present information clearly in written, electronic and verbal forms (f.3).

f. 4-Communicate ideas and arguments effectively (fA).

f. 5- Work effectively within a multidisciplinary team (f.5).

f. 6-Manage time and resources effectively and set priorities according to ethical principles (f.6).

f. 7- Use professional English language to define and name behavioral science concepts (f.8).

f. 8- Use the empathic approach to dealing with patients (fA).

3- Course contents:

The total teaching hours (30hours) is divided on two terms, the following list shows the major topics of the curriculum and the approximate percentage of teaching allocated to each topic (percent emphasis for teaching and assessment):

Topic	
Medical ethics	1
Medical psychology	2
Communication and interviewing Skills	3
General and Developmental psychology	4
Biological bases of behaviour	5
Psychosocial influences and behaviour	6
Total	

4- Teaching and learning methods

Illustrated lectures:

To present the basic and important information in addition to it's clinical application, lectures may be supported with using illustrated case demonstration, case studies, video presentation, giving a chance for interaction and discussion.

Medical Communication Skills Course: This is a practical training course using live training interviews, and feedback to students on their own interviewing experiences

5-Assessment:

1- Attendance and Participation:

Students must fulfill the attendance requirements (at least 75%).They must submit the log book before the term and the final exam.

The log book should contain evidences of:

- Attendance and active participation in discussion in lectures and in the Small group lectures, Tutorials, and Seminars.

- Active participation in role play, case studies and regular assignments required from them.

- Short quizzes for checking of knowledge and understanding during teaching. Answers to multiple choice questions will be analyzed, reported and re-discussed with the students. (A form of formative assessment without grades)

11- End of Year Examination:

A final written examination is held at the end of the year (100%) 50 marks and includes:

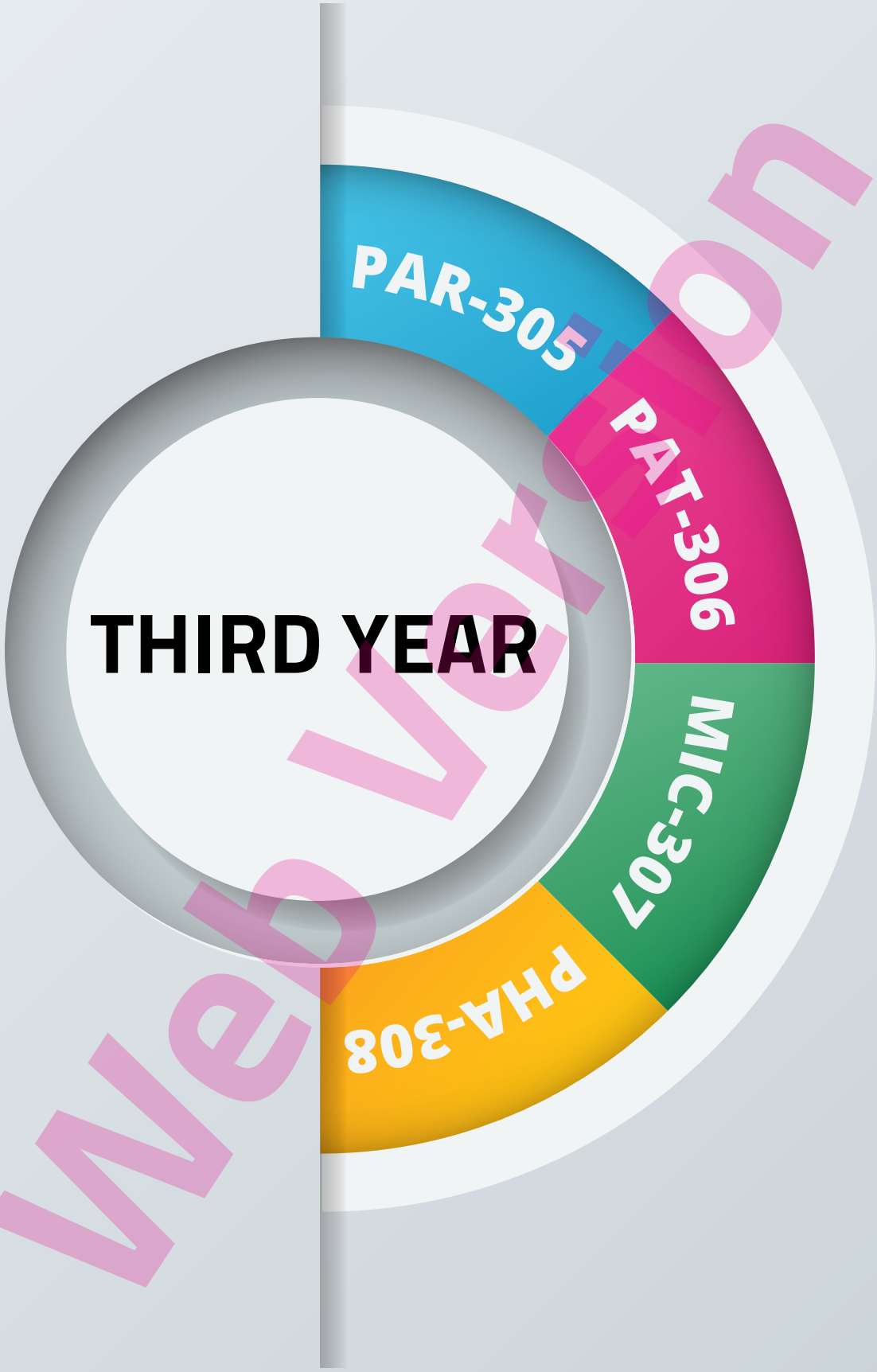
Assessment of knowledge, its application and professional attitude in the form of:

- Essays (20%)
- Short answer questions (SAQ) (30%)
- Multiple choice questions (MCQ) (40%)
- Problem solving questions (PS) and or Case Study (CS) (20%)

LIST OF REFERENCES:

A) BASIC MATERIALS: Department Book .

STUDENT NAME



PAR-305 Medical Parasitology

Medical Parasitology (3rd year)
Code : PAR-305

- **Department offering the courses:** Medical Parasitology
- **Third academic year of M.B.& B.Ch. program**

A) Basic Information:

- **Allocated marks:** 150 marks
- **Courses duration:** 30 weeks
- **Teaching hours:** **120 hours**
  - **Theoretical 60 hours**
  - **Practical 60 hours**

B) Professional Information:

1- Overall Aim of the Courses:

- To provide students with knowledge concerning biological, epidemiological and ecological aspects of parasites causing diseases to humans.
- To enable students to understand the pathogenesis, clinical presentations and complications of parasitic diseases.
- To enable students to reach diagnosis and know the general outline of treatment, prevention and control of parasitic infections
- To provide students with adequate knowledge about endemic parasites and national parasitic problems as well as re-emerging parasitic infection.

2- Intended Learning Outcomes (ILOs):

a- Knowledge and understanding:

By the end of the courses, students should be able to:

a.1- Describe the world distribution of important parasitic infections and the epidemiologic principles and the effect of social and demographic patterns on parasitic disease and vulnerability (Prog ILO a.12)

a.2-Describe the common parasitic diseases and life-threatening conditions caused by helminthes and protozoa as regards etiology and life cycle of parasites of medical importance (Prog ILO a.6)

a.3- Describe the common diseases caused by helminthes and protozoa as regards pathogenesis, clinical features, differential diagnosis and complications (Prog ILO a.6)

a.4- Point out the methods of recovery of parasites and their culture methods as well as immunological and molecular methods used for diagnosis of parasitic infections (Prog a ILOa.6)

a.5- Define the principles of management for common parasitic diseases and life-threatening conditions (Prog ILOa.7)

a.6- Outline methods of disease prevention (Prog ILOa.10)

a.7- Describe the common diseases caused by arthropods of medical interest as regards etiology, pathogenesis, clinical features and methods of combat (Prog ILOa.6, a.10)

a.8- Describe molecular, biochemical and cellular mechanisms that occur in the body of humans infected with parasites (Prog ILOa.2)

a.9- Recognize safety procedures relevant to parasitic diseases during practical year (Prog ILOa.15)

b- Professional and practical skills:

By the end of the courses, students should be able to:

b.1- Perform practical skills relevant to the future practice, as to identify different par-

asites in tissue sections and demonstrate their reactions in such tissues by naked eye (Jars) (Prog ILO b.1).

b.2- Use the microscope to identify diagnostic stages of parasites in blood, urine, stool or tissue samples (Prog ILO b.1).

c- Attitude and Behavioral skills:

c.1- Respect and follow the institutional code of conduct (Prog ILO c.6).

c.2- Respect the role of staff and co-staff members regardless of degree or occupations (Prog ILO c.6).

d- Communication Skills:

e- Intellectual skills:

e.1- Analyze the results obtained from history, clinical examination and investigational data into meaningful diagnostic formulation. (using case study) (Prog ILO e.3).

e.2- Interpret clinical and investigational data with evidence based knowledge and skill of deductive reasoning for clinical problem solving. (using case study) (Prog ILO e.4).

f- General and transferable skills:

By the end of the courses, students should be able to:

f.1- Use computers efficiently in reaching biomedical information to remain current with advances in knowledge and practice (research assignments), also the implementation of e-learning tool of education to communicate ideas, widen the scope of medical Parasitology knowledge and stimulate fruitful arguments effectively (Prog ILO f.2, f.3, f.4 & f.5).

f.2- Present information clearly in written, electronic and verbal forms (research assignments) (Prog ILO f.3).

f.3- Apply English language as needed for appropriate learning and communication in relation to medicine (Prog ILO f.8).

3- Courses contents:

Courses	Lectures (hrs)	Tutorial / Small group discussion (hrs)	Practical & e-learning (hrs)	Total (hrs)	% of Total
1- Introduction to parasitology, Helminthology: Trematodes	1 5	1.5	4	1 10.5	
2- Cestodes	6	1.5	5	12.5	
3- Introduction to Nematodes, intestinal nematodes	7	2 ½	7	16 1/2	
4- Tissue nematodes	7	2	6 1/2	15 1/2	
5- Protozology, Intestinal, Urogenital protozoa	6	2	5	13	
6- Blood protozoa	6	1	3	10	
7- Tissue protozoa	6	1	3	10	
8- Immunology	3	-		3	
9- Entomology	11	4	11	26	
10-integrated para	2	-	-	2	
Total	**60**	**15 1/2**	**44 1/2**	**120**	**100**

III-A) COURSES:

21. Introduction & Trematodes
22. Cestodes
23. Intestinal Nematodes
24. Tissue Nematodes
25. Intestinal & urogenital protozoa
26. Blood protozoa
27. Tissue protozoa
28. Immunology of parasitic infections & molecular parasitology
29. Entomology
30. Integrated parasitology

III-B) TUTORIAL/ SMALL GROUP DISCUSSIONS:

1- Data show presentations of parasitic diseases.

2- Brain storming discussions about parasitic infections

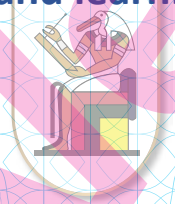
3- An additive way of education through e-learning as a complementary way to the conventional method.

III-C) PRACTICAL CLASSES:

1- Identification of different parasitic stages.

2- Presentation of research assignments.

4- Teaching and learning methods



METHODS USED:

1. Lectures
2. Small group discussions
3. Tutorials
4. Practical classes
5. E-learning

TEACHING PLAN:

Lectures: ***Division of students into 5 groups***

2 hours /week.

Tutorials: ***half hour / week within the practical class***

Practical classes: ***one and half hour / week***

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	2 times/week; one hour each between 10 to 11 am	30 hours / term	60 hours / year
Practical	1 1/2 hours / ___week		45
Tutorial	1/2 hour / week		15
Total	**4**		**120**

5- Students Assessment methods:

5-A) ATTENDANCE CRITERIA: Faculty bylaws

5-B) ASSESSMENT TOOLS:

Tool	Purpose (ILOs)
Written examination	To assess knowledge and understanding. Also intellectual skills (case report) ILOs (a.1-8) & (e.1-2)
Oral examination	To assess knowledge and understanding & general and transferable skills ILOs(a.1-8) & (f.1&4)
Practical examination	To assess of knowledge and understanding and professional skills ILOs(a.1-8) & (b.1-5)

5-C) TIME SCHEDULE: Faculty bylaws

Exam	Week
1- First half of the academic year	12th week
2- Mid-year exam	15th week
3- Second half of the academic year	25th week
4- Practical exam	29th week
5- Final exam	30th week

5-D) GRADING SYSTEM:

Examination	Marks allocated	% of Total Marks
1- First half (Quiz)	2.5	1.7%
2- Mid-year	20	13.33%
3- Second half (Quiz)	2.5	1.7%
4- Final exam: a- Written b-OSPE	 75 45	 50% 30%
5- Assignments & other activities	5	3.33%
Total	**150**	**100%**

- The minimum passing & Passing grades (Faculty bylaws).

SUMMATIVE ASSESSMENT:

Student knows his marks after the summative exams.

5-E) Examinations description:

Examination	Description
1- First half (quiz)	Identification of 5 data show presentations in the form of extended matching questions (OSPE)
2- Mid-year exam	One-hour: written paper composed of short essay type questions, MCQs and case description, give reason, compare and true & false statements.
3- Second half (quiz)	Identification of 5 data show presentations in the form of extended matching questions (OSPE)

Examination	Description
4- Final exam: a- Written b- OSPE	Two and half hours: written paper composed of short essay type questions, MCQs, case description, give reason, compare and True & false statements. Different sessions including slides,boxes and jars for identification,morphological description ,life cycle and main clinical manifestations
6- Assignments & other activities	Preparing and presenting project assignments on some parasitic diseases provided with illustrations
Total	

6- List of references:

6.1- Basic materials:

- e.g. Lectures in the form of data show presentations provided by staff members.

6.2- Essential books (text books):

Department book

6.4- Web sites:

www.dpd.cdc.org

PTH-306

Pathology

Pathology (3rd year)
Code : PTH-306

- **Department offering the course:** **Pathology Department**
- **Academic year of M.B.& B.Ch. program:** **3d year MBBCh. Program**

A) Basic Information:

- **Allocated marks:** 300 marks
- **Course duration:** 30 weeks of teaching
- **Teaching hours:** 10 hrs/wk

(26 weeks for Lectures, 26 weeks for practical-The remaining weeks for revision and training on exams.

	Hours / week	Total hours
1- Lectures & eLearning	5 hours / week	120
2- Practical & IL	4 hours / week for practical &IL	120
3- Others		
Total		240

B) Professional Information:

1- Overall Aim of the Course:

- **1. To familiarize** students with the basic disease patterns and their underlying mechanisms within the specific organ systems as step to preparing the student for his clinical rounds and future as a practitioner
- 2. **To promote** life long competencies necessary for continuous professional development

2- Intended Learning Outcomes (ILOs):

A- KNOWLEDGE and UNDERSTANDING:

By the end of the course, students should be able to:

1- **Define and discuss** the main disease categories that may affect the body (general pathology) as well as the basic mechanisms underlying these disorders (etiology , pathogenesis & natural history) **(a.1-2-3-5-6-9)**

2- **Describe** the morphologic (gross & microscopic) changes occurring as a result of such disease processes in various organ systems **(a.5)**

3- **Determine** the fate & complications of each particular disease and outline the general management procedures **(a.6)**

4- **Prepare for** scientific research by collection and interpretation of medical data **(a.8)**

B- INTELLECTUAL SKILLS

DATA ACQUISITION, DATA ANALYSIS & PROBLEM SOLVING

By the end of the course, students should be able to:

1- **Predict** the signs and symptoms of a disease based on the underlying gross & microscopic tissue changes responsible for symptomatology and physical changes in the patient, thereby enabling the student recognize patients with life/organ threatening conditions **(e.1-2)**

2- **Interpreting** in a professional manner a pathology report **(b.2)**

3- **Interpreting** in a professional manner a pathology report (e.2)

4- **Choosing** the most appropriate cost effective pathologic diagnostic procedures (e.3)

5- **Selecting** the necessary techniques for sample reception & processing according to the nature of specimen received **(e.3)**

C-PROFESSIONAL AND PRACTICAL SKILLS (CLINICAL & LABORATORY SKILLS):

By the end of the course, students should be able to be prepared for their upcoming clinical training by:

1-Diagnosing and fully reporting or describing the pathologic picture of a disorder based on gross or microscopic morphology. **(b 1-2-5)**

D- GENERAL AND TRANSFERABLE SKILLS

By the end of the course, students should be able to:

1- Appreciate the importance of life long learning and show a strong commitment to it **(f-1)**

2- Use the sources of biomedical information to remain current with the advances in knowledge & practice **(f-2)**

3- Express themselves freely and adequately by improving their descriptive capabilities and enhancing their communication skills **(f.3-4)**

4- Apply English language as needed for appropriate learning and communication in relation to medicine (f.8)

E-ATTITUDE & communication skills

By the end of the program, the undergraduate student will acquire the skills required to

1- Interact effectively with individuals regardless of social, cultural or ethnic backgrounds and regardless of their disabilities (c.6 d.1).

2- Communicate clearly, sensitively and effectively with the patients and their families or relatives and with colleagues from different health care professions, respecting their contributions in patient's management regardless of degree or occupation.(c.4 d2)

3- Respond appropriately according to the seriousness of the pathologic diagnosis in an acceptable humane manner, treating the patient as a whole rather than a

lesion or specimen (c1-.2)

4- Identify difficult ethical situations and how to properly deal with them (e.2 d.4)

5- Respect the patient's right to know and share in decision making as well as dignity, privacy, information confidentiality and autonomy.(c.2)

6- Cope compassionately with situations of stress and grief, where communication for breaking bad news is difficult (c.1 d.3-4)

7- Maintain a professional image in manner, dress, speech and interpersonal relationships that is consistent with the medical profession's accepted contemporary standards in the community (c.6 d.5)

3- Course contents

Topic	% Total hours	Number of hours		
		Total	Lectures/ eLearning	Practical / IL
General Pathology	45%	108 hrs	54 hrs	54 hrs
1. Introduction to the Science of Pathology and its Related Disciplines	0.5%	1.5	1.5	
2. Technical pointers on sample handling, sending, processing & reporting & quality control of surgical biopsy/cytology material	2%	5	2	3
3. Inflammation & repair	6%	14	8	6
4. Cell injury, accumulations depositions & diseases of ageing	5.5%	13.5	7	6.5
5. Growth disturbances & neoplasia & cytology	10.5%	25	9	16
6. Fluid & hemodynamic disturbances	6%	14	6	8
7. Immune Response and Non-Specific and specific Infection	5.5%	13	6	7
8. Parasitic, viral, & mycotic infections	5%	12	5	7
9. Genetic, enviromental, nutritional disorders & ionizing radiation effects	2.5%	6	6	

Topic	% Total hours	Number of hours		
		Total	Lectures/ eLearning	Practical / IL
10. Cytology	0.5%	1	1	
11. Imuno-histochemistry	0.5%	1	1	
12. How to research atopic	0.5%	1	1	
Special Pathology	55%	132	66	66 IL Pract
13. Cardiovascular(heart & blood vessels	6%	14.5	8	6.5
14. Respiratory	5%	12	5	7
15. Gastrointestinal	6%	15	8	7
16. Hepatobiliary & pancreatc	5%	12	6	6
17. Kidney	5%	12	5	7
18. Urinary tract & male genital	4%	9.5	4	5.5
19. Female genital & breast	8%	19	10	9
20. Endocine	3%	7	3	4
21. Blood & lymphoreticular	3%	7	4	3
22. Skeletal system ,soft tissue, joints & skin	3%	7	4	3
23. Peripheral & central nervous systems	3%	7.5	4	3.5
24. How to answer an exam & revision	4%	9.5	5	4.5
Total	**100%**	**240**	**120**	**120**

III-A) TOPICS:

A) GENERAL PATHOLOGY

1. **INTRODUCTION TO PATHOLOGY**
   - Overview and orientation
   - Pathology & its related disciplines
2. **TECHNICAL POINTERS ON SAMPLE HANDLING, SENDING, PROCESSING & REPORTING & quality control of surgical biopsy material**
3. **INFLAMMATION & REPAIR**
   a. Acute inflammation
   b. Chronic inflammation

c. Repair : Regeneration-Organization & healing in special conditions

4. **CELL INJURY, ACCUMULATIONS & DEPOSITIONS**

- Cell response to injury: degenerative changes, necrosis & apoptosis
- Accumulations & storage diseases
- Depositions, abnormal calcifications & abnormal pigmentations
- Diseases of ageing

5. IMMUNE RESPONSE & NON SPECIFIC INFECTIONS

- Immunity & hypersensitivity
- Immunodeficiency
- Autoimmunity
- Non specific bacterial infections: bactremia, pyemia, septicemia & toxemia
- Viral infections

6. SPECIFIC INFECTIONS- GRANULOMA

- Bacterial: TB- syphilis - leprosy
- Fungal
- Parasitic: Bilharziasis

7. FLUID & HEMODYNAMIC DISTURBANCES

- Hyperemia – congestion- edema-thrombosis – embolism
- Ischemia – infarction- gangrene- hemorrhage-shock

8. GROWTH DISTURBANCES & NEOPLASIA

- Hyperplasia- metaplasia- dysplasia- hypertrophy-atrophy-hamartoma- tumor-like lesions
- Benign tumors
- Malignant tumors

9. GENETIC, ENVIROMENTAL, NUTRITIONAL DISORDERS & IONIZING RADIATION DISORDERS

- Basis of genetic disease- hereditary disorders & congenital malformations
- Environmental disorders
- Nutritional disorders: protein calorie malnutrition – vitamin disorders – trace element disturbances
- Disorders of ionizing radiation

10. CYTOLOGY

- Types of samples & proper handling, fixation of material& necessary clinical data
- General features of reactive, benign & malignant cells
- Pitfalls in diagnosis & how to interpret a cytology report

11. IMMUNOHISTOCHEMISTRY

12. HOW TO RESEARCH A TOPIC: How to write a review article, how to collect data , reference writing , using the available resources (library & internet), writing structure etc……..

B- SYSTEMIC/ SPECIAL PATHOLOGY

All diseases in each organ systems are studied covering :

a) Definition, incidence of disease ands its epidemiology

b) Etiology, pathogenesis & molecular genetics

c) Morphologic aspects: gross & microscopic changes

d) Fate & complications

e) Others (clinical presentation, prognosis, management etc…)

Systems studied include the following

1. Cardiovascular system: Heart and blood vessels

2. Respiratory system: upper and lower respiratory tract & lungs
3. Gastrointestinal tract: stomach, small and large intestine
4. hepatobiliary systems & pancreatic diseases
5. Urinary tract and renal pathology
6. Male genital system
7. Female genital system & breast disorders
8. Endocrine pathology
9. Blood diseases (peripheral blood and bone marrow disorders) & Lymphoreticular disorders (lymph nodes & splenic diseases)
10. Skeletal system, soft tissue, joint pathology & pathology of the skin
11. Peripheral and central nervous system pathology

III-B) Interactive learning/ TUTORIAL (PROBLEM BASED CASES):

Are based on the topics discussed in the above mentioned list

1. **Acute & chronic Inflammation & repair**
2. **Degenerative changes**
3. **Necrosis & cell injury**
4. **Granulomas**
5. **Nonspecific infections & immunity disturbances**
6. **Circulatory disturbances**
7. **Neoplasms**
8. **Cardiovascular cases**
9. **Respiratory case**
10. **GIT case**
11. **Hepatobiliary case**

12. **Kidney**
13. **Female genital tract & breast**
14. **Skeletal system case**
15. **Ethical problems**
16. **Technical problems**
17. **Research problem- ethics- terminology**
18. **Exam question types and how to answer them**
19. **Evidenced based pathology problem**

III-C) PRACTICAL CLASSES:

3C.1 LIST OF SLIDES: (104 slides)

The slides are demonstrated in practical classes as glass slides (to be examined under the microscope) and data show slides. The students will be examined in all slides. Exam includes two glass slides and two data show slides.

Slide N0	Diagnosis
1	Fibrinous peritonitis, liver
2	Acute appendicitis
3	Acute inflammatory cells
4 & 64	Lobar pneumonia
5	Chronic inflammatory cells
7	Healed myocardial infarct (scar)
9	Hyalinosis, splenic arterioles
10	Amyloidosis, kidney
12	Steatosis. Liver
14	Chronic venous congestion, lung
15	Chronic venous congestion, liver
17	Thrombus
18	Spleen infarction
20	Lung infarction
22	Tuberculosis lymph node
23	Tuberculosis lung; fibrocaseous type
24	Tuberculosis lung; miliary type
25	Rhinoscleroma
26	Madura foot /Actinomycosis
28	Bilharziasis, colon
29	Bilharzial polyp. Colon
30	Bilharziasis, urinary bladder
31	Bilharzial portal fibrosis, liver
33	Schwannoma
34	Leiomyoma
35	Lipoma
37	Chondroma
38	Capillary hemangioma
39	Cavernous lymphangioma
40	Cavernous hemangioma
41	Squamous cell papilloma
42	Colon; adenomatous polyp
43	Breast fibroadenoma (pericanalicular)
44	Breast fibroadenoma (intracanalicular)

Slide N0	Diagnosis
45	Giant cell tumor of bone
46	Fibrosarcoma
48	Osteosarcoma
49	Squamous cell carcinoma in situ
50	Nevus (benign melanoma)
51	Nodular melanoma (malignant melanoma)
52	Squamous cell carcinoma
53	Basal cell carcinoma
54	Breast infiltrating duct carcinoma
56	Colon, adenocarcinoma
57	Colon, mucoid carcinoma
58	Lymph node, metastatic carcinoma
62	Athermoa
63	Nasal polyp
66	Lung, emphysema
67	Lung, bronchogenic carcinoma
69	Colon ulcerative colitis
70	Colon amoebic colitis
71	Stomach, signet ring cell carcinoma
72	Stomach, H. pylori gastritis
73	Liver, cirrhosis
74	Liver, hemochromatosis
75	Liver, heptoma
77	Testis, seminoma
78	Kidney, end stage
79	Kidney, hypernephroma (renal cell carcinoma)
80	Kidney, Wilm's tumor (nephroblastoma)
81	Prostatic hyperplasia
82	Bladder papillary transitional cell carcinoma
83	Endometrium, proliferative (anovulatory)
84	Endometrium, secretory (post-ovulatory)
85	Endometrium, cystic hyperplasia
89	Breast fibrocystic disease
90	Breast, intraduct carcinoma

Slide N0	Diagnosis
91	Lymph node, Non-Hodgkin's lymphoma (NHL)
92	Lymph node, lymphoid follicular hyperplasia
93	Lymph node, Hodgkin's lymphoma
94/95	Liver, chronic lymphatic leukemia
96	Thyroid, nodular goiter
97	Thyroid, toxic goiter (Grave's disease)
98	Thyroid papillary carcinoma
99	Meningioma
100	Cytology smear
101	Masson trichrome
102	Prussian blue
103	Cytokeratin
104	CD20

NB: slides of new disorders may be added depending on availability of samples

3-C.2: LIST OF MUSEUM SPECIMENS: (165 jars)

12. Cardiovascular system: 29 Jars
13. Respiratory system : 18
14. GIT: 24
15. Hepatobiliary systems & pancreatic diseases : 17
16. Urinary tract, male genital system and renal pathology :22
17. Female genital system & breast disorders 20
18. Endocrine pathology 3
19. Blood diseases (peripheral blood and bone marrow disorders) & Lymphoreticular disorders (lymph nodes & splenic diseases) 6
20. CNS & PNS 6
21. Skeletal system & joint pathology 15
22. Soft tissue 8

3-C.3: Fresh SPECIMENS: (according to availability, from autopsy or surgical material see CD)

3-D: E learning:

Technical aspects: TECHNICAL POINTERS ON SAMPLE HANDLING, SENDING, PROCESSING & REPORTING & quality control of surgical biopsy/cytology material

4- Teaching and learning methods

LECTURES

Lectures: division into 2 groups average 500 students/group- 5 lectures/week 1 hour duration

Lectures should be Illustrated, animated contain video clips or film strips or contain explanatory diagrams and algorithms

E-Learning:

Technical aspects. Material on our Website. For home study or at MEDC facility **2 hrs http://www.medicine.cu.edu.eg/ and on CD which will be distributed for free to all students** (Other topics are under construction)

PRACTICAL

A) **Histopathology**

Students are divided into groups of **150-200** and given a brief **half hour** data show on the topics of the week in the small lecture room of Pathology Dept. on the ground floor. They then go to the students lab for their training in microscopy .

Every **4-6 students** share a box of **66** slides and 1 microscope and spend 2 hours /session. There are 2 daily sessions 12-2 pm and 2 -4 pm. This would

include photos,& diagrammatic representations of both normal & diseased tissues at the microscopical level and how that disease would be at the level of the whole organ

B) **Museum** Students are divided into groups of **150-200** and given a brief **half hour** data show on the jars of the week **3** Staff members are responsible for demonstration of the jars. Students are then divided into groups of **50/ staff .**

Museum is located on the 4th floor of the main theatre building and students spend **2 hours /session**. There are 2 daily sessions 12-2 pm and 2 -4 pm. total number of jars 165

C) **Postmortem & fresh surgical specimens**

Will be displayed with the jars in the museum lesson and included in student CD

Time plan

Item	Time schedule	Teaching hours	Total hours
Lectures	Once Daily : 8-9 am /9-10/ 10-11 am	1 hr/day 0 weeks 26 weeks for teaching & remaining weeks for revision & training on how to solve exams.	120
Histopathology Laboratory	Once Weekly 12-2 pm same session repeated at 2 -4 pm	2 hrs x 28 weeks 24 weeks for teaching & remaining weeks for revision & training on how to solve exams.	60
Museum & Postmortem	Once Weekly 12-2 pm same session repeated at 2 -4 pm	2 hrs x 28 weeks 24 weeks for teaching & remaining weeks for revision & training on how to solve exams.	60
E-Learning		2 hrs	
TOTAL			240

5- Students Assessment methods

5-A: ATTENDANCE CRITERIA:

The minimum acceptable attendance is 75%, Students who fail to meet their attendance requirements are not allowed to sit for their final exams.

5-B: ASSESSMENT TOOLS:

TOOL	PURPOSE
Written exam	Assessment of knowledge & understanding, intellectual skills
Practical & OSPE exam	Descriptive & diagnostic abilities and theory application (intellectual skills) and professional / practical skills & general and transferable skills
Pop Quizzes (written in lect or in practical class)	Assessment of knowledge & understanding, intellectual skills, professional, practical skills and general and transferable skills
Assignment & end of year projects (CD/Poster or review article)	Assessment of knowledge & understanding Assessment of general and transferable skills (life long learning skills & presentation skills)
Interactive learning	Assessment of knowledge & understanding, intellectual skills & Assessment of life long learning skills, ethical attitudes & communication skills
Log book (attendance-assistancy & grade record)	Assessment of attendance- discussion participation-quizzes/drills & activities evaluation (intellectual skills and professional / practical skills

5-C: TIME SCHEDULE:

EXAM	WEEK
Mid year exam	January mid Jan
2nd half of academic year 2nd semester exam	Mid Feb March 4th wk
Practical & OSPE exam	May first week
Final exam	June first week

NB Dates are liable to change so check in administration

Mid year & 2nd half of academic year EXAMS: A 2 hour written exam Is held in January and covers topics present in general path course another term exam is held in March duration 8 mins

FINAL EXAM

A) Written 4 hour exam covers topics present in special pathology and selected topics in general pathology (over 2 days)

B) **Practical exam & OSPE** of 50 mins duration (10 stations- 5 minutes for each)

1- **Microscopic**

- 3 microscopic slides: diagnose and comment
- 2 Photographs of microscopic pictures of lesions in your box of slides with questions on the lesion's microscopic picture

2- **Gross**

- 2 jars to write a report on Jar
- 1surgical unfixed specimen to report on
- 1 jar photograph with questions on the lesion
- 1 Photograph of a surgical unfixed specimen in the CD of your slide box + MCQ

3- **Oral**

5-D: GRADING SYSTEM:

Examination:		Marks allocated	% Marks
Mid year 1st Term exam I January		40	13.3 %
2nd half exam March		10	3.3%
Pop Quizes		10	3.4%
Final exam May	Written	150	50%
	Practical& OSPE	70 +20	30%
TOTAL		300	100%

- The minimum passing score is (60%) provided at least 40% of marks are obtained in the final written exam
- Passing grades are: EXCELLENT >85%, VERY GOOD 75- <85%, GOOD 65- <75% and FAIR 60- <65%.

NB :

- Students with acceptable excuses during the year : Result of practical, oral & written exams will be multiplied by a factor so long as their years work and attendance was acceptable
- Rest of students will have their years work and attendance added to their final result (12 marks)
- If the student is a doubler. The results of his written are multiplied by a factor and his grade considered as just pass.

5-E: EXAMINATION DESCRIPTION:

Examination:		DESCRIPTION	Marks allocated
Mid year exam I (2hrs)		Written 2 hour exam covering topics in general pathology short questions- true or false –define- MCQ	**40**
2nd half exam (16 mins) March		Topics: 4 special Pathology topics short questions- true or false -MCQ-define- labeled photos	**10**
Pop Quizzes activities			**10**
Final exam			**240**
	Written 2 days (2hrs)	Written 3 hour exam covering topics in general & special pathology: short essay questions- true or false, define & MCQ + short case + problems in Pathology	**150**
	Practical & OSPE (50min)	2 unknown slides – report (14) 3 photomicrograph+ MCQ (21) 1 Photograph of a surgical unfixed specimen + MCQ (7) 2 jars + report on Jar (14) 1 fresh autopsy/surgical report (7) 1 jar photograph with MCQ/ short question-(7) oral	**90**
TOTAL			**300**

LIST OF REFERENCES:

- Basic materials:

▪ Department books

- General & Special pathology for medical students parts 1 &2 Department books
- Color atlases of Gross Pathology and Histopathology G. Nada et al .

• Box of average 66 slides + CD with microscopic images to complement unavailable slides - museum photos - fresh specimens- Course specs-Tutorial-activities-e-learning) . Box is to be used during the academic year and returned to department before written exam

• E-learning material on our web site & also available on CD

- http://elc.cu.edu.eg

- SUGGESTED MATERIAL:

▪ Department tutorials & practical data shows, available in the department for department use

• Recommended Textbook : Basic Pathology by Kumar, Cotran & Robbins - or General & systemic pathology J.C.E Underwood 3d edition Livingstone- or Illustrated Pathology Govan-Macfarlane & Callander. Available at faculty bookshops & main library

• Lecture & practical lesson CDs available in the department on request

- Important web sites:

http://www.medicine.cu.edu.eg/beta/en/jcalpro/2428.html
http://elc.cu.edu.eg/
http://www.kasralainy.edu.eg/elearning/
http://www.pathmax.com/
http://www-medlib.med.utah.edu/WebPath/LABS/LABMENU.html#2
http://www.med.uiuc.edu/PathAtlasf/titlePage.html
http://www.medscape.com/pathologyhome
http://www.gwumc.edu/dept/path/2F.HTM

http://www.path.uiowa.edu/virtualslidebox/

http://web.med.unsw.edu.au/pathology/Pathmus/pathmus.htm#InteractiveImages

http://www.virtualpathology.leeds.ac.uk/

http://histopathsho.34sp.com/index.html

http://pathology.class.kmu.edu.tw/index.htm

http://www.gla.ac.uk/faculties/medicine/teaching/MedCALlist.htm

MIC-307

Medical Microbiology & Immunology

Medical Microbiology & Immunology (3rd year)
Code : MIC-307

- **Department offering the course:** Medical Microbiology &Immunology department.

- Third academic year of M.B.& B.Ch. program.

Basic Information:

- **Allocated marks:** 200 marks

- **Course duration:** 30 weeks of teaching

- **Teaching hours:** 5 hours/week = 150 total teaching hours

	Hours / week	Total hours
1- Lectures	3	90
2- Small group teaching / tutorials	1	30
3- Practical	1	30
4- Others assignments & bureau hours	Not included	Not included
Total	**5**	**150**

B) Professional Information:

1- Overall Aim of the Course:

- To educate students about the basic features of general bacteriology, virology and mycology and to provide students with an understanding ofthe immune system, its protective functions and its role in the patho- physiology of infectious and non-infectious diseases.
- To familiarize students with the common infections and diseases of medical importance, their microbial causes, as well as laboratory diagnosis, treatment, prevention and control of such diseases.
- To enable the students to practice the principles of sterilization and infection control measures and policies.

2- Intended Learning Outcomes (ILOs):

a- Knowledge and understanding:

By the end of the course, students should be able to:

a.1. Describe the normal structure and function of human body, specifically the parts involved in the immune system as primary and secondary lymphoid organs. (a.1)

a.2. Describe the common diseases and life-threatening conditions asregards etiology, pathogenesis, clinical features, differential diagnosis and complications throughout the different age groups, namely infectious as well as immunological conditions. (a.6)

a.3. Define the principles of management for common diseases and life-threatening conditions including pharmacological basis of drugs, non-invasive and invasive interventions, basic pre- and post-operative care, pain relief and palliative care, including all diagnostic and therapeutic modalities employed in infectious as well as immunological problems. (a.7)

a.4. Describe the theoretical basis of professional, practical skills andevidence based medicine (EBM). (a.8)

a.5. Describe the role of genetics in health and disease and the basic principles of

gene therapy and genetic counseling, in relation to infections and immunity. (a.9)

a.6. Identify the determinants of health, principles of health promotion, disease prevention, early detection and control of common community health problems including disease surveillance and screening, employing knowledge in the study ofinfection control and prevention. (a.10)

a.7. Define the principles of management and appropriate quality concepts and processes required for healthcare facilities, especially those related to patient's safety from healthcare- associated infections. (a.11)

a.9. Recognize basics of health and patient's safety and safety procedures during practical and clinical years. (a.15)

b- **Practical and Clinical Skills**

By the end of the course, students should be able to:

b.1. Demonstrate basic sciences' practical skills relevant to the futurepractice and acquire practical, clinical skills and competencies. (b.1)

b.2. Adopt suitable measures for safety and infection control. (b.25)

c- **Professional and behavioral skills:**

By the end of the course, students should be able to:

c.1. Respect the patient's right to know and share in decision making aswell as dignity, privacy, information confidentiality and autonomy. (c.2)

c.2. Apply the national code of ethics issued by the Egyptian MedicalSyndicate. (c.5)

c.3. Respect and follow the institutional code of conduct. (c.6)

c- **Communication skills:**

By the end of the course, students should be able to:

d.1. Communicate clearly, sensitively and effectively with patients andtheir relatives and colleagues from a variety of health and social care professions. (d.1)

d.2. Use communication styles to bring about behavioral change. (d.6)

c- **Intellectual Skills**

By the end of the course, the student should acquire the skills needed to:

e.1. Integrate the results obtained from history, clinical examination and investigational data into meaningful diagnostic formulation, focusing on interpretation of laboratory diagnostic tests and reports. (e.2)

e.2. Combine clinical and investigational data with evidence based knowledge and skill of deductive reasoning for clinical problem solving. (e.3)

e.3. Design scientific research through the formulation of research questions pertinent to medicine and the collection, analysis and interpretation of medical data. (e.7)

c- **General and Transferable Skills**

By the end of the course, the student should acquire the skills needed to:

f.1. Adopt the principles of lifelong learning needs of the medicalprofession (continuous professional development; CPD). (f.1)

f.2. Use computers efficiently in reaching biomedical informationto remain current with advances in knowledge and practice.(f.2)

f.3. Present information clearly in written, electronic and verbalforms. (f.3)

f.4. Apply English language as needed for appropriate learning andcommunication in relation to medicine. (f.8)

Course contents:

TOPIC	No. of hours		
	TOTAL	Theoretical (% of total)	Practical (% of total)
GENERAL MICROBIOLOGY General Bacteriology morphology and structure, classification of bacteria, bacterial physiology and growth,bacterial genetics, gene cloning general methods for identificationof bacteria	24	12 (13.5%)	12 (20%)
IMMUNOLOGY Components of the immune system, innate immunity, complement, acquired immunity (humoral and cell mediated), protective immunity, tumor immunology, hypersensitivity, autoimmunity,	30	24 (26.5%)	6 (10%)
Systematic Bacteriology &Mycology Staphylococci,streptococci, neisseriae, Corynebacterium, Listeria,actinomycetes, acillus, Clostridium,Mycobacterium, enterobacteriaceae, Vibrio, Pseudomonas Yersinia, Francisella, Pasteurella, Hemophilus, Bordetella, Brucella,Bacteroides, legionellae, mycoplasmas, spirochaetes, rickettsiae and chlamydiae Fungi	66	30 (33.5%)	36 (60%)
VIROLOGY (General Virology &Systematic virology Picornaviruses, arthropod-borne and rodent-borne viruses, reoviruses, rotaviruses, orthomyxoviruses, paramyxoviruses, Rubella virus, Rabies virus, retroviruses, adenoviruses, herpesviruses, poxviruses, parvoviruses, hepatitis viruses, tumour viruses,slow viruses and prion diseases	21	18 (20%)	3 (5%)
Applied Microbiology & InfectionControl	9	6 (6.5%)	3 (5%)
TOTAL	150	**90 (100%)**	**60 (100%)**

III-A) TOPICS:

1. IGeneral microbiology
2. Immunology
3. Systemic bacteriology
4. Mycology
5. Virology
6. Applied Clinical Microbiology
7. Infection Control

III-B) Tutorial / Small Group Discussions /PRACTICAL CLASSES:

1- Lab safety & infection control
2- Microscopy and Staining
3- Culture Techniques and media
4- Biochemical Reactions
5- Serological reactions
6- Molecular diagnostic Microbiology
7- Animal pathogenicity testing
8- Staphylococci
9- Streptococci
10- Neisseria
11- Corynebacteria
12- Mycobacteria
13- Bacillus
14- Clostridia
15- Enterobacteriaceae
16- Vibrio
17- Non-fermentative Gram negative bacilli

18- Brucella

19- Spirochaetes & Candida

20- Revision of diagnostic algorithms

4- Teaching and learning methods

METHODS USED:

1. Lectures
2. Small group discussions
3. Tutorials
4. Practical classes
5. Micro assignments

TEACHING PLAN:

1. *Lectures:* (fully illustrated with drills): Students will be divided into two large groups for lectures. The lectures are given at Hall B auditorium. One-hour-lectures are held three times weekly for each group (Sunday: 10:00 a.m. and 1:00 p.m., Tuesday: 8:00 a.m. and 11:00 a.m., and Thursday: 10:00 a.m. and 1:00 p.m.). Lectures are given throughout the academic year.
2. *Tutorials:* Groups of 120-160 Students will be divided into 4 smaller groups. Each group has one tutorial per week throughout the academic year (9:00 - 10:00 a.m. or 12:00 - 1:00 p.m.). Explanation of the practical class and revision of relevant theoretical material accompanied by problem solving and discussing related case studies will be presented during this hour.
3. *Practical classes* will follow the tutorial; with one practical class per week throughout the academic year (10:00 a.m. - 11:00 a.m. or 1:00 p.m. - 2:00 p.m.), during which practical demonstration and discussion will occur.

Time plan

Item	Time schedule	Teaching hours	Total hours
Lectures	3 times/week;one hour each, (Sun. 10 – 11 a.m., and 1 – 2 p.m.) (Tuesday 8 – 9 a.m., and 11 a.m. – 12p.m.) (Thursday 10 – 11 a.m., and 1 – 2 p.m.)	3hours per weekover 30 weeks. 28 weeks forteaching and the remaining weeks for revision and training on how to solve exams	90
Tutorial	1 hour / week	1 hour per weekover 30 weeks. 23 weeks for teaching and the remaining weeks for revision and training on howto solve cases	30
Practical	1 hour / week	1 hour per weekover 30 weeks. 23 weeks forteaching and there-maining weeks for revision andtraining for the prac-tical exam.	30
Total	5		150

5- **Students Assessment methods:**

5-A) ATTENDANCE CRITERIA: Students should attend no less than 75 %of practical classes and/or small group sessions as an essential prerequisite to be legible for the final exams (Faculty requirements).

5-B) Assessment TOOLS:

Tool	Purpose (ILOs)
Written examination	To assess Knowledge, Understanding and Intellectual skills.
Oral examination	To assess Knowledge and Understanding,Intellectual skills as well as General and Transferable skills.
Practical examination	To assess Practical and Clinical Skills, Professional and Behav-ioral Skills, Intellectual skills as well as General and Transfer-able Skills.

5-C) TIME SCHEDULE:

Exam	Week
1- First half of the academic year	First week of December
2- Mid-year exam	January (end of 1st term)
3- Second half of the academic year	Third week of April
4- Practical exam	First week of May
5- Final exam	First week of June

N.B. Dates are liable to change, so check with administration.

5-D) GRADING SYSTEM:

Examination	Marks allocated	% of Total Marks
1- Midterm-First half	2.5	1.25%
2- Mid-year	32	16%
3- Midterm-Second half	2.5	1.25%
4- Final exam:		
a- Written	100	50%
b- Practical	40	20%
c- Oral	20	10%
5- Assignments	3	1.5%
Total	**200**	**100%**

The minimum passing score is **120 marks** provided at least **30 marks** are obtained in the final written examination (Faculty requirements).

Passing grades are:

EXCELLENT >85%

VERY GOOD 75- <85%

GOOD 65- <75%

FAIR 60- <65%

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) Examination description:

Examination		Description
1- Midterm-First half		MCQs
2- Mid-year		MCQs
3- Midterm-Second half		MCQs
4- Final exam	a- Written	A 2&1/2-hour written paper composed of short essay-type questions, MCQs and Casestudy.
	b- Practical	12 spots including slides, culture media, biochemical reactions, serological tests and instruments (descriptive structured) as well as a PowerPoint presentation showing different type questions covering applied topics and clinical situations.
	c- Oral	One oral examination station with 1 - 2 staff members (10-15 minutes: 4-5 questions)
5- Assignments		Students will be divided into groups of 55, each group will be assigned to a Staff member of the department who will further divide them into smaller groups and assign each group with a topic to complete a research on it within a certain time limit.

List of references:

6.1- Basic materials:

ESSENTIAL MEDICAL MICROBIOLOGY AND IMMUNOLOGY: Department theoretical book (3 volumes) and practical manual (2 parts)

6.2- Essential books (text books):

- Jawetz, Melnick and Adelberg's *Medical Microbiology*
- Janeway and Travers Immunobiology: The immune system in health and disease

6.3- Web sites:

asmnews@asmusa.org

http://www.phage.org/black09.htm

http://www.microbe.org/microbes/virus_or_bacterium.asp

http://www.bact.wisc.edu/Bact330/330Lecturetopics

http://whyfiles.org/012mad_cow/7.html

http://www.microbelibrary.org/

http://www.hepnet.com/hepb.htm

http://www.tulane.edu/~dmsander/Big_Virology/BVHomePage.ht ml

http://www.mic.ki.se/Diseases/c2.html

http://www.med.sc.edu:85/book/welcome.htm

http://www.biology.arizona.edu/immunology/microbiology_immunology.html

PHA-308

Medical Pharmacology

Medical Pharmacology (3rd year)
Code : PHA-308

- **Department offering the course:** **Medical Pharmacology.**
- **Third academic year of M.B.& B.Ch. program**

A) Basic Information:

- **Allocated marks:** 300 marks.
- **Course duration:** 30 weeks.
  - **Teaching hours:**
  - **Theoretical:** 120 hours.
  - **Practical:** 60 hours.

B) Professional Information:

a. Overall Aim of the Course:

1. To provide the basic knowledge about commonly used groups of drugs affecting different body systems and their implications in therapy of disease and health promotion.
2. To enable students to understand the safe use of drugs as regards adverse effects, contraindications and drug interactions.

Intended Learning Outcomes (ILOs):

a- Knowledge and understanding:

By the end of the course, students should be able to:

a.1-Describe the pharmacokinetic, pharmacodynamic and pharmacotherapeutic properties of different groups of drugs affecting body systems. (P-ILO-a.7)

a.2-Describe the adverse and toxic effects, and their management of commonly used groups of drugs. (P-ILO-a.7)

a.3-Define the limitations to the use of drugs such as contraindications and drug interactions. (P-ILO-a.7)

a.4-Explain clinically relevant age, sex and genetic related variations that affect re-

sponse to drugs (P-ILOa.7 & 9).

a.5-Describe the pathophysiology of diseases and explain the rational basis for the use of drugs (P-ILO-a.6).

a.6-Explain the impact of preventive pharmacology in promoting health and prevent illness (P—ILO-a.10).

a.7- Describe the use of life saving drugs. (P-ILO-a.7)

a.8-Define the principles and applications of gene therapy (P-ILO-a.9).

a.9-Recognize the rational and general guidelines of the use of drugs in the proper dose in special population such as pediatrics, geriatrics, pregnancy and lactation and in cases of liver and kidney impairment. (P-ILO-a.7)

a.10-Define the basis of pharmaco-economics. (P-ILO-a.8)

b- Professional and practical skills:

By the end of the course, students should be able to

b.1- Work out drug dosage based on patient's criteria and health condition. (P-ILO-b.1 & 8)

b.2- Write safe prescriptions for selected common and important diseases. (P-ILO-b.1 & 9)

b.3- Practice enteral, parenteral, inhalation; including the use of nebulizers; and topical methods for drug administration. (P-ILO-b.1, 13 & 18)

b.4- Design rational therapeutic strategies for both acute and chronic conditions that take into account the various variables that influence these strategies (P-ILO-b.1, 5 & 6).

c- Professional Attitude and Behavioral Skills:

By the end of the course, students should be able to

c.1- Respect the patient right to know and share in decision making as regards the choice of drugs. (P-ILO-c.2)

c.2- Understand and respect the different cultural beliefs and values that affect the use of certain drug groups. (P—ILO-c.3)

c.3- Respect ethics related to drug prescription and use especially to drugs liable to produce abuse. (P-ILO-c.5)

d- Communication Skills:

By the end of the course, students should be able to

d.1- Communicate clearly and effectively with patients during drug counseling. (P-ILO-d.1)

d.2- Communicate effectively with other health care professions. (P-ILO-d.1)

e- Intellectual Skills:

By the end of the course, students should be able to

e.1- Analyze the mode and mechanism of action of known and unknown drugs on various biological tissues and systems. (P-ILO-e.3)

e.2- Calculate accurately drug's dosage, bioavailability, plasma half life and volume of distribution in different patient populations. (P-ILO-e.1)

e.3- Combine clinical and investigational data with evidence based knowledge for clinical problem solving. (p-ILO-e.3)

e.4- Design a pharmacological plan for management of common diseases and emergencies. (P-IILO-e.5)

f- General and transferable skills:

By the end of the course, students should be able to:

f.1- Adopt the principles of lifelong learning needed for continuous professional development. (P-ILO-f.1)

f.2- Use computers effectively in reaching biomedical information to remain current with advances in knowledge and practice. (P-ILO-f.2)

f.3- Present information clearly in written, electronic and verbal forms. (P-ILO-f.3)

Course contents:

a-Topics:

1. **General pharmacology:** routes of drug administration, pharmacokinetics, Pharmacodynamics, use of drugs in special population.
2. **Autonomic nervous system& drugs** affecting the ganglia.
3. **Ocular pharmacology :** drugs affecting the eye and treatment of glaucoma.
4. **Skeletal muscle relaxants :**centrally and peripherally acting drugs.
5. **Autacoids :** histamine , serotonin, peptides, eicosanoids, and their modulators.
6. **Respiration:** cough therapy and treatment of bronchial asthma.

7. **Renal pharmacology** : Diuretics, acidification and alkalinization of urine.
8. **Cardiovascular system :** Anti-hypertensive drugs and treatment of ischemic heart diseases, heart failure and dysrhythmias.
9. **Blood and blood forming organs:** Treatment of coagulation defects, anemia and dyslipidemia.
10. **Psycho- neuropharmacology :** analgesics, sedatives, hypnotics and anxiolytics. Antipsychotics, antidepressants, anticovulsants andantiparkinsonism. General and local anaesthesiaand C.N.S. stimulants.
11. **Hormones and their antagonists :** insulin, oral hypoglycemic, adrenal steroids, thyroid gland, sex hormones, pituitary hormones and calcium homeostasis.
12. **G.I.T. :** acid disorders, emetic and ant emetic drugs and purgatives.
13. **Chemotherapy :** B- lactam antibiotics, Aminoglycosides, broad spectrum anti-biotics, macrolide, quinolones , sulphonamides, antifungal, antiviral, therapy of tuberculosis, anti-amoebic, anti alarial, antibilharzial and cancer chemotherapy.
14. **Drug interaction.**
15. **Chelating agents.**
16. **Prescription writing.**
17. **Vitamins and food supplements.**
18. **Immunopharmacology**
19. **Pharmaco-economics.**
20. **Pharmacogenetics**

b- Practical &applied p harmacology (15 classes):

1. Dosage forms and routes of drug administration (5 weeks).
2. Effect of drugs on isolated heart (2 weeks).
3. Effect of drugs on isolated intestine (2 weeks).
4. Applied ocular pharmacology (2 weeks).
5. Effect of drugs on blood pressure (2 weeks).
6. Pharmacokinetic concepts (2 weeks).

c- Clinical pharmacology (15 Classes)

1. Evidence based medicine (One week)
2. Ischemic heart diseases “Angina + Myocardial infractions” (2 weeks).
3. Hypertension (2 weeks).
4. Heart failure (2 weeks).

5. Bronchial asthma (2 weeks).
6. Peptic ulcer (2 weeks).
7. Diabetes mellitus (2 weeks).
8. Epilepsy (One week).
9. Art of prescription writing (One week).

Topics	Theoretical		Practical and Clinical		Total	
	Hours	Percent	Hours	Percent	Hours	Percent
1- General pharmacology	11	9.2%	14	23%	25	13.9
2- Autonomic nervous system	16	13.3%	12	20%	28	15.6
3- Ocular pharmacology	2	1.7%	4	7%	6	3.3
4- Skeletal muscle relaxants	2	1.7%	-	-	2	1.1
5- Autacoid and their modulators	4	3.3%	-	-	4	2.2
6- Respiration	4	3.3%	2	3%	6	3.3
7- Renal pharmacology	4	3.3%	-		4	2.2
8- Cardiovascular pharmacology	16	13.3%	12	20%	28	15.6
9- Blood / blood forming organs	5	4.2%	-	-	5	2.8
10- Psycho-neuro-pharmacology	16	13.3%	2	3%	18	10
11- Hormones and antagonists	11	9.2%	4	7%	15	8.3
12- Gastro-intestinal tract	6	5%	4	7%	10	5.6
13- Chemotherapy and antiseptics	16	13.3%	-	-	16	8.9
14- Drug interactions	2	1.7%	-	-	2	1.1
15- Chelating agents	1	0.8%	-	-	1	0.6
16- Vitamins and food supplements	1	0.8%	-	-	1	0.6
17- Immune-pharmacology	1	0.8%	-	-	1	0.6
18- Pharmaco-economics	1	0.8%	-	-	1	0.6
19- Pharmacogenetics	1	0.8%	-	-	1	0.6
20- Prescription writing	-	-	4	7%	4	2.2
21- Evidence based medicine	-	-	2	3%	2	1.1
Total	**120**	**100%**	**60**	**100%**	**180**	**100%**

Teaching and learning methods

a. **Methods used:**

1. Lectures.
2. Tutorial (small group teaching):

a- Experimental modules during the first semester

b- Clinical modules during the second semester

b. **Teaching plan:**

1. **Lectures:** One hour / lecture, five days / week. Students are divided into subgroups.
2. **Experimental Classes:** Two hours / week each. Students are divided into 10 groups, which are sub-divided into 30 small groups.
3. **Clinical Tutorial Classes:** Two hours / week each. Students are divided into 10 groups, which are sub-divided into 30 small groups.

Time plan

Item	Time Schedule	Total hours
1- Lectures	One hour lecture X 5days / Week X 24 weeks	**120**
2- Experimental classes	One experimental class / week X 2 hours each X 15 weeks	**30**
3- Clinical Classes	One clinical session / week X 2 hours each X 15 weeks	**30**
Total	**30 weeks**	**180 hours**

5. **Students Assessment methods:**

a. **Attendance criteria:**
Faculty bylaws

b. **Assessment tools:**

Written, oral, practical examinations and assignments.

c. **Time schedule:** Faculty bylaws

Exam	Week
1- First semester midterm exam	7
2- Mid-year exam	16
3- Second semester midterm exam	23
4- Practical and oral exams	28
5- Final written exam	30

d. **Grading system:**

Examination	Marks allocated	% of Total Marks
1- First semester midterm	**4**	1.3
2- Second semester midterm	**4**	1.3
3- Assignment	**4**	1.3
4- Mid-year	**48**	16
5- Practical and oral	(OSPE) **90**	30
6- Final written	**150** First day: Short answered question = 80 marks 1- Second day: MCQs = 70 Marks 2-	50
Total	**300 Marks**	**100%**

- The minimum passing grades according to faculty bylaws.

e. **Examinations description:**

Examination	Description
1- First semester midterm	Short answered questions, M.C.Qs. and E.M.Qs.
2- Second semester midterm	Short answered questions, M.C.Qs. and E.M.Qs.
3- Assignments	Write an essay on provided topics.
3- Mid-year	Short answered questions, M.C.Qs. and E.M.Qs.
5- Practical and oral	Objectively structured questions such as M.C.Qs. and E.M.Qs, and prescription writing
6- Final written	Short answered questions, M.C.Qs. and E.M.Qs.

6. **List of references:**

a. **Basic materials:** "Applied Pharmacology" by staff members of Pharmacology department.

b. **Recommended books:**
   i. "Lippincott's Illustrated Reviews - Pharmacology", editors Harvey RA and Champ RC.
   ii. "Pharmacology", editors Rang PA et al.
   iii. "Clinical Pharmacology", editors Laurance DR and Bennett PN.
   iv. "Basic & Clinical Pharmacology", editorKatzung GK.

c. **Others:**
   i. C.Ds. prepared by staff members and provided by the Vice dean for education and students' affairs.

www.drugs.com

STUDENT NAME

FOR-409

Forensic Medicine and Clinical Toxicology

Forensic Medicine and Clinical Toxicology (4th year)
Code : FOR-409

- **Department offering the course Forensic Medicine and Clinical Toxicology**
- **Forth academic year M.B.& B.Ch. program**

A) Basic Information:

- **Allocated marks:** 200 marks
- **Course duration:** 8 weeks of teaching with final end year exam
- **Total hours:** **144** (80 theoritical+64 practical)

B) Professional Information:

1- Overall Aim of the Course:

1. Learn the basics of forensic medicine that will enable the student to make medico-legal judgment on simple cases of injuries, distinguish between natural deaths & deaths of criminal causes and identify unknown & known living persons and dead bodies as well as human remains.

2. Learn the basics of clinical toxicology that will enable the student to diagnose and manage intoxicated patients.

2- Intended Learning Outcomes (ILOs):

By the end of the course, students should be able to:

a-Knowledge and understanding:	
a.1. Describe different medico-legal situations of living and dead individuals regarding personal identification.	a-1,2,3 ,5,14
a.2. Diagnose causes and manner of death , postmortem changes and its importance in estimation of post mortem interval	a-1,2,3 ,5,14

a.3. List different types of wounds and torture- related injuries	a-3,5,14,15
a.4. Describe medico-legal (ML) aspects of different cases of sexual assaults	a-5,14,15
a.5. Define maternal morbidity and mortality from medico-legal (ML) point of view	a-1,2,5,7,8,14,15
a.6. Define and explain various medico-legal aspects of malpractice	a-8,14,15,16
a.7. Recognize basic background of medical ethics	a-8,14,15,16
a.8. List different classes of common toxic substances and environmental pollutants	a- 7,15
a.9. Describe the circumstances of intoxication, toxic doses, toxicokinetics, clinical picture, differential diagnosis of different drugs and toxic substances	a-2, 6,7,15
a.10.Describe the initial appropriate first aid treatment and antidotal measures for different drugs and toxic substances	a-2, 7,15
b- Professional and practical skills:	
b.1. Identify living and dead individuals	b- 1 c-1,4,5,6
b.2. Diagnose death by different clinical and investigatory methods	b-1,3,11 c-1,4,5,6
b.3. Determine time of death through assessment of post mortem changes	b-1,3,11 c-1,5,6
b.4. Identify different causes and manner of death	b- 1,4 c-1,5,6
b.5. Recognize different types of injury	b-2,3 c-1,2,4,5,6,8
b.6. Examine and differentiate between types of wounds and write a proper primary wound report	b- 1,2 c-1,2,4,5,6,8
b.7. Differentiate between different blood stains and blood grouping	b- 1,11,25 c-5,6

b.8. Construct appropriate management strategies both diagnostic and therapeutic for patients with acute and chronic toxicity	b - 5 , 6 , 7 , 8 , 9 c - 1 , 2 , 3 , 4 , 5 , 6 , 7 , 8
b.9. Recognize different toxicological screening protocols	b- 1,11,25 c-5,6
c- Intellectual skills:	
c.1. Recognize common ethical dilemmas and suggest a proper solution	b-1,2,4,5,6,7,9,25 c - 1 , 2 , 3 , 4 , 5 , 6 , 8 d - 1 , 2 , 3 , 4 , 5 e-1,2,4,3,6,8 f-1
c.2. Analyze case scenario of clinical forensic medicine and recognize their medico legal aspects	b-1,2,4,7,9,25 c-1,2,3,4,5,6,8 e-1,2,3,4,6 f-1,2
c.3. Analyze different problems of medical ethics	b- 1,2,4,6,9,25 c - 1 , 2 , 3 , 4 , 5 , 6 , 8 d - 1 , 2 , 3 , 4 , 5 e-2,3,6,8 f-1,2
c.4. Interpret the findings in a case scenario of intoxicated patient	b-1,5,6,8,9 c-4,5,6,8 d-1,2,3,4,5 e-2,3,4,6 f-1,2
c.5. Formulate appropriate management plan for intoxicated patients	b - 1 , 5 , 6 , 8 , 9 , 2 5 c - 1 , 2 , 3 , 4 , 5 , 6 , 8 d - 1 , 2 , 3 , 4 , 5 e-1,2,3,5 f-1,2
d- Professional Attitude and Behavioral Skills	
d.1.Recognize the legal aspects and moral commitments of medical practice	b- 1,4,9,25 c - 1 , 2 , 3 , 4 , 5 , 6 , 8 f - 1 , 4
d.2. Respect the patient's autonomy	b-1,4 c-1,2,3,4,5,6,8 d-1,2,3,4,5,6 f-3,4
d.3. Follow the national code of ethics	a-8, 14, 15, 16 c-1,2,3,4,5,6,7,8,9,10 d-1,2,3,4,5,6 f-3,4

e- Communication Skills:	
e.1.Communicate effectively with seniors, colleagues, and coworkers	b-1 c-3,4,5,6,8,11,12,14 d-1,2,3,4,5,6 f-3,4
e.2. -Show compassion to patients and their relatives in situations of stress and grief	d-4
e.3. Honor and respect patients and their relatives, colleagues and any other member of the health profession.	d- 5
f- General and transferable skills:	
f.1. Adopt the principles of lifelong learning	b- 1,25 c-5,6,8 f-1,2,3,4
f.2. Use computers in reaching biomedical information	b- 1 c-5,6 f-2,3
f.3. Present information clearly in written and verbal forms	b- 2,5,6 c-1,2,3,5,6 e-1,2 f-3,4
f.4. Work effectively within a team	c-4,5,6,8 f-4,5

3- Course contents:

I. FORENSIC MEDICINE

Subject	Lectures (hrs)	Tutorial (hrs)	Practical (hrs)		Hours
			Section (hrs)	lab	Total
Identification		2	4	3	9
Forensic genetics		2			2
Blood		2		1	3
Death and Postmortem Interval	3	**2**			5
ML Aspects Of Wounds (general& regional)	4	4	4		12
ML Aspects Of Physical injuries	2				2
Transportation injuries, mass disaster& torture	2	2			4
ML Aspects Of firearm injuries	2	2	4	1	9
ML Aspects Of Domestic Violence	2				2
ML Aspects Of sexual assaults	2				2
ML Aspects Of obstetrics	2	2	2		6
Violent Asphyxia	2	2	2		6
ML Aspects Of Suspected Infant Deaths	2				2
Medical Ethics& malpractice	2				2
Total	25	20	16	5	66

II. CLINICAL TOXICOLOGY

Topics	Lectures (hrs)	Tutorial (hrs)	Practical (hrs)		Hours
			Section (hrs)	Lab	Total
Basic principles of clinical toxicology	4	3		2	9
Toxidromes	5				5
Household intoxication	2	1	2		5
Medical toxicology	4	2		1	7
Environmental Pollutants (pesticides- toxic gases- metals)	5	3		1	9
Substances of abuse -drug dependence- plant poisons	2		2	1	5
Volatiles	1				1
Animal and Food intoxication	2	1			3
Total	25	10	4	5	44

III-A) TOPICS:

A) **- Forensic Medicine:**

I. **Identification:**

1. Identification of living
2. Identification of dead
3. Identification of human remains including bones
4. Ages of medicolegal importance.
5. Medico legal importance of hair and fiber examination

II. **Forensic genetics**

1. Medicolegal applications of DNA typing.
2. Genetic Code.
3. Mitochondrial DNA.

III. **Blood stain examination**

1. Blood stain examination
2. Blood Grouping
3. RBCs markers
4. Plasma markers
5. HLA system
6. DNA finger printing
7. Paternity invetigation

IV. **Clinical Forensic Medicine:**

B) **Forensic Traumatology:**

1-Wounds:

1. Types of mechanical trauma and mechanism of wound production
2. Manner of wound infliction
3. Classification of Wounds.
4. Permanent infirmity and disfigurement.

5. Types & Characters of wounds :
   a) Blunt trauma wound: Abrasion, Bruises, and lacerations
   b) Sharp: cut wounds
   c) Penetrating wounds: stabs, Punctured wound
6. Medico-legal Importance of wounds
7. Complications and causes of death from wound

2-Torture related injuries

3-Wounds of regional parts of the body:

a) Chest injuries
b) Neck injuries:
c) Abdominal injuries
d) Head injuries
e) Spinal injuries
f) Limb Fractures

4-Firearm injuries

5-Transportation injuries &mass disasters

6-Physical injuries (Burn, Scald, electric injuries, radiation injuries, explosions)

C) **Domestic violence**

C)- Medico-legal aspect of sexual assaults.

D)-Medico-legal aspect of obstetrics

Thanatology:

a) Death
b) Sudden death
c) Suspected death in Infant

I. **Violent Asphyxia**

II. **Medical Ethics & Malpractice**

D) - Clinical Toxicology

I. Introduction to Toxicology:

- Poison Classification
- Toxicokinetics
- Diagnosis of poisoned patients
- Management of intoxicated patient

II. Toxidromes:

- Anticholinergic Toxidrome
- Sympathomimetic Toxidrome (CNS stimulants) Opioid toxidrome (CNS depressant)
- Sedative hypnotic toxidrome (CNS depressant)
- Cholinergic Toxidrome

III. Household Intoxication:

- Inorganic Corrosives
- organic Corrosives

IV. Medical Toxicology:

- Cardiovascular drugs
- Analgesics and antipyretic
- Oral hypoglycemic
- Lithium

V. Environmental pollutants:

- Heavy metals (lead, mercury, Arsenic, Cadmium and Iron)
- Pesticides (organophosphorus, carbamates, pyrethroid, organochlorine, naphthalene and Rodenticides: Warfarin, zinc phosphide)

- Gaseous intoxication

VI. **Volatile:**

- Ethyl alcohol
- Methyl alcohol
- Hydrocarbons and kerosene

VII. **Food and animal poisoning**

VIII. **Toxic Plants:**

- Cannabis
- Nutmeg
- Khat

IX. **Drug dependence**

- Alcohol
- Opioid and Tramadol
- Sedative hypnotic
- CNS stimulant

III-B) Lecture: 10 hours/week

III-C) Tutorial / Small Group Discussions: 4 hours/ week

III-D) PRACTICAL CLASSES:

5sections/term (2hours/week) and 2 laboratory practice/term (4 hours/ term)

4- Teaching and learning methods

METHODS USED:

1. Lectures
2. Small group discussions
3. Tutorials

4. Practical classes
5. Case study
6. Laboratory Tests
7. Demonstration (slides and photographs, Museum specimens, X rays, Dental casts, finger prints and Video films)
8. Morgue /casualty (is needed)

TEACHING PLAN:

Lectures: *all students in one group*

Tutorials: *Divisio n of students into 4 groups*

Practical classes: *D ivision of students into 8 small groups*

Lab: *very small groups of 10 students.*

TIME PLAN

Item	Time schedule	hours
Practical • Section • Laboratory • Assignment	 • Once/week • 5 hours / round • Twice/week	 • 4/week • 5/round • 4/week
Lectures	5 times/week	10/ week
Tutorial	Twice /week	4/ week
Total		

5- Students Assessment methods:

5-A) ATTENDANCE CRITERIA: Faculty bylaws

5-B) Assessment TOOLS:

Tool	Purpose (ILOs)	
Written examination	To assess ILOS	a-1,2,3,4,5,6,7,8,9 c-1,2,3,4,5
Oral examination	To assess ILOS	a-1,2,3,4,5,6,7,8,9 c-1,2,3,4,5 d-1,2,3,4
Practical examination	To assess ILOS	b-1,2,3,4,5,6,7,8,9
Assignment	To assess ILOS	d-1,2,3,4 e- 1,2,3,4,5,6 f- 1,2,3,4

5-C) TIME SCHEDULE: Faculty bylaws

Exam	Week
1- Final Round Exam	At the end of 8th week
2- Final Practical exam	At the end of 8th week
3- Final year exam	At the end of the year

5-D) GRADING SYSTEM:

Examination	Tools	Marks allocated	% of total Marks
Round	Quiz written	10	5
	Assignment	5	2.5
	Final round written	25	12.5
Final	Oral exam	30	15
	Practical	30	15
	Final year written	100	50
Total		**200**	**100**

- The minimum passing & Passing grades (Faculty bylaws).

5-E) Examinassions description:

Examination	Tools	Description	Marks
Round	Quiz written	Short questions Death certificate	7 3
	Assignment	Wound report - Researches using computer - questionnaire survey-Presentation	5
	Final round written	Problem based Short essay questions Modified essay questions **(explain, correct &give rational)**	25
Final year	Oral exam	Forensic Medicine Toxicology	15 15
	Practical	• Short wound reports (English & Arabic)	7
		• Long ML report	7
		• Describe & identify the forensic and toxicological specimens (naked eye/ under microscope).	10
		• Describe & identify the fingerprint	2
		• Determine the age using x-ray /dental cast	2
		• Explain the toxicological screening results	2
	Final year written	Problem based Short questions Modified essay questions **(explain, correct &give rational)** MCQs & EMQs	22 32 16 30
Total Marks			**200**

List of references:

6.1- Basic materials:

1. **Department books**

* Forensic * Toxicology * Practical

6.2- Recommended text books:

1. Goldfrank's Manual of Toxicologic emergencies (Michael J Darelano)
2. Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology: For Classrooms and Courtrooms By B.V. Subrahmanyam.
3. Simpson's Forensic Medicine, Jason Payne-James, Richard Jones, Steven B Karch, John Manlove

6.3- Periodicals, Web sites

(www.forensicmed.co.uk/,
www.medlib.med.utah.edu/webpath/,
www.dundee.ac.uk/facmedden/bmsc)

COM-410

Public Health and Community Medicine

Public Health and Community Medicine (4th year)
Code : COM-410

- **Department offering the course:** **Public Health and Community Medicine Department**
- **Fourth Academic year of M.B.& B.Ch. program.**
- **Date of specification approval:** **2016**

A) Basic Information:

- **Allocated marks:** **300** marks
- **Course duration:** Eight weeks
- **Teaching hours:** **Theoretical:** 128 hours

Practical sessions: 64 Hours

Field training: 10 visits

B) Professional Information:

1- Overall Aim of the Course:

1. Introduce basic knowledge and principles of Public Health and Community Medicine in the fields of epidemiology, biostatistics, research methods, environmental health, nutrition, health care management and health services.

2. Prepare a community- oriented physician capable of anticipating and responding to community health needs within the primary health care (PHC).

3. Apply and practice the principles of health research in provision of the valid and accurate information necessary for the decision making process in the medical profession.

4. Apply basic principles of nutrition and environmental health to help in promoting

the health and well being of community.

5. Develop a graduate who would be able to apply communication skills to educate, motivate, supervise, lead and advocate in health promotion, prevention and control programs.

2- Intended Learning Outcomes (ILOs):

a- Knowledge and understanding:

By the end of the course, students should be able to:

a.1- Understand the concept of community medicine, spectrum of health, pattern and levels of care and health services in a comprehensive health care program

a.2- Describe the different health education /communication, counseling and consultation strategies for use with clients, health care team, and the community.

a.3- Describe basic terms related to nutrition, the function of each nutrient, its source, required intake and impact of nutrient deficient or excess intake throughout lifecycle.

a.4- Describe nutritional screening and assessment

a.5- Recognize the recent dietary guides and guidelines, routine and modified of hospital diets and its indications

a.6-Define the basics of sound environment, the nature , health effects and sources of environmental risks including waste management in the community and in health care settings

a.7-Identify the population structure, measures for the population changes, census and estimated population

a.8-Understand basics of vital statistics related to fertility, morbidity ,mortality and burden of disease

a.9- Describe different types of health research and epidemiological study and their application.

a.10- Describe different sampling techniques.

a.11- Define the screening tests pertinent to selected morbidity conditions.

a.12- Identify statistics, biostatistics, variables and characteristics of normal distribution curve

a.13- Descibe the common terms used in the field of epidemiology and epidemiological cycle

a.14- Describe the MOH programs for the prevention and control of the communicable and most prevailing diseases in Egypt including surveillance and outbreak/ epidemic/ pandemic investigation

a.15- Recognize determinants of health and illness, health promotion and disease prevention of priority non communicable diseases.

a.16-Describe principles of health care management, leadership and team building, quality and its dimensions in health care.

a.17- Identify the common health problems that affect vulnerable groups including; mothers , children , school children, elderly, at risk occupational groups, and people with special needs.

a.18- Recognize different health policies, programs, and the approved MOH standards of practice applied for PHC, maternal and child, school children, elderly, at risk occupational groups, and people with special needs

Professional Skills

b-Practical and community ,

By the end of the course, students should be able to:

b.1- Develop a diet plan for normal individuals throughout the life cycle, especially the vulnerable and for selected disease conditions using dietary guides and food exchange lists

b.2- Assess indoor and outdoor environment for the basic sanitary requirments

b.3 Revise latest figures and trends for the Egyptian population, and its vital indicators

b.4 Practice research protocol writing, data collection, entry, cleaning, analysis and basic presentation skills followed by results' interpretation while abiding with highest standards of research ethics based on "Evidence Based Practice" approach

b.5 Apply the principles of epidemiology to some airborne, food borne, arthropod, and contact transmitted diseases as well as Non communicable diseases

b.6- Criticize the cold chain effectiveness at a given PHC facility

b.7- Apply standard methods of routine hand washing and alcohol-based hand rubs

b.8 Apply management functions in problem identification, prioritization, planning, implementation and evaluation of health care services by use of appropriate indicators

b.9 Apply MOH standards and protocols for maternal , child, occupational health care program in Egypt

b.10- Apply simple analytical tools to develop the "Family Health Status Index" to identify the priority at-risk rural family for health interventions

C . Professional attitude and behavioral skills

By the end of the course, students should be able to:

c.1- Acknowledge the importance of a multidisciplinary approach and group for disease prevention, national health care programs and in conducting public health surveillance to address specific public health problems and issues.

c.2- Appreciate the role of cultural, social, and behavioral factors in determining disease, disease prevention, health promoting behavior, and medical service organization and delivery.

c.3- Interact and communicate sensitively, effectively, and professionally and demonstrate respect for persons from diverse cultural, socioeconomic, educational, and professional backgrounds, and with persons of all ages and lifestyle preferences.

c.4- Appreciate the role of physician in primary health care.

d- Communication skills

By the end of the course, students should be able to:

d.1- Prepare health education message in specified topic and group

d.2- Apply appropriate health education and communication strategies in different settings including group as well as peer health education using behavioral change models

d.3- Communicate effectively with clients, community members, colleagues from other disciplines

d.4- Appreciate peer evaluation

e- Intellectual skills:

By the end of the course, students should be able to:

e.1- Calculate and interpret morbidity, mortality, and fertility statistics

e.2- calculate the different output indicators as derived from the service statistics' data;

e.3- Select the appropriate study design as indicated to the study objectives

e.4- Calculate measures of disease frequency and measures of association between risk factors and disease

e.5- Assess measures for validity of screening test

e.6- Choose the proper methods for data presentation and summarization

e.7- Identify trends in health and disease including epidemiological causes of high prevalence of certain infection , causes of eradication, emerging or reemerging previous infections worldwide and in Egypt.

e.8- Explain the ecological factors of morbidity and mortality within the concept of epidemiologic and demographic transitions.

f. General and transferable skills

By the end of the course, students should be able to:

f.1- Manage time and take responsibility for learning required for continuous professional development.

f.2- Identify his/her personal weakness through utilization of self- assessment and performance feedback and address weaknesses by developing learning plan.

f.3- Work effectively as a member or a leader of an interdisciplinary team.

f.4- Communicate effectively with clients and colleagues.

f.5- Apply simple statistical methods to analyze and understand data in medical and social research.

3- Course contents:

A: course content:

Introduction To Public Health

- Definitions and concepts
- Spectrum of Health
- Determinants of health
- Public health
- Patterns/levels of care
- Levels of practice

Communication and Health Education

- Communication
- Counseling
- Consultation
- Health Education (HE)

Basic and Applied Nutrition

- Definitions
- Major dietary nutrients
- Diet planning in health and disease
- Nutrition for the vulnerable groups
- Assessment of the nutritional status
- Malnutrition
- Nutrition and chronic diseases

Environmental Health

- Definitions
- Introduction
- Function and aim of environmental health
- Basic Requirements for a Healthy Environment
- Water and Health
- Waste
- Role of the Public Health Physician regarding environmental health issues

Demography

- Definitions:
- The population size
- Population change
- The population structure

Measurement of Health

- Definitions
- Importance of vital statistics
- Data sources
- Vital statistics' indicators 1- Morbidity statistics 2- Mortality statistics 3- Fertility rates

Epidemiologic Research Methods

- Introduction
- Types of Health Research
- Study Design Types
- Sampling
- Screening tests

Medical Statistics

- Definitions
- Variables
- Data and information
- Descriptive statistics
- Normal distribution curve

Epidemiology of communicable diseases

- General Epidemiology of communicable diseases
- The infection cycle
- Prevention of Infectious Diseases
- Control of Infectious Diseases
- Public Health Surveillance
- Immunization in Practice
- Epidemic/ Pandemic/ Outbreak Investigation
- Epidemiology of droplet infections
- Epidemiology of Food Borne Infections
- Epidemiology of Contact Infections
- Epidemiology of Arthropod Borne Infections

Epidemiology of Non Communicable Diseases

- Definitions
- General Epidemiology of the Non-Communicable Diseases
- Current situation of Non- Communicable Diseases in Egypt
- Epidemiology of Selected Non-Communicable Diseases

- Hypertension
- Coronary heart diseases o Diabetes Mellitus
- Cancer
- Chronic Obstructive Pulmonary Disease (COPD)

Health Care Management

- Basic Management Skills
- Quality Management
- Patient Safety
- Health Economics

Health System

- Introduction
- What is a health system?
- Health system in Egypt.

Primary Health Care

- Definitions
- Principles of PHC
- Characteristics of PHC
- The Eight Elements of PHC
- PHC services
- Family Practice
- Assessment of Community Needs

Maternal and Child Health Care

- Rationale for special care for the mothers and children
- Goals and objective of MCH
- Related Definitions
- Maternal health problems
- Health care for the mothers
- Child health problems
- Child health programme
- Evaluation of the MCH programme

School Health

- **Health problems of school children:**
- School Health Program

Disability/People with special needs

- Definitions and magnitude of the problem
- Etiology of disability
- Prevention of disability

Health of the Elderly

- Definitions, demographic changes and the trend of aging
- Health problems of the elderly
- The elderly health care program.

Occupational Health.

- Definitions
- Occupational health hazards
- Occupational Health and Safety Program (OHSP)

Mental Health

- Definition of mental health
- Domains and criteria of Mental Health
- Factors affecting Mental Health
- Mental Health Promotion and prevention

Egypt's Population Policy and family Planning

- Egypt Population Problem
- Objectives of the National Population Policy and its stratgies
- Fertility and Over Population
- Family Planning Program

B: Lectures and Training Activities Outlines

Topic		Hours	%	Practical Topics	Hours	Field Visits
Introduction & Health education and communication		**8**		Orientation	2	
1	General Introduction	2		Leadership & Team Building	2	
2	Communication and health behavior	6	6	Pre-visit rural	3	Visit 1 Rural
Nutrition		16		Feedback rural 1	3	Visit 2 Rural
3	Basic nutrition	4		Post-visit 2 Rural	3	
4	Applied nutrition	4		Pre-visit PHC	3	Visit 1 PHC
5	Nutritional assessment	4	12.5	Post –visit PHC	3	Visit 2 PHC
6	Malnutrition	4				
Epidemiological methods , medical statistics & informatics		22		Counseling	3	Health education lab
7	Measurement of Health	4		Pre –visit Cairo	3	Cairo University Visit
8	Epidemiological methods	12		Post visit Cairo	3	
9	Medical Statistics	4	17	Research protocol session 1	3	Computer lab 1
10	Demography	2		Individual research presentation	6	Computer lab 2
Epidemiology		44		Ethics and follow up	6	Computer lab (Google form)
11	General Epidemiology	16		Data analysis and presentation	6	
12	Communicable diseases	24		Pre final presentation	4	
13	Non-communicable diseases	4	34.5	Final presentation	2	

Topic		Hours	%	Practical Topics	Hours	Field Visits
Management and health services		34		Hand Hygiene	3	
14	Health Care Management	8		Pre nutritional assessment	3	Nutritional lab
15	Mental Health	2		Post nutritional assessment	3	
16	PHC	4				
17	Reproductive Health	4				
18	School Health	2				
19	Child Health	4				
20	Health of the elderly	2				
21	Health of people with special needs	2	27			
22	Occupational Health	4				
23	Family planning	2				
Environment		4	3			
TOTAL HOURS		**128**	**100**		**64**	**10 visits (36 hours)**

Lectures: Faculty Teaching Halls "98 hours"

Mini-lectures "15 x 2" hours within the departmental halls = 30 hours

[Pre & Post for expected 10 field visits] = 64 "within the dept."

Practical Exercises held in the departmental halls:

1. Post primary health care visit seminar (Mathematical calculation and presentation of different output indicators derived from services statistics' data)
2. Leadership (perform self and peer assessments regarding leadership criteria)
3. Nutritional lab. (Nutritional assessment for adults and children)

4. Communication and Health Education lab. (Role plays for effective communication in consultation)
5. Computer lab 1&2 (data entry, cleaning, analysis and presentation using EXCEL program)
6. Rural seminar (Calculation of family health status index and crowding index)
7. Post field visits seminars (data analysis using pivot tables to calculate measures of disease or disease related problems frequency and association between risk factors and disease)
8. Communicable diseases' case study

C: Extracurricular activities (for those interested after the end of the round):

1. Writing up research paper
2. International publication through international conferences and scientific journals
3. Department conference
4. Scientific DAYs

4- Teaching and learning methods:

A: Instructional Strategies

Illustrated lectures, seminars, small groups seminars, interactive presentations, group discussions, brainstorming, case studies/problem solving, role plays, demonstrations, facilitated practice, practical field visits and practical exercises.

B: Instructional Materials

Materials include students' handouts, classroom notes, and students' workbook including written exercises, assignments, skills learning guides and checklists.

C: Teaching Plan:

The educational year is divided into 4 rounds each lasting 8 weeks. The whole course is covered during each round (lectures, tutorial and practical training).

Each round the department receives one fourth of students' number. Students of each round are divided according to the following:

Lectures (Large Faculty halls) = all students

Tutorials (mini-lectures) in the department the students are divided into 10 groups (1, 2, 3, 4, 5, 6….). Each group = 35-40 students

Practical sessions: each group is divided into four teams (A, B, C, D). The total is 40 teams= each team is composed of 10 students

Site visits: all visits include 40 students.

D: Teaching and Learning Facilities

- **Lecture halls:** one grand lecture hall allocated for daily teaching (central lecture halls) ;
- **Small 10 classrooms' halls** available within the department;
- Writing boards are available in all rooms; overhead aids and slide projectors and computer lab. , data show, videos are available when needed;
- Skills lab: health education and nutrition assessment and computer lab **Field**

5- Students Assessment methods:

A) Attendence criteria: Faculty bylaws

B) Assessment tools:

Tool	Purpose (ILOs)
Written examination	To assess intellectual ,knowledge and analytical skills , problem solving
Oral examination	To assess: Presentation skills, information synthesis, understanding, applied knowledge
Practical examination	To assess: Analytical skills, problem solving, presentation skills, leadership/ team work, communication skills, creativeness, advocacy, reporting skills

C) Time schedule: Faculty bylaws

Exam	Time
1- Written following each round	Following each round
2- Practical exam	Following each round
3- Final exam	End of year

5-D) Grading system:

Examination	Marks allocated	% of Total Marks
1- Shock exams		
2-written end of round	60	20%
3-OSPE exam (end round practical exam)	30	20%
End of year 4- Written	150	50%
5- Oral	30	10%
6- Assignments & other practical activities	30	
Total		**300**

- The minimum passing & Passing grades (Faculty bylaws).

Formative assessment:

Student knows his marks after the Formative exams.

E) Examination description:

Examination	Description
1- Shock exams	Structured objective questions
2- End of round	
Written	Short questions and structured objective questions
Practical	OSPE for assessment of practical sessions participation
3- Final exam:	
Written	(Short essay) questions – problem solving- Structured objective questions
Oral	Oral questions using cards
Assignments & other activities	All through round groups are given assignments for presentation included in the practical part

6- List of references:

6.1- Basic materials:

Public Health and community medicine book.

6.2- Essential books (text books):

1. Wallace/Maxcy-Rosenau-Last public health & preventive medicine
By Robert B.Wallace: Brownson –Schecter - Scutchfield- Zaza.
2. PARK's Textbook of preventive and social medicine by John Everett Park - Banarsidas Bhanot .
3. Dawson B. & Trapp R.G. Basic and Clinical Biostatistics, McGraw Hill companies INC.

6.3- Recommended books:

1. Text books in Medical epidemiology
2. Text books in Social Medicine
3. Text books in Family Medicine
4. Text books in Medical statistics
5. Text books in Health Administration and Health management
6. Text books in Health Economics
7. Text books in Human Environment
8. Text books in basic and applied Nutrition
9. Text books in Occupational Health and Ergonomics
10. Text books in Infectious diseases epidemiology
11. Text books in Non-communicable diseases epidemiology

6.4- Periodicals, Web sites … etc:

- World health organization available at www.who.int/
- Clinical Nutrition(Hundreds of Journals and periodicals) available at https://www.**journals**.elsevier.com/**clinical-nutrition**

- American Journal of Public Health available at ajph.apha**publica**tions.org/

Eastern Mediterranean Health Journal available at www.emro.who.int/...**journal**/**eastern-mediterranean-health-journal**/home

Weekly Epidemiological Record available at www.who.int/wer/

OPH-411

Ophthalmology

Ophthalmology (4th year)
Code : OPH-411

- **Department of Ophthalmology**
- **Fourth academic year of M.B.B.Ch. program**

A) Basic Information:

- **Allocated marks:** 250 marks
- **Course duration:** 8 weeks
- **Teaching hours:** 200 hours

Lectures:	80 hours
Small group teaching/ Tutorials/ Practical:	120 hours

B) Professional Information:

1. Overall Aims of the Course

By the end of this course students will be able to perform a basic eye examination. Students will be able to recognize early warning signs of the following **broad** groups of conditions:

- **Blinding eye disease: Important** examples of blinding eye diseases that are potentially treatable if discovered early include cataract, glaucoma, diabetic retinopathy, macular degeneration, and, amblyopia in young children.
- **Systemic disease:** Potentially life-threatening systemic disorders that may involve the eye including; diabetes, hypertension, temporal arteritis, and an embolism from the carotid artery or the heart.
- **Tumors or other disorders of the brain:** These conditions may threaten both vision and life. Important examples include meningioma, aneurysms, and multiple sclerosis.

2. INTENDED LEARNING OUTCOMES (ILOs)

a. Knowledge and Understanding

By the end of the course, students should be able to:

a.1. Describe the normal structure and function of the eye and adnexa (Prog. ILO a.1)

a.2. Identify the developmental changes in the eye and the effect of growth and aging on it. (Prog.ILO's a2).

a.3. Identify altered structure and function of the eye in various diseases and conditions in relation to gender and age. (Prog.ILO's a5).

a.4. Describe the common eye diseases and sight-threatening conditions as regards etiology, pathogenesis, clinical features, differential diagnosis and complications throughout the different age groups. (Prog.ILO's a6).

a.5. Define the principles of management for common eye diseases and sight -threatening conditions including pharmacological basis of drugs, non-invasive and invasive interventions, basic pre- and post operative care, pain relief and palliative care. (Prog.ILO's a7).

a.6. Describe the theoretical basis of professional, practical skills and evidence-based medicine (EBM). (Prog.ILO's a8).

a.7.Describe the role of genetics in health and disease and the basic principles of gene therapy and genetic counseling). (Prog.ILO's a9).

a.8.Discuss appropriate measures for health promotion as well as prevention of communicable ocular disease and eye injuries in children and adults (Prog ILO a10).

a.9. Describe the epidemiologic principles and the effect of social and demographic patterns on eye disease and vulnerability). (Prog.ILO's a12).

a.10.Recognize basics of ethics, medico legal aspects of health problems, malpractice and common medical errors. (Prog.ILO's a14).

a.11.Define principles of clinical audit. (Prog.ILO's a16).

Professional Skills (b, c, d, e)

b. Practical and Clinical Skills:

By the end of the course, students should be able to:

Demonstrate basic sciences' practical skills relevant to the future practice and acquire practical clinical skills and competencies. (Prog.ILO's b1). Including:

b.1. Describe the concept and enumerate the methods of examining ocular structures, measuring intraocular pressure and examining the ocular fundus

b.2. Recognize the concept of distance visual acuity testing with and without correc-

tion and with a pinhole. Students are not expected to perform refraction. Program ILO's (b1)
b.3. Students should recognize the basic function of an ophthalmoscope (direct and indirect) in examining the ocular fundus. Program ILO's (b1)
b.4. Describe the principle and technique of determining the peripheral visual field by the finger counting confrontation technique. Program ILO's (b1)

b.5. Interpret findings of corneal fluorescein stain testing (detection of corneal epithelial defects)

b.6.Take and record a structured patient-centered history. (Prog.ILO's b2).

b.7. Perform preliminary ocular examination appropriate to age and gender in acute and chronic clinical conditions. This includes. (Prog.ILO's b3).

b.8. Examination of the position of the lids, and inspection of the conjunctiva, sclera, cornea, and iris with a penlight. .

b.9. Performing upper lid eversion and examining for the presence of foreign bodies.

b.10. Recognizing the purpose of measuring visual acuity with and without correction and testing each eye individually.

b.11. Measuring and recording near visual acuity in an adult with near correction and recognizing the principles of distance acuity measurement in adults and children.

b.12. Identifying pupillary reflexes and recognizing the differences between the direct and consensual pupillary reaction.

b.13. Examining the ocular motility. Students should recognize the importance of identifying ocular motility in the six cardinal positions of gaze and ocular alignment in primary position.

b.14. Performing digital evaluation of intraocular pressure

b.15. Identifying anterior chamber depth with a penlight held at an oblique angle to the optical axis.

b.16. Performing fluorescein staining of the cornea by applying topical fluorescein.

b.17. Construct appropriate management strategies both diagnostic and therapeutic for patients with common acute and chronic eye diseases including medical and surgical conditions. (Prog.ILO's a5).

b.18. Compose an initial plan of management eye injuries. (Prog.ILO's b 6).

b.19. Provide first aid measures for patients with eye injuries. (Prog.ILO's b 7).

b.20. Work out drug dosage based on patient's criteria and health condition**.** (Prog.ILO's b 8).

b.21. Write safe prescriptions of different types of drugs. (Prog.ILO's b 9).

c. Professional Attitude and Behavioral Skills

c.1. Adopt an empathic and holistic approach to patients and their problems, taking into consideration beliefs values, goals and concerns. (Prog IOL's c-1)

c.2. Respect the patient's right to know and share in decision making as well as dignity, privacy, information confidentiality and autonomy. (Prog IOL's c-2)

c.3. Understand and respect the different cultural beliefs and values regardless of their disabilities in the community they serve. (Prog IOL's c-3)

c.4. Recognize the important role played by other health care professions in patients' management, respecting their contributions in patient's management regardless of degree or occupation. (Prog IOL's c-4)

c.5. Apply the national code of ethics issued by the Egyptian Medical Syndicate.

(لائحة آداب المهنة الصادرة من نقابة الأطباء).(Prog IOL's c-5)

c.6. Respect and follow the institutional code of conduct. (Prog IOL's c-6)

c.7. Counsel patients suffering from different eye conditions as well as their families. (Prog IOL's c-7)

c.8. Recognize one's own limitations of knowledge and skills referring patients to the eye specialist at the appropriate stage. (Prog IOL's c-8)

d. Communication Skills:

By the end of the course, students should be able to:

d.1. Communicate clearly, sensitively and effectively with patients and their relatives and colleagues from a variety of health and social care professions. (Prog.IOL's d-1)

d.2. Communicate effectively with individuals regardless of their social, cultural, ethnic backgrounds, or their disabilities. (Prog.IOL's d-2)

d.3. Cope with situations where communication is difficult including breaking bad news. (Prog.IOL's d-3)

d.4. Show compassion to patients and their relatives in situations of stress and grief. (Prog.IOL's d-4)

d.5. Honor and respect patients and their relatives, superiors, colleagues and any other member of the health profession. (Prog.IOL's d-5)

e. Intellectual Skills:

By the end of the program, the graduate will acquire the skills required to:

e.1.Integrate basic anatomical, biochemical and physiological facts with clinical data. (Prog.IOL's e-1).
e.2. Integrate the results obtained from history, clinical examination and investigational data into meaningful diagnostic formulation. . (Prog.IOL's e-2).
e.3. Combine clinical and investigational data with evidence based knowledge and skill of deductive reasoning for clinical problem solving. (Prog.IOL's e-3).
e.4. Prioritize the eye problems and their differential diagnoses. (Prog.IOL's e-4.
e.5. Design a management plan for common eye diseases and ocular emergencies. (Prog.IOL's e-5).
e.6. Determine the different strategies for risk management of eye diseases and eye injuries. (Prog.IOL's e-6).
e.7. Recognize and cope with uncertainty that is unavoidable in the practice of ophthalmology by accepting and reacting to uncertain situations through proper counseling, consultation and referral. (Prog.IOL's e-8).

f. General and Transferable Skills

By the end of the program, the graduate will acquire the skills required to:

By the end of the course, students should be able to:

f.1 Adopt the principles of lifelong learning needs of the medical profession (continuous professional development; CPD). (Prog.IOL's f-1).

f.2. Use computers efficiently in reaching biomedical information to remain current with advances in knowledge and practice. (Prog.IOL's f-2).

f.3. Present information clearly in written, electronic and verbal forms. (Prog.IOL's f-3).

f.4. Communicate ideas and arguments effectively. (Prog.IOL's f-4).

f.5. Work effectively within a multidisciplinary team. (Prog.IOL's f-5).

f.6. Manage time and resources effectively and set priorities. (Prog.IOL's f-6).

3- Course contents:

Topics	Lectures		Small group teaching / Tutorials/ Practical
	Problem solving		
	Hours	Percent	Hours
Introduction & Gross anatomy of the eye	2	2.5%	
Ocular Examination & diagnostic tests	2	2.5%	
Eyelids	4	5%	
Lacrimal system	2	2.5%	
Conjunctiva	4	5%	
Cornea & Sclera	6	7.5%	
Uvea	4	5%	
Ocular tumours	4	5%	
Glaucoma	6	7.5%	
Differential diagnosis of a red eye	4	5%	
Lens & Cataract	4	5%	
Retina & Vitreous	6	7.5%	
Ocular trauma	4	5%	
Errors of refraction & refractive surgery	4	5%	
Strabismus	4	5%	
Orbit & dysthyroid eye disease	4	5%	
Eye & systemic diseases	6	7.5%	
Ocular pharmacology	2	2.5%	
Ophthalmic lasers	2	2.5%	
Optic nerve & Neuro-ophthalmology	4	5%	
Differential diagnosis of common ocular disorders	2	2.5%	
Total	**80**	**100**	**120**

TEACHING SCHEDULE

Teaching strategy	Hours / week	Total hours
1- Lectures	10 hrs	80 hrs
2- Small group teaching/Tutorials	6 hrs	48 hrs
3- Clinical round	9 hrs	72 hrs
Total	**25 hrs /week**	**200 hrs**

4. Teaching and learning methods

METHODS USED:

1. Lectures
2. Tutorials
3. Clinical classes

TEACHING PLAN:

8 weeks in rounds

5 days a week

Teaching day includes:

Lectures

Tutorials

Clinical classes

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	9 – 11 am	= 2 hours	80 hrs
Clinical rounds	11-1 pm	≅ 2 hours	72 hrs
Tutorial	1-2 pm	1-1.5 hour	48 hrs
Total			**200 hours**

5. Student Assessment Methods

Attendance Criteria: **Faculty By laws**

5-B) Assessment Tools:

Tool	Purpose (ILOs)
Written examination	To fulfill above mentioned ILO's
Oral examination	To assess above mentioned ILO's
Practical examination	To fulfill above mentioned ILO's

5-C) Exam Time Schedule: (Faculty by-laws)

Exam	Week
1. End of term exam: • Clinical (OSCE) • Oral	End of 8th week of the round End of the 8th week of the round
2. Final exam: • Written exam • Oral exam • Clinical exam	Faculty bylaws

5-D) MARK ALLOCATION

Examination	Marks allocated	% Of Total Marks
Quiz Written assignment	10	4%
End of round exam	40	16%
Final exam: A- Written	125	50%
B- Clinical	25	10%
C- Oral	50	20%
Total	**250 marks**	**100%**

- The minimum passing grades (Faculty bylaws).

FORMATIVE ASSESSMENT:

Students will be informed about his performance in quizzes and term exams

5-E) Exam description:

Examination	Description	Marks allocated
1- Quiz 2- Written assignment	• MCQs & SAQs to train candidates and check attendance • Feed back	10
2-End of Round exam	• Slides showing clinical cases • Oral • Clinical stations	10 20 10
3- Final exam: Written	• Short essay, problem solving, covering a wide range in the curriculum • MCQ	125
• Clinical	• Slides with short questions	25
Oral	• One session	50
Total		**250 marks**

6- List of references:

6.1- Basic materials:

- Department book:
  Ophthalmology for the Undergraduate available at the Ophthalmology Department
- Educational CD's supplied by the department

6.2- Recommended books:

For more information and detailed description of different diseases with illustrations and imaging the candidate may refer to the following books:

- **Clinical Ophthalmology**
  A systematic approach

  Jack J.Kanski, MD, MS, FRCS, FRCOphth

- **Basic Ophthalmology**
  For Medical Students and Primary Care Physicians

  Cynthia A. Bradford

  American Academy of Ophthalmology

- **American Academy of Ophthalmology series**

6.3- Web sites

http://www.icoph.org.
http://www.atlasophthalmology.com
http://www.djo.harvard.edu
http://www.mrcophth.com

ENT-412 Ear-Nose-Throat

Ear-Nose-Throat (4th year)
Code : ENT-412

- **Department of Otorhinolaryngology**
- **4th year of M.B.& B.Ch. program**

A) Basic Information:

- **Allocated marks:** 200 marks
- **Course duration: 8 weeks**
- **Teaching hours:**
  - **Theoretical:** 64 hours
  - **Clinical:** 120 hours

B) Professional Information:

1- Overall Aim of the Course:

- To provide students with an appropriate background covering the common and important ENT emergencies and diseases as well as related head and neck disease in children and adults.
- To enable students to obtain a detailed history from patients and experience clinical ENT and be familiar with recent methods of diagnosis and proper management and indications of specialist referral.

2- Intended Learning Outcomes (ILOs):

a- Knowledge and Understanding:

By the end of the course, students should be able to:

a.1. Describe the normal structure and function of ear, nose & throat together with related head & neck structures. (a.1)

a.2. Describe the causes of the common ENT emergencies and disorders and the methods of transmission of common ENT infection. (a.6)

a.3. Describe the clinical symptoms and signs of the most important ENT & Head & Neck disorders. (a.6)

a.4. Determine the appropriate diagnostic tools and therapeutic lines for the most important ENT disorders including applicable recent modalities. (a.7, 8, 15 & 16)

a.5. Outline the management priorities for different ENT & Head & Neck emergencies. (a.7, 8, 15 & 16) Recognize different rehabilitation methods for the common permanent handicapping problems in ENT. (a.7, 8, 15 & 16)

a.6. Explain the relationship between some general symptoms or illness and ENT & Head & Neck disease and the interaction between ENT and other specialties. (a.7, 8, 15 & 16)

Professional Skills: (b, c, d, and e):

b- Practical and Clinical Skills:

By the end of the course, students should be able to:

b.1. Take proper history from patients with ENT & Head & Neck problems. (b.2 &4)

b.2. Perform adequate clinical examination for ENT & Head & Neck patients and identify diversions from normal and use equipments available to a primary care practitioner. (b.3)

b.3. Present patient's data in an organized and informative manner. (b.2 &4)

b.4. Compose an initial plan of management for stabilization of injured and critically-ill ENT patients. (b.6)

b5. Work out drug dosage based on patient's criteria and health condition. (b.8)

b.6. Suspect complications of major diseases beyond the capacities of general practitioner and determine when to refer them to specialist. (b.5)

c. Professional Attitude and Behavioral Skills

By the end of the program, the graduates will acquire the skills required to:

c.1. Adopt an empathic and holistic approach to patients and their problems, taking into consideration beliefs values, goals and concerns. (c.1)

c.2. Respect the patient's right to know and share in decision making as well as dignity, privacy, information confidentiality and autonomy. (c.2)

c.3. Understand and respect the different cultural beliefs and values regardless of their disabilities in the community they serve. (c.3)

c.4. Recognize the important role played by other health care professions in patients' management, respecting their contributions in patient's management regardless of degree or occupation. (c.4)

c.5. Apply the national code of ethics issued by the Egyptian Medical Syndicate. (c.5)

c.6. Respect and follow the institutional code of conduct. (c.6)

c.7. Counsel patients suffering from different conditions as well as their families. (c.7)

c.8. Recognize one's own limitations of knowledge and skills referring patients to appropriate health facility at the appropriate stage. (c.8)

d- Communication Skills:

By the end of the course, students should be able to:

d.1. Communicate properly with patients & their relatives to have relevant data related to their problems. (d. 1 & 2)

d.2. React kindly and respectively to the patients during history taking and clinical examination. (d. 4 & 5)

e- Intellectual Skills:

By the end of the course, students should be able to:

e.1. Integrate basic anatomical, biochemical and physiological facts with the most important symptoms and signs of disease in ENT & Head & Neck patients into meaningful diagnostic formulation. (e.1 & 2)

e.2. Formulate appropriate management plans for individual patients presenting with the most common ENT & Head & Neck disorders. (e.4,5 &6)

e.3. Solve problem (in the form of a clinical scenario). (e.3)

e.4. Design scientific research through the collection, analysis and interpretation of medical data. (e.7)

f. General and Transferable Skills

By the end of the program, the graduate will acquire the skills required to:

f.1. Adopt the principles of lifelong learning needs of the medical profession (continuous professional development; CPD). (f.1)

f.2. Use computers efficiently in reaching biomedical information to remain current with advances in knowledge and practice. (f.2)

f.3. Present information clearly in written, electronic and verbal forms. (f.3)

f.4. Communicate ideas and arguments effectively. (f.4)

f.5. Work effectively within a multidisciplinary team. (f.5

3- Course contents:

Subject	Lectures (hrs)	Tutorial (hrs)	Practical & operative (hrs)	Total (hrs)	% of Total
1- Ear	16	10	26	52	28.3
2- Nose	16	10	26	52	28.3
3- Pharynx	13	6	10	29	15.8
4- Esophagus	3	4	4	11	5.9
5- Larynx & Trachea	12	8	12	32	17.4
6- Neck	4	2	2	8	4.3
Total	**64**	**40**	**80**	**184**	**100**

III-A) TOPICS:

1. Ear
2. Nose
3. Pharynx
4. Esophagus
5. Larynx & Trachea
6. Neck

III-B) Tutorial / Small Group Discussions

1- Diseases of the external ear.

2- Diseases of the middle ear.

3- Conductive deafness.

4- Nasal allergy, polypi & obstruction.

5- Atrophic rhinitis & scleroma.

6- Snoring & obstructive sleep apnea.

7- Acute & chronic tonsillitis.

8- Dysphagia.

9- Hoarseness of voice .

10- Stridor & tracheostomy.

11- Neck swellings.

III-C) PRACTICAL CLASSES:

External Ear:-	• Wax • F.B in the ear. • Acute diffuse otitis externa. • Furunculosis. • Otomycosis.
Middle ear:-	• Acute suppurative otitis media • Chronic non supportive otitis media. • Chronic suppurative otitis media and complications. • Conductive deafness.
Nose :-	• Nasal obstruction. • Nasal polypi and antrochoanal polyp. • Atrophic rhinitis and rhinoscleroma. • Snoring and obstructive sleep apnea.
Pharynx:-	• Acute and chronic tonsillitits. • Dysphagia.
Larynx:-	• Hoarseness of voice – stridor – tracheostomy.
Neck:-	• Neck swellings.

4- Teaching and learning methods:

METHODS USED:

1- Lectures
2- Tutorials
3- Practical classes

"Small group teaching, practice of clinical skills, data show presentations" including pictures & video clips showing emergency cases not seen in wards or outpatient clinics

- ENT wards 4 days / week.
- Outpatients clinic 1 day/week.

4- Live surgical demonstrations Once/week after dividing them into 2 subgroups on alternating weeks (20 hrs each subgroup)

TEACHING PLAN:

Lectures: four times /week, Time from 12pm to 2pm.

Tutorials: One hour daily from 9:00 to10:00 am

Practical classes Two hours daily from 10:00 to 11:30 am

Time plan

Item	Time schedule	Teaching hours	Total hours
Lectures	Four times/week; two hour each between 12 to 2pm	8 x 8weeks	64
Practical	7.5 hours / ___week	7.5 x 8 weeks	60
Tutorial	5 hours / week	5 x 8 weeks	40
Operative	Average 2.5 hours/week	2.5 x 8weeks	20
Total			**184**

5- Students Assessment methods:

5-A) ATTENDANCE CRITERIA:

The minimum acceptable attendance is 75%; students who fail to attend that percentage of activities will not be allowed to take the end of term examination. They may be allowed to take it during a subsequent term if they satisfy the required attendance, otherwise the marks allocated for the end of term examination would be recorded as a proportion from the final written examination score. Students need to attend at least 60% in order to sit for the final examination.

5-B) Assessment TOOLS:

Tool	Purpose (ILOs)
Written examination	To assess knowledge and understanding.
Oral examination	To assess Knowledge and understanding.
Practical examination	To assess clinical as well as intellectual skills & attitude

5-C) TIME SCHEDULE:

Term examination: held 4 times / year at the end of each rotation.

Final examination at the end of academic year for all students.

5-D) Weighing System:

Examination	Marks allocated	% of Total Marks
1- End of term exam	40	20
2- Final exam: end of year		
a- Written	100	50
b- Practical	40	20
c- Oral	20	10
Total	**200**	**100**

- The minimum passing score is 120 marks provided at least 24 marks are obtained in the final written examination.

- Passing grades are:
- **EXCELLENT** > 85%, **VERY GOOD** 75-<85%,**GOOD** 65-<75% and **FAIR** 60-<65%.

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) Examinations description:

Examination	Description
1- End of term exam	A 1 hour written paper composed of 3 parts: -problem solving questions. (2 cases) -MCQs. (10 single answer) -short assay type questions. (2 questions)
5- Final exam: a- Written	A 2hour written paper composed of 3 parts: -problem solving questions. (3 cases) -MCQs. (20 single answer questions) -short assay type questions. (5 questions)
b- Practical	• 8 to 10 computer pictures with MCQs, and fill in the spaces and/or true or false.
c- Oral	One oral examination station.

6- List of references:

6.1- Basic materials:

- Standard department books: Available for students .

6.2 Web sites:

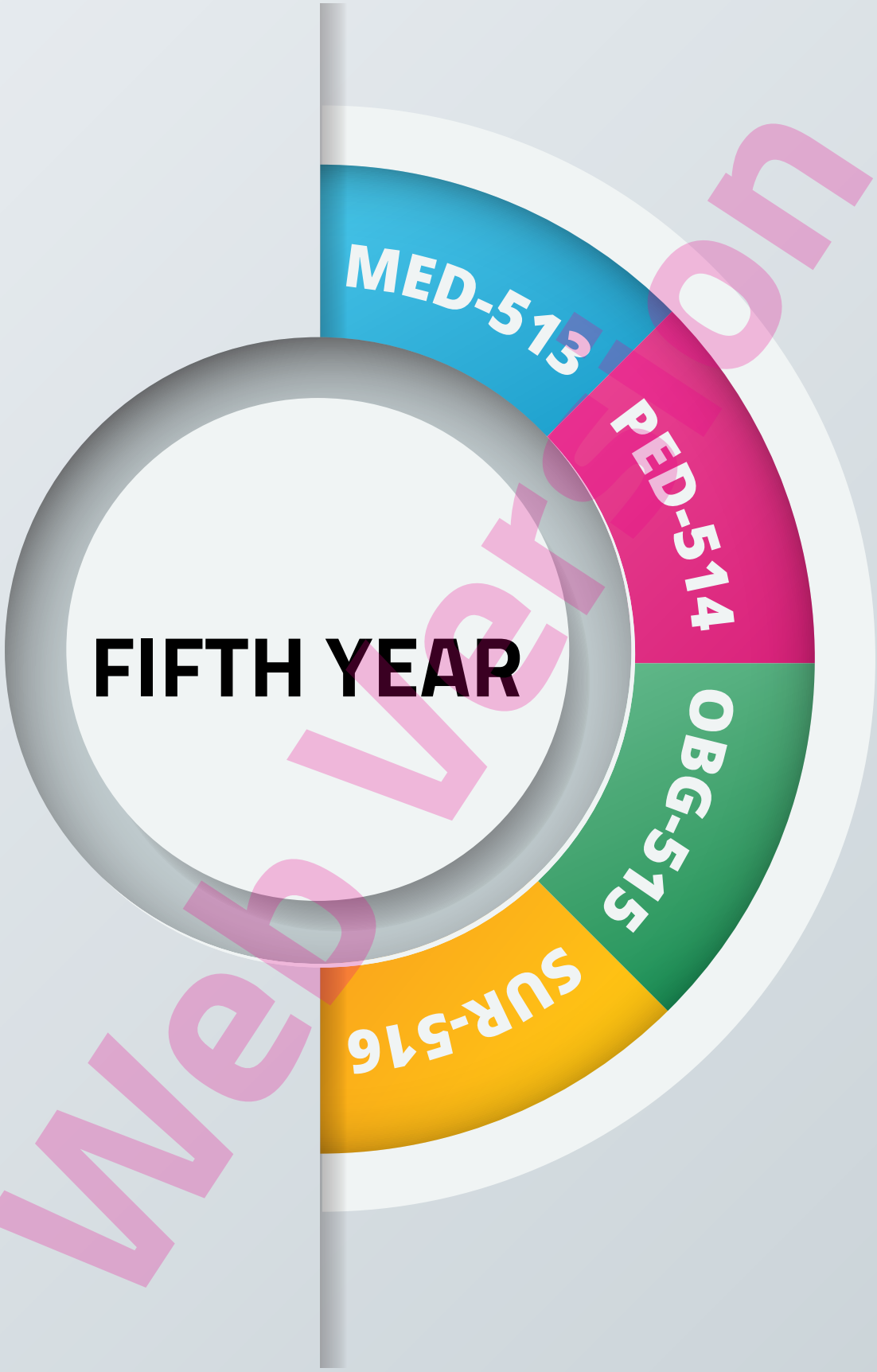
- e.g.

1- Dr. Quinn's Online Textbook of Otolaryngology
http://www.utmb.edu/otoref/grnds/GrndsIndex.html

2- PubMed (entrez PubMed)
http://www.ncbi.nlm.nih.gov/sites/entrez?cmd=search&db=pubmed

3- MCQ's In Otolaryngology
http://drtbalu.bravehost.com/Otology.html

STUDENT NAME



MED-513 Internal medicine

Internal medicine (5th year)
Code : MED-513

- **Department offering the course:** internal medicine
- Fifth academic year of M.B. B.Ch. program

A) Basic Information

- **Allocated marks:** 60 marks
- **Course duration:** 6 weeks
- **Teaching hours:** 116 hours
- **Theoretical teaching hrs:** 20 hours
- **Clinical teaching:** 96 hours

B) Professional Information

1- Overall Aim of the Course:

1. To support acquisition of knowledge and understanding of medical knowledge at this stage of medical education in integration with parallel disciplines in the same academic year.
2. To enable the student to acquire professional basic clinical skills such as obtaining a patient's history, undertaking a comprehensive physical and mental state examination and interpreting the findings.
3. To raise the skills of effective Team work and effective communication.
4. To enable the students to acquire and demonstrate attitudes necessary for the achievement of high standards of medical practice as well as personal development including a lifelong continuous medical education.

2- Intended Learning Outcomes (ILOs):

a. **Knowledge and understanding:**

By the end of the course, students should be able to:

a.1. Discuss the common medical problems presenting to doctors - in primary health care setting, hospital and community - their diagnosis, prevention. (a 6, a 10).

a.2. Identify disease in terms of mental, functional and physical processes (b4).

a.3. State the clinical manifestations and differential diagnosis of common medical disor-

ders. (a6).

B) Professional Skills : (b, c, d, and e)

b. **Practical and Clinical Skills**

By the end of the course, students should be able to:

b.1. Take a thorough history of appropriate depth and detail, relative to the clinical context. (b 2).

b.2. Demonstrate a complete and/or problem-focused physical examination (b3).

c. **Professional Attitude and Behavioral Skills**

By the end of the course, the graduates will acquire the skills required to

c1. Adopt an empathic and holistic approach to the patient and their problems, taking into consideration beliefs values, goals and concerns. (c.1)

c2. Respect the patient's right to know and share in decision making as well as dignity, privacy, information confidentiality and autonomy. (c.2)

c3. Understand and respect the different cultural beliefs and values regardless of their disabilities in the community they serve. (c.3)

c4. Recognize the important role played by other health care professions in patients' management, respecting their contributions in patient's management regardless of degree or occupation. (c.4)

c5. Apply the national code of ethics issued by the Egyptian Medical Syndicate. (c.5)

c6. Respect and follow the institutional code of conduct. (c.6)

c7. Counsel patients suffering from different conditions as well as their families. (c.7)

c8. Recognize one's own limitations of knowledge and skills referring patients to appropriate health facility at the appropriate stage. (c.8)

d. **Communication Skills:**

By the end of the program, the student will be able to:

d1. Communicate clearly, sensitively and effectively with patients and their relatives and colleagues from a variety of health and social care professions. (d.1)

d2. Communicate effectively with individuals regardless of their social, cultural, ethnic backgrounds, or their disabilities. (d.2)

d3. Cope with situations where communication is difficult including breaking bad news. (d.3)

d4. Show compassion to patients and their relatives in situations of stress and grief. (d.4)

d5. Honor and respect patients and their relatives, superiors, colleagues and any other member of the health profession. (d.5)

d6. Use communication styles to bring about behavioral change. (d.6)

e. **Intellectual skills:**

e.1- Analyze symptoms & signs and construct a differential diagnosis for common presenting complaints. (e 2).

e.2. Design an appropriate diagnostic plan for evaluation of common presenting complaints which is appropriate in terms of the differential diagnosis, the severity of the clinical situation and the risks, benefits and costs to the patient. (e2, e3).

e.3. Accurately interpret the results of commonly used diagnostic procedures. (e 3)

e.4. Identify risk factors for disease processes and injury, and institute the appropriate diagnostic plan. e4, e5

e.5. Identify the indications and logistics of referring patients to higher levels of experience or specialization as a principle for the family doctor (GP). (e8).

f. **General and transferable skills:**

By the end of the course, students should be able to:

f.1. Establish rapport and trust with the patient. (d1).

f.2. Explain to the patients and their relatives the nature of illness(d1). f.3.

Recommend life style modification in compassionate and ethical way. (d6).

f.4. Respond effectively to a patient's emotional and psychosocial concerns. (d4).

f.5. Interact and communicate effectively with other health care professionals. (f5).

f.6. Document fully the patient's history and examination findings, list the clinical problems and Present relevant material clearly, concisely, coherently, and legibly so that information about patients may be communicated effectively. (b2, b3, d2, e2).

f.7. Manage time effectively and demonstrate skills needed for lifelong learning. (f1).

3- Course contents:

Subject	Lectures	% of Total
1-	Cardiology	25%
2-	Chest	25%
3-	G.I.T	20%
4-	Neurology	10%
5-	Diabetes mellitus	5%
6-	Anemia	5%
7-	Fever	5%
8-	Ethics	5%
Total		**100%**

TOPICS:

- **Lectures**

• Dyspnea	• Heart failure
• Chest pain	• Hypertension
• Cough & hemoptysis	• COPD & bronchial asthma

• Edema	• Anemia
• Jaundice	• Fever
• Abdominal pain	• Diabetes mellitus
• Upper GI bleeding	• Disturbed conscious level
• Liver cirrhosis	• Medical ethics
• Rheumatic fever	

B) **Clinical Rounds**

1. History Taking
2. Vital Signs
3. General Examination : Head and Neck
4. Neck Veins

CARDIOLOGY , CHEST , ABDOMEN , CARDIOLOGY AND NEUROLOGY

1. Local examination of the heart, chest , abdomen , neurology , interpretation of signs

C) **Small group clinical skills (bedside):**

1. Examination : general examination
2. Vital Signs : pulse , blood pressure , temperature , respiratory rate
3. General examination: head and neck
4. Neck veins , upper & lower limbs
5. Special signs : jaundice cyanosis , pallor , ...

4- Teaching and learning methods

methods used:

1. Lectures
2. Small group clinical skills teaching (Bedside)
3. Clinical teaching

Teaching plan:

Lectures: students are divided into 2 groups (in 2 lecture halls)

Four hours/ week, Time from 9:00 to 11:00 pm (2 days per week).

Clinical classes: 5 rounds per week, each for 2 hrs from 11:1 pm.

Small group teaching for clinical skills: 3 times per week (bedside) .

Time plan

Item	Time schedule	Teaching hours	Total hours
Lectures	2hours / day Twice /weekly for 5 weeks From 9 to 11 pm	4 hrs per week	20 hrs.
Clinical rounds	2hs / day for 5 days from 11 to 1 pm	10 hrs	60
Small group teaching (Bedside)	2 hrs / day for 3days from 9 to 11am	6hs	36
Total teaching hrs	**20/ week**		**116**

5- Students Assessment methods:

A) Attendance Criteria: According to Faculty bylaws the student should fulfill 75% of the total hours to be legible for the exam.

B) Assessment tools:

Tool	Purpose (ILOs)
Written examination	To assess a1,a2,a3
clinical examination	Toassessa1,a2,a3, b1,b2,c1,c2,c3,c4,c5, c1.c2.c3.c4.c4.c6.c8 d1.d2.d3,d4,d5,d6,d7 e2.e3.e4.e5.e8. f1.f2, f3, f4, f5, f6.f7...

C)Time Schedule: Faculty bylaws

Exam	Week
1. Clinical exam	End of round exam: **group1** mid November **group2** end of March
2. Written exam	End of round (twice /academic year)

D) Grading System :

Examination	Marks allocated	% of Total Marks
1. MCQ	30mark	50%
2. End round clinical exam	30 mark	50%

- The minimum passing & Passing grades (Faculty bylaws).

E) Examinastions description:

Examination	Description
1. Final end round exam: a- Written	MCQs
2. Clinical	Patient examination in internal medicine department.

6- List of references:

A) Basic materials:

- The department book and the lectures.
- Mc Loed clinical Examination

PEDIATRICS (5th year)
Code : PED-514

- **Department offering the course:** Pediatric department
- **Fifth academic year of M.B.B.Ch. program**

A) Basic Information:

- **Allocated marks:** 500 marks
- **Course duration:** 10 weeks
- **Teaching hours:** total 288 teaching hours

Theoretical teaching 108 hours

Clinical teaching 180 hours

B) Professional Information:

1- Overall Aim of the Course:

- To provide the students with basic knowledge of normal and abnormal growth and development (physical, physiologic, psychosocial) and its clinical application from birth till adolescence.
- To enable students to provide basic health care for Pediatric age groups (neonates, infants, children and adolescents).
- To provide students with appropriate knowledge and skills needed for management of the common and important Pediatric emergencies and diseases.
- To provide the students with appropriate professional attitude and communication and problem solving skills.
- To enable students to acquire Lifelong learning competencies necessary for continuous professional development

2- Intended Learning Outcomes (ILOs):

a. Knowledge and understanding:

By the end of the course, students will be able to:

a1-Describe normal growth and development during infancy, childhood and adolescence (p a.1, a.3)

a2-Identify abnormalities of growth and development during infancy and childhood (p a.3, a.4, a.5)

a3-Describe appropriate management for abnormalities affecting growth and development (p a.7).

a4-Identify common genetic diseases and their impact on children and families (p a.5, a.9).

a5-Determine the nutritional requirements and the most common nutritional disorders affecting infants and children (p a.6).

a6-Describe appropriate management for nutritional disorders (p a.7).

a7-Describe the indications, contraindications, administration and precautions of the immunizations necessary for infants and children according to the national schedule and the condition of the child (p a.10).

a8-Recognize the most important behavioral and social issues during childhood and adolescence (p a.4).

a9-Describe appropriate measures for health promotion as well as prevention of disease and injury in infants, children and adolescents (p a.10).

a10-Describe the causes, pathogenesis, clinical symptoms, signs, investigations, treatment and prognosis of the most important neonatal and Pediatric problems (p a.6, a.7).

a11-Set the management priorities for different neonatal and Pediatric emergencies (p a.7).

a12-Describe the theoretical basis of professional, practical skills and evidence based medicine (EBM) (p a.8).

a13-Recognize basics of ethics, medico legal aspects of health problems, malpractice and common medical errors (p a.14).

a14-Recognize basics of health and patient's safety and safety procedures during practical and clinical years (p a.15).

Professional skills: (b,c,d and e)

b. **Practical and Clinical skills:**

By the end of the course, students will be able to:

b1-Take and record a structured patient-centered medical history (p b.2)

b2-Check vital signs in neonates, infants, children and adolescents (p b.3)

b3-Assess physical and mental development in neonates, infants, children and adolescents according to standard milestones and recognize abnormalities (p b.3, b.4)

b4-Perform appropriate clinical and anthropometric assessments for the nutritional status of infants and children (p b.3)

b5-Perform an adequate clinical examination for a patient in the Pediatric age group and identify deviations from normal (p b.3)

b6-Construct appropriate management strategies both diagnostic and therapeutic for patients with common acute and chronic pediatric diseases (p b.5)

b7-Assess and classify appropriate treatment for sick children below the age of five years according to the principles of the Integrated Management of Childhood Illness (IMCI) (p b.5)

b8-Compose an initial plan of management for stabilization for different Neonatal and Pediatric emergencies (p b.6, b7)

b9-calculate drug dosage based on patient's criteria and health condition (p b.8)

b10-prescribe safe prescriptions of different types of drugs (p b.9)

Model-based procedures and technical skills:

b11-Perform venepuncture and collect blood samples (p b.11)

b12-Insert a cannula into peripheral veins (p b.12)

b13-Conduct entral, parenteral, inhalational and topical methods for drug administration (p b.13)

b14-Demonstrate competency in cardiopulmonary resuscitation and basic life-support (p b.15).

b15- Use a nebulizer for administration of inhalation therapy (p b.18).

B-16-Administer basic oxygen therapy (p b.19).

b-17- Insert a naso-gastric tube (p b.20).

b18-Perform bladder catheterization (p b.21).

b19-Perform and interpret basic bedside laboratory tests (p b.23).

b20-Demonstrate suitable measures in simulated simulation for safety and basic infection control technique (p b.25)

c. **Professional attitude and behavioral skills:**

By the end of the course, students will be able to:

c1-Adopt an empathic and holistic approach to the patients and their problems, taking into consideration beliefs values, goals and concerns (p c.1)

c2-Respect the patients' families right to know and share in decision making as well as dignity, privacy, information confidentiality and autonomy (p c.2)

c3-Understand and respect the different cultural beliefs and values regardless of their disabilities in the community they serve (p c.3)

c4-Recognize the important role played by other health care professions in patients' management, respecting their contributions in patient's management regardless of degree or occupation (p c.4)

c5-Apply the national code of ethics issued by the Egyptian Medical Syndicate. (لائحة آداب المهنة الصادرة من نقابة الأطباء) (p c.5)

c6-Respect and follow the institutional code of conduct (p c.6)

c7-Counsel patients suffering from different conditions as well as their families (p c.7)

c8-Appreciate one's own limitations of knowledge and skills referring patients to appropriate health facility at the appropriate stage (p c.8)

d. **Communication skills:**

By the end of the course, students will be able to:

d1-Communicate clearly and effectively with patients and their relatives and colleagues from a variety of health and social care professions (p d.1)

d2-Communicate effectively with individuals regardless of their social, cultural, ethnic

backgrounds, or their disabilities (p d.2)

d3-Cope with situations where communication is difficult including breaking bad news (p d.3)

d4-Show compassion to patients and their relatives in situations of stress and grief (p d.4)

d5 -Honor and respect patients and their relatives, superiors, colleagues and any other member of the health profession (p d.5)

d6- Use communication styles to bring about behavioral change (p d.6)

d7- Conduct professional behavior with patients, families and documents

e. **Intellectual skills:**

By the end of the course, students will be able to:

e1-Integrate basic anatomical, biochemical and physiological facts with clinical data (p e.1)

e2-Interpret the results obtained from history, clinical examination and investigations in Pediatric patients (p e.2).

e3-Interpret X ray and CT films as well as laboratory reports (blood picture, blood gases, urine and stool) covering the most important Pediatric conditions (p e.2).

e4-Prioritize the medical problems and their differential diagnoses (p e.4)

e5-Formulate appropriate management plans for individual patients presenting with the most common Pediatric diseases and emergencies. (p e.5).

e6-Make decisions regarding common clinical situations using appropriate problem solving skills, evidence based medicine (p e.3).

e7-Determine the different strategies for prioritizing management of critically sick child (p e.6)

e8-Formulate clinicalquestions pertinent to medical problems and collect, analyze and interpret medical research data to answer to formulated questions (p e.7).

e9-Recognize and cope with uncertainty in the practice of medicine through proper consultation and referral (p e.8).

f. **General and transferable skills:**

By the end of the course, students should be able to:

f1-Adopt the principles of lifelong learning needs of the medical profession (continuous professional development; CPD) (p f.1)

f2-Use computers efficiently in reaching biomedical information to remain current with advances in knowledge and practice (p f.2)

f3-Present patient's data in an organized and informative manner (written, electronic or verbal) (p f.3)

f4-Communicate ideas and arguments effectively (p f.4)

f5-Work effectively within a multidisciplinary team (p f.5)

f6-Manage time and resources effectively and set priorities (p f.6)

f7-Use English language professionally for academic purposes (p f.8)

3. Course contents:

TOPIC		%	Teaching hours				
		Total	Lectures	Clinical	Tutorial	Skill lab	
1	Social and Preventive Pediatrics	2.4	7	4	0	3	
2	Growth and Development	3.3	9.5	2	6	1.5	-
3	Nutrition	5.2	15	6	6	3	
4	Perinatology/Neonatology	17.7	51	22	20	3	6
5	Genetics and Dysmorphology	5.2	15	4	8	3	
6	Nephrology	5.9	17	6	8	3	
7	Cardiology	7.8	22.5	6	8	4.5	4
8	Respiratory System	5.9	17	6	8	3	
9	Hematology/Oncology	5.9	17	6	8	3	
10	Infectious and Parasitic Diseases	4.5	13	8	2	3	
11	Endocrinology and diabetes	3.9	11.5	4	6	1.5	
12	Neuromuscular	5.9	17	6	8	3	
13	Gastroenterology	5.03	14.5	4	6	4.5	
14	Hepatology	4.2	12	6	6		
15	Collagen vascular	1.4	4	4			

	TOPIC	% Total	Teaching hours				
			Lectures	Clinical	Tutorial	Skill lab	
16	Pediatric Emergencies	7.3	21	8		3	10
17	Behavioral Pediatrics	1.9	5.5	4		1.5	
18	Basics of EBM	1.7	5	2		3	
19	Problem solving	1.04	3			3	
20	IMCI	1.6	4.5			4.5	
21	Pediatric photos	0.5	1.5			1.5	
22	X-rays and CT	1.04	3			3	
23	Interpretation of laboratory tests (blood gases, CBC, urine and stool analysis)	0.5	1.5			1.5	
TOTAL		100	288	108	100	60	20

3-A) Topics:

1. Social and Preventive Pediatrics

Patterns of morbidity and mortality in the society, Integrated Management of Childhood Illness (IMCI) and its role in preventive and social aspects of pediatrics, prevention of infections; compulsory vaccination schedule, other vaccines, prevention of injuries, and recognition of the most important behavioral and social issues during childhood and adolescence.

2. Growth and Development

Normal growth and growth charts, abnormalities in growth and development. Assessment of different milestones of development and detection of developmental abnormalities

3. Nutrition

Nutritional requirements, breast-feeding, formula-feeding, and nutritional disorders

4. Perinatology/ Neonatology

Normal newborn, neonatal resuscitation, growth of the newborn, neonatal convulsions, respiratory disorders, jaundice, metabolic disorders, hematological disorders,

infections, birth injuries and surgical emergencies.

5. Genetics and Dysmorphology

Chromosomal disorders, single gene disorders, multi-factorial inheritance, and dysmorphism

6. Nephrology

Nephrotic syndrome, glomerulonephritis, urinary tract infection, renal failure, enuresis

7. Cardiology

Congenital heart disease, rheumatic heart disease, heart failure, infective endocarditis, hypertension, arrhythmias

8. Respiratory system

Upper and lower respiratory system disorders, bronchial asthma

9. Hematology/ Oncology

Anemias, bleeding disorders, common childhood malignancies

10. Infectious and Parasitic diseases

Febrile illness, rashes, specific infections, antipyretic drugs, antibiotics

11. Endocrinology

Hypothyroidism, type 1diabetes.

12. Neurology

Mental retardation, epilepsy, CNS infections, cerebral palsy, hydrocephalus, microcephaly, neuromuscular disorders

13. Gastroenterology and Hepatology

a) Gastroenteritis and dehydration, vomiting, oral lesions, abdominal pain and masses

b) Viral hepatitis, chronic hepatitis, liver cirrhosis and portal hypertension, cholestasis , hepatosplenomegaly

14. Pediatric Emergencies

Principles of pediatric emergency medicine; respiratory, cardiovascular, neurological and metabolic emergencies, poisoning and serious injuries

15. Behavioral Pediatrics

Pediatric behavioral and social problems, ethics and professional attitudes relevant to Pediatrics

3-B) Tutorial / Small Group Discussions

X-rays

Cardiac radiology

Normal heart X-ray
Cardiomegaly
Special cardiac configuration
Pericardial effusion

Chest radiology

Normal chest X-ray
Lobar pneumonia
Bronchopneumonia
Pleural effusion
Lung collapse
Lung abscess
Pneumothorax
Hydropneumothorax
Miliary shadow
Hyaline membrane disease
Congenital lobar emphysema
Diaphragmatic hernia

GIT radiology

Multiple fluid levels
Pneumoperitoneum

Pyloric stenosis
Tracheo-esophageal fistula

Skull radiology

Normal skull X-ray
Skull fractures
Intracranial calcification
Increased intracranial pressure

Long bones

Rickets
Achondroplasia
Osteogenesis imperfecta

Pediatric photos

General and emergency pediatrics
Neonatology

Pediatric videos

General and emergency pediatrics
Neonatology

CT scan of the head

Normal CT scan at different levels
Plain CT and contrast-enhanced CT
Intracranial hemorrhage
Intracranial calcification
Cerebral infarction
Brain abscess
Brain tumors
Brain edema
Brain atrophy
Hydrocephalus (obstructive and communicating)
Cranial lesions (skull fractures)

Blood picture

Anemia (different types)

Thrombocytopenia
Leukocytosis and leukopenia
Pancytopenia
Picture of bacterial infection
(Leukocytosis. Bandemia, Toxic granulations)
Leukemia

Blood gas analysis

Normal blood gases
Arterial and venous samples
Assessment of oxygenation
Assessment of ventilation
Assessment of acid-base status
- Metabolic acidosis
- Metabolic alkalosis
- Respiratory acidosis
- Respiratory alkalosis

Urine analysis

Stool analysis

3-C) Clinical cases:

1. **Nutrition:** Protein energy malnutrition (Marasmus and Kwashiorkor), Rickets.
2. **Genetics:** Down syndrome (Trisomy 21)**.**
3. **Neonatology:** Full term and preterm newborn, Neonatal hyperbilirubinemia, Neonatal sepsis, neonatal respiratory distress syndrome, neonatal metabolic and hematologic disorders, neonatal seizures, birth injuries.
4. **Infections:** Febrile illness, Exanthemata, Parotid swelling
5. **Pulmonology:** Upper respiratory system: Viral URTI, stridor, otitis media, tonsillitis- Lower respiratory system: Bronchitis, bronchiolitis, pneumonia, bronchial asthma
6. **Cardiology:** Congenital heart disease: Cyanotic (Tetralogy of Fallot), Acyanotic (VSD, ASD)**,** and Rheumatic heart disease.
7. **Neurology:** Mental retardation, large head (hydrocephalus), microcephaly, cerebral palsy, floppy infant (Werdnig-Hoffmann), acute paralysis (Guillain-Barre), myopathy

as Duchene dystrophy

8. **Nephrology:** Nephrotic syndrome, renal masses
9. **Gastroenterology and Hepatology**: Gasteroenteritis and dehydration, jaundice, hepatitis, hepatosplenomegaly, abdominal masses, ascites, cholestasis
10. **Hematology:** Chronic hemolytic anemia, purpura and ecchymosis, leukemia, hemophilia.
11. **Endocrinology:** Congenital hypothyroidism, short stature
12. **Pediatric emergencies:** Stridor, wheezy chest, respiratory distress, shock, severe dehydration, heart failure, convulsions, hyperpyrexia, hypothermia, hypoglycemia, diabetic ketoacidosis, acute anemia, bleeding.

4- Teaching and learning methods

4-A) Methods used:

1. Lectures

Interactive Lectures would also include case studies; problem solving, diagnostic pictures and diagnostic tools.

2. Clinical and small group sessions:

2-1: Clinical training

(Clinical demonstrations, practice of skills, and discussions with tutors) in:

(a) General Pediatric inpatient wards teaching

(b) Outpatient teaching (IMCI)

(c) Neonatal unit teaching

2-2: Tutorial classes (small group teaching): including problem solving sessions, IMCI, X-rays and CT interpretation, pediatric photos, pediatric videos, and interpretation of diagnostic laboratory tests (CBC, urine and stool analysis, and blood gases).

2-3: Assignment including basics of EBM to promote teamwork and self-learning

2-4: Skill lab practical sessions: to practice the required technical skills on manikin and simulators

4-B) Teaching plan:

Lectures:

All students will take the lectures at at Center for Social and Preventive Medicine. Lectures online five times/ week. Lectures would cover pediatric topics (introduction to assignment, emergencies, genetics, behavioral issues and ethics, communication skills and orientation to special services), diagnostic pictures, diagnostic tools and problem solving.

Clinical rounds and small group activities:

Each term, students are divided into six equal groups; each group being assigned to one of the general Pediatrics units that constitute the pediatric department. Within each unit, students will be further divided into three smaller groups (A, B, C) during tutorial and clinical rounds.

- **Clinical rounds:** 10 am-12 noon four days per week at the general Pediatrics units. They will include training on history taking and clinical examination as well as presentation and discussion of clinical findings. Some session will be specified for technical skills on manikins.
- **Tutorial classes:** 12-2 pm four days per week at the general Pediatrics units.
- **Neonatology teaching sessions:** once weekly from 10 am - 12 noon; at the NICU of Mounira Pediatric Hospital (3rd floor) and Kasr El Aini Obstetrics and Gynecology Hospital (4th floor), alternating between the two groups of every department. Include both theoretical and practical teaching.
- **Out-patient teaching sessions:** Three sessions of practical training on the IMCI protocol take place in out-patient settings.

4-C) Time plan:

Teaching plan is designed to be implemented in 10 weeks.

Item	Time schedule	Teaching hours	Total hours
Lectures	8-10 am 5days/week 8 hours revision divided into 4 times -2 hours each	2 x 5 hr weekly (for 10 weeks) 4x 2 hr revision	108 hrs
Clinical rounds (including practical skill lab sessions)	10.00 am – 12.00 noon 4 days weekly at each unit	2 x 4 hr weekly (for 10 weeks)	80 hrs
Tutorial	12- 2 pm 4 days weekly for each group	2 x 4 hr weekly (for 10 weeks)	80 hrs
Neonatology	Once weekly for 10 weeks: 10.00am – 12.00noon	2 hrs weekly (for 10 weeks)	20 hrs
TOTAL			**288 hrs**

5- Students Assessment methods:

5-A) Attendance criteria: Faculty bylaws

5-B) Assessment tools:

TOOL	PURPOSE
Written examination	Assessment of knowledge and understanding (ILOs A 1-14), and intellectual skills (E 1-9).
Oral examination	Assessment of knowledge and understanding (ILOs A 1-14), intellectual skills (E 1-9), and general and transferable skills (F 1-7)
Clinical examination	Assessment of clinical skills (B 1-20), intellectual skills (E 1-9), professional attitude and behavioral skills (C 1-8), communication skills (D 1-7) and general and transferable skills (F 1-7).
Diagnostic tools examination (X-ray and CT films, blood picture and blood gas reports, pediatric photos)	Assessment of intellectual skills (E 2,3,4)

TOOL	PURPOSE
Log book	Assessment of clinical skills (B 1-20), professional attitude and behavioral skills (C 1-8), general and transferable skills (F 1-7).
Assignment	Assessment of intellectual skills (E 6, 8, 9), and general and transferable skills (F 1-7).

5-C) Time schedule: Faculty bylaws

- **TERM EXAMINATION:** held at the end of each clinical rotation. Students must submit their logbooks in order to be admitted to the examination.
- **FINAL EXAMINATION:** at the end of the academic year for all students.

5-D) Grading system:

Examination		Marks allocated	% of total mark
Term examination		100	20
Final Examination	Written	250	50
	Diagnostic tools and pictures	40	8
	Clinical and oral	110	22
TOTAL		**500**	**100**

- The minimum passing & Passing grades (Faculty bylaws).

5-E) Examination description:

1. Logbook: must be completed during the term and every student should have:

- Participated satisfactorily in the assessment and classification of patients according to the IMCI protocol on two different outpatient sessions.
- Actively participated in case taking and discussion at least twice during inpatient clinical teaching sessions.

2. Examinations:

Examination		Description	Marks
End of term (100 marks)	Assignment	Each group of students will receive a clinical scenario. They are required to frame a clinical question(s) based on the scenario, search the literature, synthesize and present the available evidence and submit a report.	**5 marks**
	Clinical	Three stations including history taking+ clinical examination (15 marks), investigations , management (10 marks each) , and skill lab (10 marks).	**45 marks**
	Diagnostic Tools	**Include:** X-rays (2 items), CT (1 items), pediatric photos (8 items), pediatric videos (2 items) and laboratory reports (3 items) Students will be required to write written comments and/ or answer multiple choice questions about each item.	**40 marks**
	IMCI	2 multiple choice questions based on written case studies	**10 marks**
FINAL	Written	**Two written exams on two separate days:** • A 3-hours written paper composed of short essay type questions (150 marks) • A 2-hour written paper composed of 20 problem solving questions and 60 MCQs (100 marks)	**250 marks**
	Oral, Clinical and diagnostic tools	**Clinical:** Two OSCE stations (history taking and clinical examination-25 marks each) **Oral:** Three stations (general-20 marks, differential diagnosis-20, investigations + treatment-20 marks) **Diagnostic tools:** X-rays (3 items), CT (2 items), pediatric photos (3 items) and laboratory reports (3 items) (40 marks)	**Clinical 50 marks** **Oral 60 marks** **Diagnostic 40 marks**
Total			**500**

6- List of references:

6-A) Basic material:

- Department book: available for students.
- Overhead projections, slides and computer presentations used during teaching.
- CD-ROM containing photos, videos, certain topics and presentations in pediatrics and neonatology (available to students).

6-B) Suggested materials

- Nelson's "Essentials of Pediatrics"

OBG-515

Obstetrics and Gynecology

Obstetrics and Gynecology (5th year)
Code : OBG-515

- **Department offering the course:** **OB/GYN Department, Faculty of Medicine, Cairo University.**
- **Fifth academic year of M.B.& B.Ch. program**
- **Date of specification approval:** **6th October 2020**

A) Basic Information:

- **Allocated marks:** 500 marks
- **Course duration:** 10 weeks of teaching
- **Teaching hours:** **30** hours/week = 270 total teaching hours

B) Professional Information:

1- Overall Aim of the Course:

- To provide students with basic knowledge of normal and abnormal growth and development of the female genital tract and normal and abnormal pregnancies and labor.
- To enable students to provide basic health care for females in different age group (prepubertal, pubertal, childbearing, perimenopausal, and menopausal).
- To provide students with an appropriate background covering the common and important obstetrics and gynecological emergencies and diseases (causes, diagnosis and management).
- To provide appropriate ethical and professional education necessary for establishment of excellent communication with patients and colleagues and using sound ethical principles in clinical decision making.
- To provide lifelong learning competencies necessary for continuous professional development and research studies.

2- Intended Learning Outcomes (ILOs):

a- Knowledge and understanding:

***By the end of the course, all students should be able to*:**

In obstetrics

a1- Describe the basic physiological background of fertilization, implantation and early development of the fetus, placenta, and cord (P: a1,a.2).

a2- Describe the anatomical features and development of the female genital tract and their clinical application(P:a1).

a3- Recognize the basic physiological changes produced by pregnancy occurring in each trimester, the basic principles, and details of antenatal care(P: a1, a.2).

a4- Discuss different medical disorders occurring during pregnancies and their management (eg: hypertension, urinary tract infections, hyperemesis, diabetes, anemia, heart diseases and others)(P: a.6,a.7)

a5- Discuss etiology of bleeding in early pregnancy (i.e. Abortion, ectopic, vesicular mole) and their management, and causes of bleeding in late pregnancies (placenta preavia, accidental hemorrhage) and their management (P: a.6,a.7).

a6- Recognize high-risk pregnancies, their magnitude, and different etiologies with emphasis on preventable and avoidable causes and their management(P: a.4, a.6,a.7).

a7- Illustrate different methods of assessment of fetal well-being (P: a.2, a.6,a.7, a.8, a.9).

a8- Illustrate the basic and surgical anatomy of the female pelvis and fetal skull(P: a1, a.8)

a10- Explain the physiology, mechanism, management of normal labor and different abnormal presentations and positions(P: a1, a.4, a.6,a.7, a.8, a.15).

a10- List the causes of complications of third stage of labor and outline their management(P: a1, a.6,a.7, a.8).

a11- Point out some fetal and neonatal problems, ways of detection and referral to specialized centers e.g. Fetal congenital anomelies, IUGR, preterm labour, post-term pregnancy, ROM, etc|(P: a.6,a.7, a.8 ,a.9).

a12- Describe the physiological changes during puerpurium and the recommended program of postnatal visits with abnormalities occurring in puerpurium and their management(P: a1, a.4, a.8, a.15).

a13- Outline the indices, causes and prevention of maternal and perinatal morbidity and mortality(P: a.4, a.10, a.12).

In gynecology

a14- Explain the physiology of menstruation (its abnormalities and their management), puberty (its abnormalities and their management), menopause (its abnormalities and their management) (P: a1, a.2, a.3, a.4, a.5)

a15- Recite the types, causes and treatment of dysmenorrhea and premenstrual syndrome (PMS) (P: a1, a.4, a.6,a.7).

a16- Discuss types, causes, proper investigation and management of vaginal bleeding conditions(P: a.4. a.5, a.6,a.7, a.8).

a17- Explain the normal human sexual response and common sexual problems and their management(P: a1, a.2, a.3, a.4, a.5, a.6,a.7, a.8, a.12).

a18- Discuss the magnitude of the infertility problem and its different etiologies, basic diagnostic tools, and treatment(P:a.2, a.4, a.5, a.6,a.7, a.8, a.12) .

a19- Describe causes, types, and methods of diagnosis and management of STDs (sexually transmitted diseases) with emphasis on methods of prevention and serious complication of STDs(P: a.4, a.6,a.7, a.8, a.10, a.12, a.15).

a-20-Discuss causes, diagnosis, and principles of management of female genital displacements(P: a.5, a.6,a.7, a.8.

a21-Describe,diagnose and manage all types of female common outpatients complains ,eg vaginal discharges, pruritus, dysfunctional uterine bleedings (P: a.1, a.4. a.5, a.6,a.7, a.8).

a22-Identify genitourinary fistulae, their etiology, diagnosis and principles of management (P: a.6,a.7, a.8).

a23- Outline the pathology of cervical, uterine, ovarian, vaginal and vulvalbenign tumors and malignancies, with emphasis on screening methods and early recognition and broad lines of management of these condition(P: a.3, a.4, a.5, a.6,a.7, a.8, a.9, a.10, a.12)

a24- Recite different family planningmethods and contraceptives techniques ,their uses, types, advantages, disadvantages, and complications(P: a1, a.2, a.4, a.8, a.10).

Professional skills: (b,c,d and e)

b- Practical and clinical skills:

By the end of the course, students should be able to:

b1- Perform history taking from gynecologic patient, obstetric patient and patients in labor(P: b.2).
b2- Practice antenatal care program(P: b.2, b.3).
b3- Apply the bases of partogram(P: b.2, b.3).
b4- Perform clinical obstetric examination(P: b.2., b.3).
b5- Construct appropriate management strategies both diagnostic and therapeutic for patients with common acute and chronic obstetric and gynecologic diseases(P: b.5).
b6- Perform the following skills in skill lab:

General(P: b.3)

- Gynecologic Exam .
- Bimanual Pelvic Exam.
- Breast Exam .

Office GYN

- Obtaining blood sample (P: b.11) .
- IV line insertion(P: b.12).

Surgery(P: b.25)

- Operating Room Conventions
- Scrubbing hands
- Putting on a sterile gown
- Putting on sterile gloves
- Removing gown and gloves

Obstetrics(P: b.22)

- Assistance in normal labor
- Delivery of the Placenta
-

c- Professional and behavioral skills:

By the end of the course, students should be able to:

c1-Adopt an empathic and holistic approach to the patients and their problems, taking into consideration beliefs values, goals and concerns (P: c.1)

c2-Respect the patients' families right to know and share in decision making as well as dignity, privacy, information confidentiality and autonomy (P: c.2)

c3-Understand and respect the different cultural beliefs and values regardless of their disabilities in the community they serve (P: c.3)

c4-Recognize the important role played by other health care professions in patients' management, respecting their contributions in patient's management regardless of degree or occupation (P: c.4)

c5-Apply the national code of ethics issued by the Egyptian Medical Syndicate. (لائحة آداب المهنة الصادرة من نقابة الأطباء) (P: c.5)

c6-Respect and follow the institutional code of conduct (P: c.6)

c7-Counsel patients suffering from different conditions as well as their families (P: c.7)

c8-Recognize one's own limitations of knowledge and skills referring patients to appropriate health facility at the appropriate stage (P: c.8)

d- Communication skills:

By the end of the course, students should be able to:

d1-Communicate clearly, sensitively and effectively with patients and their relatives and colleagues from a variety of health and social care professions (P: d.1)

d2-Communicate effectively with individuals regardless of their social, cultural, ethnic backgrounds, or their disabilities (P: d.2)

d3-Cope with situations where communication is difficult including breaking bad news (P: d.3)

d4-Show compassion to patients and their relatives in situations of stress and grief (P: d.4)

d5-Honor and respect patients and their relatives, superiors, colleagues and any other member of the health profession (P: d.5)

d6-Use communication styles to bring about behavioral change (P: d.6)

e- Intellectual skills:

e1-Integrate basic anatomical, biochemical and physiological facts with clinical data (P: e.1)

e2-Interpret the results obtained from history, clinical examination and investigations in obstetric and gynecologic patients (P: e.2).

e3-Interpret ultrasound findings as well as laboratory reports to diagnose common and serious gynecologic conditions and obstetric problems (P:e.2).

e4-Prioritize the medical problems and their differential diagnoses (P: e.4)

e5-Formulate appropriate management plans for individual patients presenting with the most common gynecologic diseases and obstetric emergencies. The management plan should indicate investigations as well as treatment (P: e.5).

E6-Make decisions regarding common clinical situations using appropriate problem solving skills, evidence based medicine and relevant ethical principles (P: e.3).

e7-Determine the different strategies for high risk pregnancies (P: e.6)

e8-Formulate research questions pertinent to medical problems, recognize different study designs and collect, analyze and interpret medical data (P: e.7).

e9-Recognize and cope with uncertainty in the practice of medicine through proper consultation and referral (P: e.8).

f-General and transferable skills:

By the end of the course, students should be able to:

f1-Adopt the principles of lifelong learning needs of the medical profession (continuous professional development; CPD) (P: f.1)

f2-Use computers efficiently in reaching biomedical information to remain current with advances in knowledge and practice (P: f.2)

f3-Present patient's data in an organized and informative manner (written, electronic or verbal) (P: f.3)

f4-Communicate ideas and arguments effectively (P: f.4)

f5-Work effectively within a multidisciplinary team (P: f.5)

f6-Manage time and resources effectively and set priorities (P: f.6)

f7-Apply English language as needed for appropriate learning and communication in relation to medicine (P: f.8)

Course contents:

Subject	Lectures (hrs)	PBLs (hrs)	Clinical training (hrs)	To-tal (hrs)	% of Total
Obstetrics					
Basic obstetrics and normal Pregnancy 1. Fertilization, implantation and early develop-ment. 2. Placenta and fetal membrane 3. Maternal changes during pregnancy. 4. Diagnosis of pregnancy. 5. Antenatal care and risk assessment. 6. Prenatal diagnosis of congenital anomalies.	 1 1 1 1 1 1	 0 0 1 1 1	2	11	9%
Abnormal Pregnancy **Bleeding in early pregnancy** 7. Abortion. 8. Ectopic pregnancy. 9. Hydatidiform mole.	 2 2 2	 1 1 1	5	14	8%
Antepartum hemorrhage 10. Placenta preavia. 11. Placental abruption.	2	1	3	6	5%
Maternal problems complicating pregnancy 12. Vomiting in pregnancy. 13. Hypertensive disorders in pregnancy. 14. Diabetes Mellitus with pregnancy. 15. Cardiac diseases with pregnancy. 16. Rh isoimmunization. 17. Anemia with pregnancy. 18. . Urinary tract infections 19. Venous thrombo-embolism.	 1 3 1 1 1 0.5 0.5 1	 1 1 1 1 0.5 0.5 0.5 1	9	24.5	13%
Normal labor and delivery 20. Anatomy of the female pelvis and fetal skull. 21. Introduction to labor. 22. Normal labor. 23. Analgesia and anesthesia for normal labor.	4	1	5	10	7%

Subject	Lectures (hrs)	PBLs (hrs)	Clinical training (hrs)	To-tal (hrs)	% of Total
Abnormal labor and delivery			7	22	14%
24. Occipito-posterior positions.	1	0.5			
25. Face and brow presentations.	1	0.5			
26. Breech presentation.	1	0.5			
27. Shoulder, cord and complex presentations.	1	0.5			
28. Multifetal pregnancy.	1	0.5			
29. Abnormal uterine action.	1	0.5			
30. Abnormal labor Patterns.	1	0.5			
31. Contracted pelvis and cephalopelvic dispro-portion.	2	1			
32. Obstructed labor.	1	0.5			
Obstetric injuries			2	5	4%
33. Rupture uterus.	1	0.5			
34. Lacerations of the cervix, vagina and perine-um.	1	0.5			
Complications of third stage of labor			4	8.5	8%
35. Postpartum hemorrhage.	1	0.5			
36. Retained placenta.	0.5	0.5			
37. Shock in obstetrics.	1	0.5			
38. Hypofibrinoginemia.	0.5				
Fetal and neonatal problems in obstetrics			6	18.5	10%
39. Assessment of fetal well-being.	2	1			
40. Intrauterine growth restriction.	1				
41. Preterm labor and prematurity.	1	0.5			
42. Postterm pregnancy.	1	0.5			
43. Premature rupture of the membranes.	1	0.5			
44. Amniotic fluid and its disorders.	1	0.5			
45. Fetal and neonatal asphyxia.	1				
46. Fetal birth injuries.	1	0.5			
The puerperium			1	4	4%
47. Puerperium	1	0.5			
48. Puerperal pyrexia and sepsis.	1	0.5			
Operative obstetrics			4	9	6%
49. Induction of labor and abortion.	0.5				
50. operative vaginal delivery.	0.5				
51. Episiotomy.	1				
52. Caesarean section.	2	1			

Subject	Lectures (hrs)	PBLs (hrs)	Clinical training (hrs)	To-tal (hrs)	% of Total
Ultrasound in obstetrics	1		3	4	3%
Selected articles	2		3	5	3%
Maternal and perinatal mortality	2			2	2%
Total hours	62	**27**	**54**	**143**	**100%**
Gynecology					
BASIC GYNECOLOGY					
1. Gynecologic history taking and examination				12	3%
- GYN history taking	0	0	6		
- GYN examination	0	0	6		
2. Anatomy of the female genital tract.	2	1	1	4	2.5%
- Vulva					
- Vagina					
- Uterus					
- Fallopian tubes					
- Ovaries					
- Pelvic part of the ureter					
- Uterine and cervical ligaments					
- Pelvic floor and perineum					
3. Sexual differentiation and development of the female genital organs	2			2	0.5%
- Sexual differentiation					
- development of the female genital organs					

Subject	Lectures (hrs)	PBLs (hrs)	Clinical training (hrs)	To-tal (hrs)	% of Total
GYNECOLOGIC ENDOCRINOLOGY					
4. Physiology of the menstrual cycle	1			1	1.5%
-The normal menstrual cycle					
-The hypothalamus & anterior pituitary.					
-Ovarian cycle					
-Endometrial cycle					
-Cervical mucus & vaginal cellular changes.					
5. Puberty and its disorders.	1	1	2	4	2%
-The normal puberty.					
-Precocious puberty					
-Delayed puberty					
6. The menopause	1	1	2	4	2%
-Physiology of the menopause					
-Hormone therapy in the menopause					
7. Amenorrhea	2	1	2	5	2.5%
-Classification & etiology					
-Clinical evaluation of a case of amenorrhea					
-Management of a case of amenorrhea					
8. Anovulatory disturbances & hirsutism		1	4	9	4.5%
-Anovulation	1				
-PCOS	1				
-LPD	0.5				
-Hirsutism	1				
-Galactorrhea & hyperprolactinema	0.5				
9. Clinical problems & disorders of the men-strual cycle.		1	5	10	6%
-Dysmenorrhea	1				
-PMS	1				
-Abnormal bleeding from the genital tract.	0.5				
-Abnormal uterine bleeding	0.5				
-Dysfunctional uterine bleeding	0.5				
-Diagnosis & management of a case of genital tract bleeding	0.5				
-Causes of menorrhagia & metrorrhagia					
-Postmenopausal bleeding					

Subject	Lectures (hrs)	PBLs (hrs)	Clinical training (hrs)	To-tal (hrs)	% of Total
GYNECOLOGIC INFECTIONS				2.5	3%
10. Sexually transmitted diseases (STDs) - -Bacterial STDs (gonorrhea-Chlamydia) - -Viral STDs (HSV-HPV-HIV) - -Syphilis	1	0.5	1		
11. Lower genital tract infections - -Bacterial vaginosis - -Vulvovaginitis - Vaginal candidiasis - Trichomonas vaginalis - Atrophic vaginitis - Vulvovaginitis of children - -Acute cervicitis - Nisseria Gonorrhoea - Chlamydia Trachomatis - -Chronic cervicitis & cervical erosion	1	0.5	3	4.5	3.5%
12. Upper genital tract infections - -Pelvic inflammatory disease (PID)	1	0.5	1	2.5	2.5%
13. Chronic specific infections of the female genital tract - -Genital TB - -Bilharsiasis of FGT	1	0.5		1.5	2%

Subject	Lectures (hrs)	PBLs (hrs)	Clinical training (hrs)	To-tal (hrs)	% of Total
GENERAL GYNECOLOGY					
14. Endometriosis & adenomyosis - Endometriosis - Adenomyosis	1	1	1	3	2.5%
15. Uterine leiomyomata -Etiology & classification -Pathology & pathological changes - Diagnosis & management -Recent non-invasive surgical techniques	2	1	1	4	3.5%
16. Infertility -Male factor -Female factor Etiology of female factor Investigations of female factor Management of a case of infertility Unexplained infertility Assisted reproductive techniques (ART)	2	2	4	8	6%
17. Pelvic Organ Prolapse -Uterine prolapse -Vaginal prolapsed	1	1	2	4	4%
18. Perineal lacerations & fecal incontinence - Perineal lacerations -Old complete perineal tear -Rectovaginal fistula.	1	1	1	3	3%
19. Urinary incontinence -Stress urinary incontinence -Genito-urinary fistula	2	1	1	4	4%
20. Benign conditions of the vulva & vagina **-Diseases affecting the vulva** Pruritis vulvae Epithelial disorders of the vulva Vulval ulcers Non neoplastic swellings Benign neoplasms	1	1	1	3	4%
-Diseases affecting the vagina Vaginal discharge Vaginal infections Non neoplastic cysts Benign neoplasms	1	1	1	3	2.5%
21. Contraception & family planning -Physiological methods -Barrier methods -IUCD -Hormonal methods -Female sterilization -Contraception during lactation -Emergency contraception	2	1	1	4	7%

Subject	Lectures (hrs)	PBLs (hrs)	Clinical training (hrs)	To-tal (hrs)	% of Total
GYNECOLOGIC 0NCOLOGY					
22. Cervical cancer &CIN -CIN -Cancer cervix	2	1	1	4	3%
23. Malignancies of the uterine corpus -Endometrial hyperplasia -Endometrial carcinoma -Uterine sarcoma -Mixed mesodermal tumors -Choriocarcinoma	2	1	1	4	3.5%
24. Non neoplastic ovarian swellings -Follicular cysts -Corpus luteum cysts -Theca lutien cysts -e=Endometriotic cysts -Inflammatory cysts -Germinal inclusion cysts	1	0.5	0	1.5	1%
25. Benign ovarian neoplasms -Epithelial tumors -Germ cell tumors -Sex cord stromal tumors -Complications of benign ovarian neoplasms -Clinical picture of benign ovarian neoplasms -Treatment of benign ovarian neoplasms	2	1	1	4	3%
26. Malignant ovarian neoplasms -Epithelial ovarian cancer -Malignant germ cell tumors - Malignant sex cord stromal tumors -Metastatic ovarian cancer -Staging of ovarian cancer -Clinical picture & diagnosis -Surgical treatment of ovarian cancer -Chemotherapy & radiotherapy	2	2	1	5	4%
27. Vaginal & vulval cancer -Premalignant lesions of the vulva(VIN) -Carcinoma of the vulva - Premalignant lesions of the vagina(VAIN) - Carcinoma of the vagina	1	0.5	1	2.5	2%

Subject	Lectures (hrs)	PBLs (hrs)	Clinical training (hrs)	To-tal (hrs)	% of Total
DIAGNOSTIC PROCEDURES & DD IN GYNECOLO-GY					1%
28. Imaging in gynecology	1	1	1	3	1.5%
29. Endoscopy in gynecology	1	1	1	3	0.5%
30. DD in gynecology					
GYNECOLOGIC OPERATIONS				4	3%
31. Gynecologic operations & procedures	1	2	1		
NEW UPDATES IN GYNECOLOGY				3	
32. Molecular biology	1				1%
33. Chromosomal disorders	1				1%
34. An introduction to evidence based medicine	1		0		2%
total	**46**	**27**	**54**	**127**	**100%**

III-A) LECTURE TOPICS:

OBSTETRICS

1. Maternal changes in pregnancy.
2. Antenatal care and risk management.
3. Hypertension with pregnancy.
4. Normal labor
5. Rh, urinary disorders, venous thrombosis, vomiting.
6. Bleeding in early pregnancy.
7. Contracted pelvis and obstructed labor.
8. Diabetes with pregnancy.
9. Normal labor.
10. Diagnosis of pregnancy.
11. Bleeding in early pregnancy.
12. Operative vaginal delivery.
13. Cardiac diseases and anemia with pregnancy.
14. Occipito-posterior delivery.

15. Complications of third stage of labor: Post Partum hemorrhage.
16. Antepartum hemorrhage: placenta preavia.
17. IUGR, asphyxia, birth injuries.
18. CS.
19. Breech delivery.
20. Complications of third stage of labor: Retained Placenta, Obstetric shock and acute inversion of the uterus.
21. Antepartum hemorrhage: accidental he
22. Puerperal pyrexia and sepsis.
23. PROM, prematurity, postmaturity.
24. Face, Brow, Transverse malpresentations.

GYNECOLOGY

1. Anatomy and embryology.
2. Normal menstruation, dysmenorrheal and PMS.
3. Cervical carcinoma.
4. Amenorrhea.
5. Ovulation disorders and PCO.
6. Vulval diseases.
7. Infertility and ART.
8. Cervical carcinoma.
9. Genital infections and PID.
10. Perineal lacerations & fistula.
11. Puberty & menopause.
12. Infertility and ART.
13. Ovarian tumors.
14. Genital infections and PID.
15. Urinary incontinence.
16. Genital prolapsed.

17. Endometriosis.
18. Ovarian tumors.
19. Fibroid.
20. Non-hormonal contraception.
21. Common chromosomal errors.
22. Abnormal genital bleeding.
23. Endometrial carcinoma

III-B) Tutorial / Small Group Discussions

As stated in the table of course contents.

III-C) PRACTICAL CLASSES :

1-Normal Pregnancy:

- History taking from pregnant ladies in 1st, 2nd, and 3rd trimesters & how to perform antenatal care.
- Abdominal examination of a female in the 3rd trimester
- Pinard and Sonicaide use to detect FHS in 3rd trimester

2-Abnormal Pregnancy:

- History taking from pregnant females complaining of vomiting, hypertension, DM, cardiac disease, urinary tract infection, bleeding, threatened preterm labor or history of recurrent abortion.
- Vital signs taking (sphygmomanometer, stethoscope…_
- Laboratory results interpretation
- Ultrasound interpretation

3-Normal Labor:

- Observe normal labor in section 10.

4-Abnormal Labor:

- Observe management of breech, shoulder presentation, cord prolapse and multiple pregnancies in section 10.

5-Ultrasound in Obstetrics:

- Observation and interpretation of different ultrasounds done in the outpatient clinic.

6-Anatomy and Development of the Female Genital Tract:

- Female bony pelvis and fetal skull inspection and identification of different diameters.

7-Reproductive Endocrinology and Infertility:

- Interpretation of different HSG (Hysterosalpingography) to determine uterine, cervical, and tubal lesions that may cause infertility.
- History taking of cases of amenorrhea.
- History taking of cases of infertility.

8-Displacements, Traumatic Lesions, and Urogynecology:

- History taking of different cases of genital prolapse and cases with SUI (Stress Urinary incontinence)
- History taking of genital fistula.

9-Contraception and Family Planning:

- Examination of different types of contraceptive devices, and observation of the methods of their application in the outpatient clinic.

10-Pelvi-abdominal mass cases:

- History taking of different cases.

11-Abnormal genital tract bleeding cases:

- History taking of different cases.

4- Teaching and learning methods:

METHODS USED:

I. Lectures: they cover the theoretical part on the course and are given my professors and assistant professor. They extend from 9 am till 11 am. Students in each unit are divided into two groups of parallel sessions.

II. Problem based learning (PBLs): they involve carefully revised case senarios based on the lectures. They are given by lecturers and extend from 11 am till 12 pm. Student in each unit are divided into two groups of parallel sessions.

III. Clinical and small group tutorial : students in each unit are further divided into 9 subgroups. Each subgroup will participate on one of the following activities:

1. Clinical rounds: involves history taking and discussion to several cases (this activity in particular will be repeated 6 times to help build up communication skills and history taking skills)
2. Obstetrics outpatient clinic (once)
3. Gynecology outpatient clinic (once)
4. IVF clinic and a concise lecturer on how the IVF unit is run
5. Fetal medicine unite
6. Operation theatre and a quick demonstration on the operation room cycle and scrubbing
7. Labour ward and demonstration of normal and cesarean delivery
8. Evidence based lecture and basics of research

TEACHING PLAN:

The students are allocated evenly over each of the six main units. The students in each unit are divided into two groups. Both groups will receive the same material and lectures at the same time. The aim of this division is to make small groups of students to help better teaching. Each student is given a hand-out booklet/portfolio to record all cases and procedures seen in each of the clinical settings.

Lectures:

The lecturers will cover the theoretical part of the syllabus. It extends from 9 am – 11 am. It is given by assistant professors and professors.

Problem Based Learning (PBLs):

These are made of clinical scenarios based on the theoretical lecture taken earlier. They involve two cases. With each case the clinical scenario is presented and students are allowed time to think and discuss the cases openly. They are also allowed to use their text books and internet. Afterwards, the Lecturer will start discussing the different aspects of each case with the students and help them build a plan of management tailored to this case in particular. The PBLs extend from 11 am – 12 pm and are given by Lecturers.

Clinical activities:

From 12 pm – 2 pm students will be divided into even smaller groups of nine, and will be allocated to different units within the department. These unit include, in-patient wards, gynecology outpatient clinic, obstetrics outpatient clinic, operation theatre, labor ward, IVF unit, ultrasound and fetal medicine unit, evidence based medicine and research unit.

Time Plan

	Hours / week	Total hours
1- Lectures	12 hrs	108 hrs
2- PBLs	6 hrs	54 hrs
3 – clinical activities	12 hrs	108 hrs
Total	30 hrs	270 hrs

5- Students Assessment methods:

5-A) ATTENDANCE CRITERIA: Faculty bylaws

5-B) Assessment TOOLS:

Tool	Purpose (ILOs)
Written examination	To assess ILOs from 1a to a24 and e1 to e9
Oral examination	To assess ILOs from 1a to a24 and e1 to e9and d1 to d6
Practical (OSCE) examination	To assess ILOs from 1a to a24, b1 to b5, e1 to e9, c1 to c7, d1 to d6 and f1 to f7

5-C) TIME SCHEDULE: Faculty bylaws

Exam	Week
1- MCQ quiz	Undetermined
2- End of course OSCE & MCQ examination	End of 9 weeks OB/GYN course.
3- Final exam: consisting of a) Written examination (short essay and MCQ) b) OSCE c) Oral (OB and GYN)	End on academic year as stated by faculty bylaws

5-D) Weighing System:

Examination	Marks allocated	% of Total Marks
1- End of term	100	20%
2- Final exam: a. Written * short essay Q (OB & GYN) * MCQ b. OSCE c. Clinical Sheet d. Oral (OB &GYN)	 250 (100+ 150) 60 30 60 (30+30)	 50% 12% 6% 12%
Total	**500**	**100%**

- The minimum passing & Passing grades (Faculty bylaws).

FORMATIVE ASSESSMENT:

- Quizzes given on google forms regularly on the website
- Questions given on Microsoft team meetings regularly, to be added in the portfolio, that will be assessed globally by the end of the round

5-E) Exams description:

Examination	Description
1- Quiz	MCQs
2- End of term	Objectively structured clinical exam (OSCE) ,MCQ
3- Final exam: a- Written b- Practical c- Oral	 e.g. Select (MCQs) & Supply (Short essay) questions OSCE OB and GYN using random cards.

6- List of references:

6.1- Basic materials:

- Department books: available for students to purchase from different bookshops at the faculty.
- Clinical handbook (distributed for free for all student)
- Student portfolio (distributed for free for all students)
- Audiovisual materials, jars and instruments.

6.2- Essential books (text books):

- Obstetrics by ten teachers 20th edition 2017: available from bookshops at the faculty
- Hacker and Moore 2016: available in bookstores of faculty

6.3- Recommended books:

- Novak' s gynecology 15th edition, 2017: available from bookshops at the faculty
- Speroff clinical gynecologic endocrinology and infertility,
- Fernando-Arias high-risk pregnancy.
- Williams Obstetrics .

6.4- SUGGESTED MATERIALS:

- CD-ROM containing topics and presentations in obstetrics and gynecology
- (available with the department book)

SUR-516 General Surgery

General Surgery (5th year)
Code : SUR-516

- **Departments offering the course:** General Surgery
- **Fifth academic year of M.B.B.Ch. program**

A) Basic Information:

- **Allocated marks:** 60
- **Course duration:** 6 weeks
- **Teaching hours:** 28 hours

Theoretical and tutorials: 20 hours

Practical: 8 hours

B) Professional Information:

1- Overall Aim of the Course:

- To provide the student with the knowledge, and skills, which enable him/her to identify, analyze, manage and/or refer clinical surgical problems in order to provide efficient, cost effective and humane patient care.
- To provide the student with an appropriate background covering the common and/ or important surgical emergencies.
- To enable the student to detect cancer at an early stage.
- To enable the development and application of appropriate professional attitudes, ethical principles and communication skills.

2- Intended Learning Outcomes (ILOs):

a- Knowledge and understanding.

On successful completion of the course, the student should be able to:

a.1. Recognize basics of surgical ethics. (a.14)

a.2. Describe the anatomy of surgically important structures, organs and regions. (a.1)

a.3. Describe the histology of surgically important tissues. (a.1)

a.4. Describe the physiology of surgically important organs and systems. (a.1, 2)

a.5. Describe the principles of molecular biology and wound healing. (a.2)

a.6. Describe the microbiology and Parasitology of surgically important pathogens and their treatment. (a.6, 7)

a.7. Describe the first aid and definitive management of surgical emergencies. (a.7)

a.8. Describe the principles of surgical nutrition. (a.7)

a.9. Describe the principles of organ transplantation. (a.7)

a.10. Describe the epidemiology, etiology, pathophysiology, pathology, complications and prognosis of the various common and important surgical diseases and disorders. (a.5, 6)

a.11. Describe the clinical picture, investigations and differential diagnosis of the various common and important surgical diseases and disorders. (c.6)

a.12. Identify the principles of early detection of cancer. (a.10)

a.13. Describe the prophylaxis and treatment of the various common and important surgical diseases and disorders. (a.7)

a.14. Describe the pharmacological basis of surgically important medications. (a.7)

a.15. Describe prevention of HCV and HIV transmission, sterilization of metal and non-metal instruments, handling and preservation of specimens, and management of disposables. (a.15)

a.16. Describe the procedures and minimally-invasive techniques used in the treatment of surgical diseases. (a.7)

a.17. Describe the principles of operative intervention including indications for intervention, preoperative preparation, principles of general and local anesthesia, principles of the operations, and postoperative care and complications. (a.7)

a.18. Describe palliative care for untreatable surgical conditions. (a.7)

a.19. Describe the theoretical basis of evidence based medicine (EBM). (a.8)

a.20. Define principles of clinical audit. (a.16)

a.21. Describe the principles of clinical trials and statistics. (a.5)

Professional skills: (b,c,d, and e)

b. Practical and Clinical Skills

On successful completion of the course, the student should be able to:

b.1. Provide first aid measures for injured and critically-ill patients. (b.7)

b.2. Perform an emergency-directed examination for patients with common surgical emergencies. (b.3)

b.3. Compose an initial plan of management for stabilization of injured and critically-ill patients. (b.6)

b.4. Take and record a structured patient-centered history in acute and chronic conditions. (b.2)

b.5. Perform full physical examination appropriate to age and gender in acute and chronic clinical conditions. (b.3)

b.6. Construct appropriate management plan for patients with common and important surgical diseases. (b.5)

b.7. Write safe prescriptions of different types of drugs. (b.9)

b.8. Order appropriate investigations. (b.5)

Procedures and technical skills acquired during undergraduate training

By the end of the program, the graduate will acquire the model-based skills (using manikin and simulators) required to:

b.9. Perform venepuncture and collect blood samples. (b.11)

b.10. Insert a cannula into peripheral veins. (b.12)

b.11. Practice enteral, parenteral, inhalational and topical methods for drug administration. (b.13)

b.12. Perform suturing of superficial wounds. (b.14)

b.13. Demonstrate competency in cardiopulmonary resuscitation and basic life-support. (b.15)

b.14. Administer basic oxygen therapy. (b.19)

b.15. Insert a nasogastric tube. (b.20)

b.16. Perform bladder catheterization. (b.21)

b.17. Perform and interpret basic bedside laboratory tests. (b.23)

b.18. Adopt suitable measures for safety and infection control. (b.25)

c. Professional Attitude and Behavioral Skills

By the end of the program, the graduates will acquire the skills required to:

c.1. Adopt an empathic and holistic approach to patients and their problems, taking into consideration beliefs values, goals and concerns. (c.1)

c.2. Respect the patient's right to know and share in decision making as well as dignity, privacy, information confidentiality and autonomy. (c.2)

c.3. Understand and respect the different cultural beliefs and values regardless of their disabilities in the community they serve. (c.3)

c.4. Recognize the important role played by other health care professions in patients' management, respecting their contributions in patient's management regardless of degree or occupation. (c.4)

c.5. Apply the national code of ethics issued by the Egyptian Medical Syndicate.(c.5)

c.6. Respect and follow the institutional code of conduct. (c.6)

c.7. Counsel patients suffering from different conditions as well as their families. (c.7)

c.8. Recognize one's own limitations of knowledge and skills referring patients to appropriate health facility at the appropriate stage. (c.8)

d. Communication Skills:

By the end of the program, the graduate will be able to:

d.1. Communicate clearly, sensitively and effectively with patients and their relatives and colleagues from a variety of health and social care professions. (d.1)

d.2. Communicate effectively with individuals regardless of their social, cultural, ethnic backgrounds, or their disabilities. (d.2)

d.3. Cope with situations where communication is difficult including breaking bad news. (d.3)

d.4. Show compassion to patients and their relatives in situations of stress and grief. (d.4)

d.5. Honor and respect patients and their relatives, superiors, colleagues and any other member of the health profession. (d.5)

e. Intellectual Skills

By the end of the program, the graduate will acquire the skills required to:

e.1. Recognize patients with life/organ-threatening surgical conditions and perform appropriate initial therapy. (e.2)

e.2. Determine the different strategies for risk management of disease and injury. (e.6)

e.3. Identify surgically important structures and organs. (e.1)

e.4. Identify surgical pathology specimens. (e.1)

e.5. Integrate basic anatomical, physiological and pathological facts with clinical data. (e.1)

e.6. Integrate the results obtained from history, clinical examination and investigational data into meaningful diagnostic formulation. (e.2)

e.7. Combine clinical and investigational data with evidence based knowledge and skill of deductive reasoning for clinical problem solving. (e.3)

e.8. Identify problems, prioritize them, and generate a list of differential diagnosis for each problem. (e.4)

e.9. Select the most appropriate and cost-effective diagnostic and therapeutic procedure for each problem. (e.5)

e.10. Use the results of all the tests ordered to modify the problem list and the differential diagnosis accordingly. (e.5)

e.11. Identify and outline management of patients with surgical emergencies and common surgical diseases requiring long-term follow-up, rehabilitation and pain relief. (e.5)

e.12. Recognize and cope with uncertainty by accepting and reacting to uncertain situations through proper counseling, consultation and referral. (e.8)

f. General and Transferable Skills

By the end of the program, the graduate will acquire the skills required to:

f.1. Adopt the principles of lifelong learning needs of the medical profession. (f.1)

f.2. Use computers efficiently in reaching biomedical information to remain current with advances in knowledge and practice. (f.2)

f.3. Present information clearly in verbal, written, and electronic forms. (f.3)

f.4. Communicate ideas and arguments effectively. (f.4)

f.5. Work effectively within a multidisciplinary team. (f.5)

f.6. Manage time and resources effectively and set priorities. (f.6)

f.7. Apply simple statistical methods. (f.7)

f.8. Apply English language as needed for appropriate learning and communication in relation to medicine. (f.8)

3- Course contents:

Subject	Lectures (hrs)	Practical (hrs)	Total (hrs)	% of Total
1- General skills	-	2	2	7.14
2- Thyroid	8	2	10	35.7
3- Breast	4	2	6	21.4
4- Hernias	6	2	8	28.57
5- Surgical ethics	2	-	2	7.14
Total	**20**	**8**	**28**	**100**

4- Teaching and learning methods:

METHODS USED:

1. Tutorials and Seminars
2. Clinical classes
3. Lectures(Illustrated lectures)
4. Staff rounds

TEACHING PLAN:

Lectures: Students are divided into two groups, and lectures are given on Sun-days and Mondays from 2:00-4:00 pm

Practical classes: Divided into 12 groups and provided from 10:00-12:00am.

5th year	Hours / week	Total hours
1- Lectures	4/week	20
2- Practical	1.5 /week	8
Total		**28**

5- Students Assessment methods:

5a: Attendance criteria: Faculty bylaws

5b: Assessment Tools:

Tool	Purpose(ILO)
Written examination	1-22, 71, 72
Practical examination	22-52, 72

5c: Time schedule: Faculty bylaws

5th year	Week
1- First half	Mid September
2- Clinical exam	At the end of the rotation
3- MCQ exam	1st week after the end of the rotation
4- Second half	Mid March
5- Clinical exam	At the end of the rotation
6- MCQ exam	1st week after the end of the rotation

5d: Grading system:

Examination	Marks allocated	% of total marks(60)
Clinical	30	50%
MCQ	30	50%

FORMATIVE ASSESSMENT:

Students know their marks in the trial exams for OSCE which is done at least twice in each surgical rotation.

5e : Examination description:

Examination	Description
Clinical exam	OSCE and long case
Theoretical exam	MCQ

6- List of references:

6.1: Basic materials: Department book:

6.2: Essential books (text books): Current Surgical therapy, Bailey and Love's Short textbook of surgery, and Norman Browse clinical surgery

6.3: Recommended books: Schwartz textbook of surgery

6.4: Periodicals, Web sites: http://www.medicine.cu.edu.eg/beta/en, http://www.ncbi.nlm.nih.gov/pubmed/

STUDENT NAME

MED-613 Internal Medicine

Internal Medicine (6th year)
Code : MED-613

- **Department in charge: Internal Medicine department.**
- **Internal Medicine department responsible for the main course.**
- **Departments of Internal Medicine sub-specialties skills development participatate for undergraduate skills. [Cardiology, Chest, Tropical Medicine, Rheumatology, Psychiatry, Neurology, Dermatology and Andrology departments].**
- **Sixth academic year of M.B.& B.Ch. program**

A) Basic Information:

- **Allocated marks:** 840 marks
- **Course duration** 20 weeks x 2 groups
- **Teaching hours for each group:** 476 hrs.
- **Theoretical:** 196 hrs.
- **Clinical:** 280 hrs.

B) Professional Information:

1. Program Aims

The aim of the program is to provide the graduate with educational experience necessary for further training and practice in medicine through:

1. A core body of scientific knowledge, skills and attitudes essential for the practice of medicine.
2. Diagnostic, problem solving and decision-making skills necessary for proper evaluation and management of common diseases and emergencies.
3. Awareness and participation the social and community aspects of health care.

4. Appropriate ethical and professional skills necessary for establishment of excellent communication with patients and colleagues.

5. Lifelong learning competencies necessary for continuous professional development.

2. Academic Standards

The Intended Learning Outcomes (ILO's) of the present program are developed to satisfy the **National Academic Reference Standards (NARS)** for Bachelor degree of medicine published by the National Authority for Quality Assurance and Accreditation of Education (NAQAAE) (January 2009).

3. Intended Learning Outcome

Knowledge and Understanding

By the end of the program, the graduate will gain knowledge and understanding to be able to:

a.1. Describe the common medical problems presenting to doctors - in primary health care setting, hospital and community – their diagnosis, prevention and treatment. (a.6)

a.2. Classify disease in terms of mental, functional and physical processes .(b.4)

a.3. Describe the clinical manifestations and differential diagnosis of common medical disorders with an emphasis on the incidence of the different manifestations and their relative importance in establishing diagnosis, and the early manifestations of serious diseases (e.g. malignancy, emergencies …etc) (a.7)

a.4. Describe the theoretical basis of professional and practical skills.(a.8)

a.5. Describe the basics of ethics. (a.14)

a.6. Identify the determinants of health, principles of health promotion, disease prevention, early detection and control of common community health problems including disease surveillance and screening. (a.10)

a.7. Recognize basics of health and patient's safety during clinical practice.(a.15)

b. Practical and Clinical Skills

By the end of the program, the graduate will be able to:

b.1 Demonstrate basic sciences' practical skills relevant to the future practice and acquire practical, clinical skills and competencies. (b.1)

b.2 ake and record a structured patient-centered history, appropriate depth and detail, relative to the clinical context.(b.2)

b.3 Perform full physical examination appropriate to age and gender in acute and chronic clinical conditions.(b.3)

b.4 Recognize urgent life-threatening conditions, and compose appropriate initial plan of management for stabilization of the critically ill patient.(a.1,b.5)

b.5 Safely perform routine diagnostic and therapeutic procedures, including life support.

b.6 Construct appropriate management strategies both diagnostic and therapeutic for patients with common acute and chronic diseases.(b.5,b.6)

b.7 Compose an initial plan of management for stabilization of critically-ill patients.(b.6)

b.8 Provide first aid measures for injured, critically-ill patient(shock, coma) and cardiopulmonary resuscitation (b.5,b.6

b.9 Work out common drug dosage based on patient's criteria and health condition(b.8)

b.10 Write safe prescriptions of different types of drug (.b.9)

b.11 Conduct community diagnosis for prioritization of community health problems. (b.10)

Procedures and technical skills acquired under appropriate supervision during undergraduate:

By the end of the program, the graduate will acquire the model-based skills (using manikin and simulators) required to:

b.13 Perform venepuncture and collect blood samples. (b.11)

b.14 Insert a cannula into peripheral veins. (b.12)

b.15 Practice enteral, parenteral, inhalation and topical methods for drug administration (b.13)

b.16 Demonstrate competency in cardiopulmonary resuscitation and basic life-support.

b.17 Perform and interpret ECG. (b.16)

b.18 Perform and interpret basic respiratory function tests and arterial blood gases. (b.17)

b.19 Use a nebulizer for administration of inhalation therapy. (b.18)

b.20 Administer basic oxygen therapy. (b.19)

b.21 Insert a naso-gastric tube. (b.20)

b.22 Perform bladder catheterization. (b.21)

b.23 Perform and interpret basic bedside laboratory tests. (b.23)

b.24 Adopt suitable measures for safety and infection control. (b.25)

c. Professional Attitude and Behavioral Skills

By the end of the program, the graduates will acquire the skills required to

c.1 Adopt an empathic and holistic approach to the patient and their problems, taking into consideration beliefs values, goals and concerns. (c.1)

c.2 Respect the patient's right to know and share in decision making as well as dignity, privacy, information confidentiality and autonomy. (c.2)

c.3 Understand and respect the different cultural beliefs and values regardless of their disabilities in the community they serve. (c.3)

c.4 Recognize the important role played by other health care professions in patients' management, respecting their contributions in patient's management regardless of degree or occupation. (c.4)

c.5 Apply the national code of ethics issued by the Egyptian Medical Syndicate. (c.5)

c.6 Respect and follow the institutional code of conduct. (c.6)

c.7 Counsel patients suffering from different conditions as well as their families. (c.7)

c.8 Recognize one's own limitations of knowledge and skills referring patients to appropriate health facility at the appropriate stage. (c.8)

d. Communication Skills:

By the end of the program, the graduate will be able to:

d.1 Communicate clearly, sensitively and effectively with patients and their relatives and colleagues from a variety of health and social care professions. (d.1)

d.2 Communicate effectively with individuals regardless of their social, cultural, eth-

nic backgrounds, or their disabilities. (d.2)

d.3 Cope with situations where communication is difficult including breaking bad news. (d.3)

d.4 Show compassion to patients and their relatives in situations of stress and grief. (d.4)

d.5 Honor and respect patients and their relatives, superiors, colleagues and any other member of the health profession. (d.5)

d.6 Use communication styles to bring about behavioral change. (d.6)

e. Intellectual Skills

By the end of the program, the graduate will acquire the skills required to:

e.1 Analyze symptoms & signs and construct a differential diagnosis for common presenting complaints. (e.2)

e.2 Design an appropriate diagnostic plan for evaluation of common presenting complaints which is appropriate in terms of the differential diagnosis, the severity of the clinical situation and the risks, benefits and costs to the patient. (e.2.3)

e.3 Accurately interpret the results of commonly used diagnostic procedures. (e.3)

e.4 Combine clinical and investigational data with evidence-based knowledge for clinical problem solving. (e.3)

e.5 Identify risk factors for disease processes and injury, and institute the appropriate diagnostic, preventive, and therapeutic interventions.

e.6 Determine the different strategies for risk management of disease and injury. (e.3, 4)

e.7 Identify the indications and logistics of referring patients to higher levels of experience or specialization as a principle for the family doctor (GP). (e.8)

e.8 Construct treatment plan, incorporating his knowledge, best available evidence, and patient's preferences in a cost effective manner. (e.3, 7)

e.9 Recognize and cope with uncertainty that is unavoidable in the practice of medicine by accepting and reacting to uncertain situations through proper counseling, consultation and referral. (e.8)

f. General and Transferable Skills

By the end of the program, the graduate will acquire the skills required to:

f.1 Adopt the principles of lifelong learning needs of the medical profession (continuous professional development; CPD). (f.1)

f.2 Use computers efficiently in reaching biomedical information to remain current with advances in knowledge and practice. (f.2)

f.3 Present information clearly in written, electronic and verbal forms (f.3)

f.4 Communicate ideas and arguments effectively. (f.4)

f.5 Work effectively within a multidisciplinary team. (f.5)

f.6 Manage time and resources effectively and set priorities. (f.6)

4. Program Structure and Contents

Courses, Teaching Hours Examinations and Alloc ated Marks for the Sixth year

Course	Code	Allocated marks	840		Exams
			Theoretical	Practical	
Internal Medicine and its specialties	MED-615	840	196 hrs	280 hrs.	-Written exam -Clinical exam -Table viva Oral exam Radiology & ECG tracings Lab reports

Internal Medicine course for the sixth year students includes the following Subspecialties:

[Cardiology, Chest, Tropical Medicine, Rheumatology, Psychiatry, Neurology, Dermatology and Andrology departments].

These departments deliver their courses 4 days / week for 2 weeks for each subspecialties in the same weeks of Internal Medicine course as an afternoon teaching activity.

Two weeks attend the students in internal medicine emergency department during clinical course.

3- Course contents:

Subject	Central Lectures 196 hr.	Departmental teaching: Clinical / Small Group / Autpatient clinical / Seminars 280 hrs.	% of Total	Total hrs
Cardiovascular Topics	28 hrs.	42 hrs.	15%	
Respiratory topics	28 hrs	42 hrs.	15%	
GIT & Hepatology topics	28hrs	42 hrs.	15%	
Neurology topics	26 hrs	40 hrs.	15%	
Endocrinology Topics Diabetes, metabolism and nutrition	13hrs hrs 6	20 hrs 10 hrs	7% 3%	
Heamatology Topics	13 hrs.	20 hrs.	7%	
Nephrology topics	13 hrs.	20 hrs.	7%	
Rheumatoloy Topic	10 hrs.	12 hrs.	5%	
Infectious Diseases	13hrs.	18 hrs.	6%	
Geriatric topics	4 hrs.	10 hrs. Contributed in the clinical teaching according to the case	2%	
Genetics topics (Basic Genatics)	1 hr	4 hrs. Contributed in the clinical teaching according to the case	1%	
Ethics & law topics	1hr	Contributed in all clinical teaching	1%	
Acute Internal Medicine Emergency	8hr		1%	
Clinical Pathology	4hr			
Total	**196**	**280**	**100%**	**476**

6th year Topics

Cardiovascular diseases

Heart Failure
Atherosclerosis
Ischemic Heart Diseases
Hypertension
Rheumatic fever
Cardiology Investigations
Valvular Heart Diseases
Infective Endocarditis
Arrhythmias
Cardiomyopathy
Myocarditis
Pericardial diseases
Peripheral Vascular Disease
Hypotension
Clinical Approach to major cardiac symptoms
Adult Congenital Heart Disease
Cardiovascular Drugs

RESPIRATORY DISEASES

Bronchial asthma
COPD
Pneumonia
Upper Respiratory tract infection
Pulmonary embolism
Pleural diseases
Tuberculosis
Interstitial lung diseases
Cystic fibrosis, Bronchiectasis , Lung abscess , Empyema with broncho pleural fistula
Occupational lung diseases
Clinical Approach to major chest symptoms
Investigation of pulmonary diseases
Pulmonary hypertension

Cor-pulmonale
Lung and pleural cancer
Respiratory Failure
Mediastinum
Lung affection in systemic diseases

Gastroenterology

Clinical Approach to major Gastrointestinal symptoms
Investigations of the GIT
Diseases of the esophagus & GERD
Diseases of the stomach and the duodenum
Dyspepsia
Gastritis
Peptic ulcer disease
Pancreatitis
Inflammatory bowel disease
Irritable bowel syndrome
Neoplasm of the GIT
Diarrhea and Mal-absorption
Intestinal ischemia
Hepatology
Jaundice
Investigations of the liver
Acute fulminant Hepatic failure
Chronic liver failure
Liver cirrhosis
Ascites
Portal hypertension
Hepato-renal syndrome (HRS)
Acute viral hepatitis
Chronic hepatitis
Chronic autoimmune hepatitis
Non Alcoholic Fatty Liver Diseases (NAFLD)
Primary biliary cirrhosis

Hereditary hemochromatosis
Wilson's disease
Hepatic amebiasis
Vascular diseases of the liver
Hepatic tumours, HCC,metastasis
Liver transplantation
Drugs and the liver

Endocrinology and metabolism

1. Diabetes Mellitus

2. The Thyroid Gland

Hyperthyroidism and thyrotoxicosis
Hypothyroidism
Tyroiditis
Thyroid nodules
Thyroid carcinoma

3.The Adrenal Gland

Cushing Syndrome
Hyperaldosteronism
Adrenocortical insufficiency
Pheochromocytoma

4. Anterior Pituitary Gland

Acromegaly
hyperprolactinemia
Hypopituitarism
Posterior Pituitary Gland
Diabetes Insipidus
SIADH

5.Parathyroid Gland

Hypoparathyroidism
Hyperparathyroidism

6.Others

Autoimmune Polyglandular Syndromes
Delayed puberty

Dyslipidaemia
Hypoglycaemia and Insulinoma
Obesity and Metabolic syndrome
Hirsutism

7. Assessment of nutritional state

HEMATOLOGY

Investigations of blood diseases
Major Manifestations of Blood Diseases
Anemia
Leukemia
Lymphoma
Plasma cell disorders
Myeloproliferative diseases
Bleeding disorders
Venous thromboembolism
Transfusion medicine

Immunology

The immune system: Introduction
Transplantation immunology
Immunodeficiency disorders

Rheumatology

Major Manifestations of Rheumatologic Diseases
Investigations of rheumatic and bone diseases
Osteoarthritis
Crystal deposition diseases
Rheumatoid arthritis
Systemic lupus erythematosus (SLE)
Systemic sclerosis
Antiphospholipid Syndrome (APS)
Dermatomyositis and polymyositis
Vasculitis
Sjogren syndrome
Seronegative Spondyloarthropathies

MCTD
Osteoporosis, Osteomalacia
Corticosteroids and immunosuppressive drugs used in rheumatic diseases
Familial Mediterranean Fever
Amyloidosis
Sarcoidosis

Infectious Diseases

Major manifestations of infection
Fever
Infection in immunocompromised patients
Fever of unknown origin
Antimicrobial agents
Antibacterial
Antifungal
Antiviral
Viral Diseases
DNA viruses : Herpes simplex, Epstein-Bar, Cytomegalovirus, Varicella-Zoster virus
RNA viruses: Influenza, (Poliomyelitis), HIV
Bacterial infections
Gram positive bacteria: Streptococcus infection, Staphylococcus
Gram negative bacteria: Salmonella (Typhoid), Brucellosis, Cholera
Mycobacterium: Tuberculosis,
Protozoa infections (malaria, amebiasis, giardiasis, leishmaniasis)
Helminthic infection
Trematode schistosomiasis, fascioliasis)
Cestode (tenia saginata, taenia solium, taenia granulosus)
Intestinal nematode (enterobius, ascaris, ankylostoma)
Tissue dwelling human nematodes, Filariasis.

Nephrology

Major Clinical Manifestations of Renal Disease
Investigations of renal diseases
Glomerular diseases
Tubular and interstitial diseases

Acute renal failure
Chronic Renal Failure
Renal replacement therapy
Renal Vascular Diseases
Renal involvement in Systemic diseases
Drugs and the Kidney
Infections of the Kidney and Urinary Tract
Water and Electrolyte balance
Acid Base Balance

Neurology

Functional Anatomy
Sphincteric disturbances
Speech
Cranial nerves and their diseases
Blood supply of the brain and spinal cord
Investigations of Neurological diseases
Major manifestations of neurological diseases
Cerebro-vascular stroke
The cerebellum and Ataxias
Extra-pyramidal diseases
Peripheral neuropathy
Disorder of Neuromuscular junction
Diseases of voluntary muscles
Diseases of the spinal cord
CNS Infections
Intracranial Tumours
Motor Neurone Diseases
Multiple sclerosis
Headache and facial pain
Seizures and epilepsy
Coma

Ethics

Acute Internal Medicine Emergency
Genetics : Basic Genetics.
Clinical Pathology

III-C) Seminars

1	Clinical approach to a patient with shortness of breath
2	Clinical approach to a patient with acute chest pain
3	Clinical approach to a patient with GIT bleeding
4	Clinical approach to a patient with acute abdominal pain
5	Clinical approach to a patient with Jaundice
6	Clinical approach to a patient with Generalized Anasarca
7	Diabetes mellitus complications
8	Obesity
9	Clinical approach to a patient with acute renal failure
10	Clinical approach to a patient with metabolic bone disease (Calcium Hemostasis)
11	Clinical approach to a patient with FUO
12	Clinical approach to a patient with Coma
13	Clinical approach to a patient with Polyarthritis
14	Antibiotics &= chemotherapeutics
15	Clinical approach to a patient with dementia

III-C) Clinical CLASSES:

All classic cases and some problematic cases related to all body systems according to the theoretical curriculum could be a material for clinical teaching. This is included:

Cardiovascular diseases

Revision of symptoms and examination.

MS , MR, DM, AS, AR, + complications:

Heart Failure

Hypertension

Cardiomypathy

Ischemic Heart disease

Bacterial Endocarditis

Arrhthmia : A.F

RESPIRATORY DISEASES

Revision of symptoms and examination

Bronchial asthma

COPD will cor pulmonal , COPD with respiratory failure

Pleural effusion

Bronchiaectasis, lung abscess
Pulmonary T.B
Bronchogenic Carcinoma
Interstitial Lung disease
Gastroenterology
Revision of symptoms and examination
Abdominal Pain. Peptic Ulcer with complication
Diarrhea.
Jaundice.
Liver cirrhosis
Ascites
Portal hypertension
HCC
Endocrinology and metabolism
The Thyroid Gland
Hyperthyroidism and thyrotoxicosis
Hypothyroidism
The Adrenal Gland
Cushing Syndrome
Acromegaly
Sheehan syndrome . pituitary gland :-Hypopituitalism
Adenoma : .....
Diabetes Mellitus& it's complications
Neurology:
Symptoms and Examination
Cerebro-vascular Disease.
Paraplegia.
Peripheral Neuropathy.
Ataxia.
Myopathy
Rheumatology :
Symptoms and Joint Examination.
Rheumatoid.

SLE.

Heamatology :

Anemia.

Bleeding Tendency. Purpura.

Lymph node enlargement. Lymphoma – Leukemia

Nephrology - Infections :

Nephrotic Syndrome

Chronic Renal Failure.

More clinical cases are discussed during the rotations in the departments of special medicine.

During the clinical round the students attend two weeks in internal medicine emergency

Internal Medicine includes the following specialties:

Course	Teaching hours		
	Theoretical	Practical	Total
General Medicine,	35	84	119
Cardiology,	30	42	72
Chest,	30	42	72
Neurology,	30	42	72
Gastrointestinal Medicine,	30	42	72
Rheumatology,	10	12	22
Infections,	13	18	31
Nephrology,	13	20	33
Hematology,	13	20	33
Endocrinology, Diabetes and Metabolism,	19	30	49
Geriatrics,	4	10	14
Genetics,	3	5	8

Dermatology, Andrology and STDs

Contact hours: Theoretical (35), Practical (55) Total (90)

Dermatology Introduction to dermatology, Bacterial Infection, Leprosy, Viral Infections-pityriasis rosea, Fungal Infections, Parasitic Infections, Acne, Psoriasis, Lichen Planus, Lupus, Erythematosus, Eczema and Dermatitis, Urticaria, Drug eruptions, Vitiligo, Alopecia

Andrology Syphilis & D.D. of Genital Ulcers، D.D. of Urethral Discharge ,Viral STDs (HIV – HSV – Genital Warts), Erectile Dysfunction I (Etiology & Diagnosis), Erectile Dysfunction II (Investigations & Treatment), Male Infertility I (Etiology & Diagnosis), Clinical, Make Infertility II (Treatment & ARTs)…

Psychiatry

Contact hours: Theoretical (20), Practical (40) Total (60)

Etiology of psychiatric disorders, symptoms and signs of mental disorders., Delirium and Dementia and other Organic Mental Disorders., Substance Abuse and Dependence disorders., Psychosomatic disorders., anxiety disorders., mood disorders, somatoform disorders and Dissociative disorders, adjustment disorders, schizophrenia and other Psychotic disorders, common psychiatric disorders in childhood, psychotropic medications, electro-convulsive therapy, psychiatric emergencies

Rheumatology

Contact hours: Theoretical (10), Practical (12) Total (22)

Juvenile chronic arthritis, Rheumatoid arthritis, Systemic lupus erythematosus, Seronegative, pondyl arthropathies, Scleroderma, Bechet disease, Differential Diagnosis of arthritis, Crystal, associated arthritis, Vasculitis, Idiopathic inflammatory muscle disease, Infectious arthritis, Osteoarthritis, Common cause of mechanical neck & back pain, Rheumatic Fever.

Cardiology

Contact hours: Theoretical (30), Practical (42) Total (72)

Clinical assessment of the cardiovascular system, Valvular heart disease, Congenital heart disease, Heart failure, ECG, Cardiovascular emergencies, Cardiac imaging.

4- Teaching and learning methods

Lectures

Small group teaching for clinical skills

Clinical classes

Skill lab

MCQ

Bed side

Problem solving

Assignment

Seminars

8. Students are always invited to attend and share in all the internal medicine departmental activities: Conferences (indoors and outdoors), departmental staff rounds, Grand rounds and autpatient clinical .

Some of the interested students are invited as speakers; others share in the preparation of the conferences.

TEACHING PLAN:

Lectures: daily 1hr for 5 days weekly

Clinical rounds: The students are divided into 2 groups ,each group spend 20 weeks in the clinical sections successively through the year ,further more each group is distributed all over the internal medicine units in equal numbers

two weeks in internal medicine emergency department

10 hours / week is the time available for the clinical teaching in every section.

Seminar: from 2 to 2.5 hours.

A certain topic is suggested and a group of students share to make a search to cover the topic in an advanced up to date method then they are asked to present their topic in front of their colleagues and supervising professor to run out a group discussion.

Time plan

1- Internal medicine

Item	Time schedule	Teaching hours/ week	Total hours
Lectures	1hr daily for 5 days weekly	5 hours / week for 40 weeks	196 hrs
Seminars	2 hours Once / week	2 hours / week	40
Clinical	3 hours /day for 5 days / week	15 hours / week for 20 weeks	300 hr.
Total			**536**

2- Special medicine

7 branches of medicine including internal medicine department (previously mentioned), the student spends 14 days at each specialty (1.5 hrs/day, 4 days / week)

5- Assessment methods:

5-A) Assessment criteria:

According to the undergraduate Faculty bylaws the students should attend 75% of the total hrs as a prerequisite to attend any of the allocated exams.

5-B) Assessment TOOLS:

Tool	Purpose (ILOs)
Written examination	To assess ILOs related to knowledge, understanding, higher intellectual skills & transferable skills.
Table Viva Oral & Practical examination	To assess ILOs related to knowledge, understanding, higher intellectual skills, communication skills, professional skills and transferable skills.
Clinical examination	To assess ILOs related to knowledge, understanding , higher intellectual skills, practical skills, technical skills, ethics, professional skills , communication skills & transferable skills

5-C) TIME SCHEDULE: Faculty bylaws

Exam	Week
First half of the academic year for the 1st group	
Mid-round (practical) OSCE Exam	(December)
End –round exam (practical) Lung Case	(February)
Second half of the academic year for the 2nd group	
1-Mid-round exam(practical) OSCE Exam	(May)
2-End-round exam (practical) Long Case	(July)
Final exam(written)	
Final clinical exam	
Final oral exam	
Final practical exam	

5-D) GRADING SYSTEM:

Examination	Marks allocated	% of Total Marks
Formative assessment		
1- Quiz exams	To check for attendance	
2-practical (Clinical mid round exam) Clinical end round exam) 3- Assignments & other activities 4- ICU MCQ	 15 marks 30 marks 5 marks 10 marks	
Summative assessment		

Examination	Marks allocated	% of Total Marks
- Final exam: a- Written b- Practical c- Oral	790 marks	
Total	**840**	

The minimum passing & Passing grades (Faculty bylaws).

5-E) Examinassions description:

Examination	Description
Formative assessment	
1- Quiz exams	Related to the delivered topic
2- Assignments & other activities	Topics related to practice and not included in lectures or discussed in seminars.
1- Clinical mid round exam	Cases
2- Clinical end round exam	Cases
Summative assessment	
- Final exam: a- Written b- Practical c- Oral d- Practical	Short essay & short answers questions Problem Solving & MCQs Long case Short cases: to examine 4 different systems Radiology - ECG - Lab reports.

6- Learning resources:

6.1- Basic materials:

Department Text Book

Department Problem Solving Book.

6.2- Essential and recommended books (text books)

DAVIDSON'S Principles and Practice of Medicine.

Clinical Medicine KUMMAR and CLARK.

1000 MCQs for DAVIDSON'S Principles and Practice of Medicine.

MCQs for Clinical Medicine KUMMAR

Lange MCQs for USMLE.

HUTCHISON'S Clinical Methods.

Clinical Examination, MACLEOD, MUNRO.

A Guide to Physical Examination, Barbara Bates.

Handout of lectures.

National books approved by the Internal Medicine Council.

CDs in the electronic library.

6.4 Related web sites

SUR-616

General Surgery

General Surgery (6th year)
Code : SUR-616

- **Departments offering the course:** General Surgery, Urosurgery, Orthopedics, Neurosurgery, Cardiothoracic surgery, anesthesiology, and Radiology.
- Sixth academic year of M.B.B.Ch. program

A) Basic Information:

- **Allocated marks:** 840
- **Course duration:** 20 weeks
- **Teaching hours:** 502 hours

Theoretical and Tutorials: 196 hours

Practical: 306 hours

B) Professional Information:

1- Overall Aim of the Course:

- To provide the student with the knowledge, and skills which enable him/her to identify, analyze, manage and/or refer clinical surgical problems in order to provide efficient, cost effective and humane patient care.
- To provide the student with an appropriate background covering the common and/ or important surgical emergencies.
- To enable the student to detect cancer at an early stage.
- To enable the development and application of appropriate professional attitudes, ethical principles and communication skills.

2- Intended Learning Outcomes (ILOs):

a- Knowledge and understanding.

On successful completion of the course, the student should be able to:

a.1. Recognize basics of surgical ethics. (a.14)

a.2. Describe the anatomy of surgically important structures, organs and regions. (a.1)

a.3.Describe the histology of surgically important tissues. (a.1)

a.4. Describe the physiology of surgically important organs and systems. (a.1, 2)

a.5. Describe the principles of molecular biology and wound healing. (a.2)

a.6. Describe the microbiology and parazitology of surgically important pathogens and their treatment. (a.6, 7)

a.7. Describe the first aid and definitive management of surgical emergencies. (a.7)

a.8. Describe the principles of surgical nutrition. (a.7)

a.9. Describe the principles of organ transplantation. (a.7)

a.10.Describe the epidemiology, etiology, pathophysiology, pathology, complications and prognosis of the various common and important surgical diseases and disorders. (a.5, 6)

a.11.Describe the clinical picture, investigations and differential diagnosis of the various common and important surgical diseases and disorders. (c.6)

a.12. Identify the principles of early detection of cancer. (a.10)

a.13. Describe the prophylaxis and treatment of the various common and important surgical diseases and disorders. (a.7)

a.14. Describe the pharmacological basis of surgically important medications. (a.7)

a.15. Describe prevention of HCV and HIV transmission, sterilization of metal and non-metal instruments, handling and preservation of specimens, and management of disposables. (a.15)

a.16. Describe the procedures and minimally-invasive techniques used in the treatment of surgical diseases. (a.7)

a.17. Describe the principles of operative intervention including indications for intervention, preoperative preparation, and principles of general and local anesthesia, principles of the operations, and postoperative care and complications. (a.7)

a.18. Describe palliative care for untreatable surgical conditions. (a.7)

a.19. Describe the theoretical basis of evidence based medicine (EBM). (a.8)

a.20. Define principles of clinical audit. (a.16)

a.21. Describe the principles of clinical trials and statistics. (a.5)

b. Practical and Clinical Skills

On successful completion of the course, the student should be able to:

b.1. Provide first aid measures for injured and critically-ill patients. (b.7)

b.2. Perform an emergency-directed examination for patients with common surgical emergencies. (b.3)

b.3. Compose an initial plan of management for stabilization of injured and critically-ill patients. (b.6)

b.4. Take and record a structured patient-centered history in acute and chronic conditions. (b.2)

b.5. Perform full physical examination appropriate to age and gender in acute and chronic clinical conditions. (b.3)

b.6. Construct appropriate management plan for patients with common and important surgical diseases. (b.5)

b.7. Write safe prescriptions of different types of drugs. (b.9)

b.8. Order appropriate investigations. (b.5)

Procedures and technical skills acquired during undergraduate training:

By the end of the program, the graduate will acquire the model-based skills (using manikin and simulators) required to:

b.9. Perform venepuncture and collect blood samples. (b.11)

b.10. Insert a cannula into peripheral veins. (b.12)

b.11. Practice enteral, parenteral, inhalational and topical methods for drug administration. (b.13)

b.12. Perform suturing of superficial wounds. (b.14)

b.13. Demonstrate competency in cardiopulmonary resuscitation and basic life-support. (b.15)

b.14. Administer basic oxygen therapy. (b.19)

b.15. Insert a nasogastric tube. (b.20)

b.16. Perform bladder catheterization. (b.21)

b.17. Perform and interpret basic bedside laboratory tests. (b.23)

b.18. Adopt suitable measures for safety and infection control. (b.25)

c. Professional Attitude and Behavioral Skills

By the end of the program, the graduates will acquire the skills required to:

c.1. Adopt an empathic and holistic approach to patients and their problems, taking into consideration beliefs values, goals and concerns. (c.1)

c.2. Respect the patient's right to know and share in decision making as well as dignity, privacy, information confidentiality and autonomy. (c.2)

c.3. Understand and respect the different cultural beliefs and values regardless of their disabilities in the community they serve. (c.3)

c.4. Recognize the important role played by other health care professions in patients' management, respecting their contributions in patient's management regardless of degree or occupation. (c.4)

c.5. Apply the national code of ethics issued by the Egyptian Medical Syndicate.(c.5)

c.6. Respect and follow the institutional code of conduct. (c.6)

c7. Counsel patients suffering from different conditions as well as their families. (c.7)

c.8. Recognize one's own limitations of knowledge and skills referring patients to appropriate health facility at the appropriate stage. (c.8)

d. Communication Skills:

By the end of the program, the graduate will be able to:

d.1.Communicate clearly, sensitively and effectively with patients and their relatives and colleagues from a variety of health and social care professions. (d.1)

d.2. Communicate effectively with individuals regardless of their social, cultural, ethnic backgrounds, or their disabilities. (d.2)

d.3. Cope with situations where communication is difficult including breaking bad news. (d.3)

d.4. Show compassion to patients and their relatives in situations of stress and grief. (d.4)

d.5. Honor and respect patients and their relatives, superiors, colleagues and any other member of the health profession. (d.5)

e. Intellectual Skills

By the end of the program, the graduate will acquire the skills required to:

e.1. Recognize patients with life/organ-threatening surgical conditions and perform appropriate initial therapy. (e.2)

e.2.Determine the different strategies for risk management of disease and injury. (e.6)

e.3. Identify surgically important structures and organs. (e.1)

e.4. Identify surgical pathology specimens. (e.1)

e.5. Integrate basic anatomical, physiological and pathological facts with clinical data. (e.1)

e.6. Integrate the results obtained from history, clinical examination and investigational data into meaningful diagnostic formulation. (e.2)

e.7. Combine clinical and investigational data with evidence based knowledge and skill of deductive reasoning for clinical problem solving. (e.3)

e.8. Identify problems, prioritize them, and generate a list of differential diagnosis for each problem. (e.4)

e.9. Select the most appropriate and cost-effective diagnostic and therapeutic procedure for each problem. (e.5)

e.10. Use the results of all the tests ordered to modify the problem list and the differential diagnosis accordingly. (e.5)

e.11.Identify and outline management of patients with surgical emergencies and common surgical diseases requiring long-term follow-up, rehabilitation and pain relief. (e.5)

e.12. Recognize and cope with uncertainty by accepting and reacting to uncertain situations through proper counseling, consultation and referral. (e.8)

f. General and Transferable Skills

By the end of the program, the graduate will acquire the skills required to:

f.1. Adopt the principles of lifelong learning needs of the medical profession. (f.1)

f.2. Use computers efficiently in reaching biomedical information to remain current with advances in knowledge and practice. (f.2)

f.3. Present information clearly in verbal, written, and electronic forms. (f.3)

f.4. Communicate ideas and arguments effectively. (f.4)

f.5. Work effectively within a multidisciplinary team. (f.5)

f.6. Manage time and resources effectively and set priorities. (f.6)

f.7. Apply simple statistical methods. (f.7)

f.8.Apply English language as needed for appropriate learning and communication in relation to medicine. (f.8)

3- Course contents:

Subject	Lectures (hrs)	Tutorial / Small group discussion (hrs)	Practical (hrs)	Total (hrs)	% of Total
General skills	X	10	20	30	6.04
1- Wound healing and management	4		1	5	0.8
2- Major trauma and the multiple-injured patient	3	2	2	7	1.41
3- Fluid electrolyte and acid-base balance	2	1	1	4	0.8
4- Acute hemorrhage hemostasis and blood transfusion	2	1	1	4	0.8
6- Shock	4	1	1	6	1.2
7- Surgical infections	3	1	2	6	1.2
8- Burns and the principles of plastic surgery	2	1	2	5	1
9- Surgical nutrition	2	1	1	4	0.8
10- Tumors and transplantation	2			2	0.4
12- Skin and subcutaneous tissue	2	3	10	15	3.02
13- Arterial disorders	4	3	10	17	3.42
14- Venous disorders	2	3	10	15	3.02
15- Lymphatic system	2	3	10	15	3.02
16- Muscles, tendons, fascia, hands and feet	2	2	4	8	1.6
18- Surgery of nerves	2	2	4	8	1.6
19- Scalp, skull and brain	X		8	8	1.6
20- Face, lips, palate, mouth, cheek and tongue	3	2	4	9	1.6
23- Salivary glands	2	5	10	17	3.41
24- The neck	2	5	10	17	3.41
26- Endocrine surgery	6	6	20	32	6.43
27- Breast	4	6	20	30	6.03
28- Cardiothoracic surgery	X		15	15	3.01
29- Esophagus	3	1	2	6	1.2
30- Stomach and duodenum	3	1	2	6	1.2
31- The liver	3	4	10	17	3.41

Subject	Lectures (hrs)	Tutorial / Small group discussion (hrs)	Practical (hrs)	Total (hrs)	% of Total
32- Biliary system	3	4	10	17	3.41
33- Pancreas	3	2	4	9	1.8
34- Spleen	3	4	10	17	
35- Peritoneum, omentum and mesentery	3	1	2	6	1.2
36- Intestine	6	1	2	9	1.6
37- Pediatric surgery	3	4	10	17	3.41
38- Appendix	2	1	2	5	1
39- Anal canal	3		X	3	0.6
40- Review subjects	3	1	2	6	1.2
41- Abdominal wall and hernias	4	7	20	31	6.03
42- Urology	X		15	15	3.01
43- Testes and scrotum	2	4	10	16	3.21
44- Orthopedics	X		15	15	3.01
45- Amputations	1	1	2	4	0.8
46- Surgery of the spine and spinal cord	X		7	7	1.4
47- Minor procedures	2		skill lab		
48- Anesthesia	X		15	15	3.01
Total	**102**	**94**	**306**	**502**	**100**

Surgery includes the following specialties:

Course	Teaching hours		
	Theoretical	Practical	Total
General Surgery,	**130**	**223**	**353**
Orthopedic Surgery,	**20**	**20**	**40**
Neurosurgery,	**8**	**15**	**23**
Cardiothoracic,	**8**	**15**	**23**
Urology,	**20**	**20**	**40**
Plastic Surgery,	**20**	**4**	**24**
Vascular Surgery,	**18**	**40**	**58**
Pediatric Surgery,	**16**	**9**	**25**
Anesthesia and Pain Medicine,	**6**	**20**	**26**

Urology

Investigations & hematuria, Benign Prostatic hyperplasia, Infections & Congenital anomalies, Urological Emergencies & Trauma, Anatomy & Catheter training, Bladder Cancer & Renal tumors, Stones.

Orthopedic Surgery

Principles of Diagnosis in Orthopedics, Principles of Bone Injuries, Principles of Joint Injuries, Special Injuries, Complications of Bone and Joint Injuries, Principles of Bone Tumors, Generalized Bone and Joint Diseases, Principles of Bone and Joint Infections, Skeletal Dysplasia's and Deformities

Anesthesia and Pain Medicine

A: Minimal clinical cases required
General Anesthesia, Regional Anesthesia, Complications of anesthesia, Airway management, Basic, advanced life support principles of post operation pain management.

Neurosurgery

Scalp, skull and brain, Surgery of the spine and spinal cord, . General skills (History taking, general examination and nervous system examination). Hydrocephalus, Spina Bifida, Head Trauma patient (Scalp wounds, scalp hematomas, skull fracture, cerebral hematoma, extradural hematoma, subdural hematoma, subarachnoid hemorrhage and brain injury), Peripheral nerve injury, Spinal fractures, Back pain and disc herniation, Central nervous system tumors.
Operative topics For each topic, the following items are required: Indications, Contraindications (If present), Preoperative preparation, Type of anesthesia (General, Local, spinal), Incision used, and layers opened, Principles of the procedure, Structures divided, Structures preserved, Restoration of continuity (If applicable), Postoperative care, Postoperative complications
Trauma: Management of the polytrauma patient (Primary survey (ABCDE), resuscitation, and secondary survey), Management of scalp wounds, Head injury (extradural hematoma and compound depressed fracture).
Pre and postoperative care: Preoperative preparation: Routine investigations, starvation, consent, and preoperative drugs, postoperative care: VLADITRAM (Vital signs, Labs, activity, diet. IVF, tubes, respiration, antibiotics and analgesics, and medications), Wound care, management of drains and following conscious level, Postoperative complications (Prevention, diagnosis and treatment).
Infections: Wound infection, Prevention and treatment of cavernous sinus thrombosis.

Radiology topics:

Details required for each technique: Principles of the technique, Indications, Contraindications, Preparation, Information gained, Normal findings, Advantages, Disadvantages, General radiology: Diagnostic imaging: imaging techniques (Conventional radiography, C/T, MRI,) Imaging in: Brian and spinal trauma, oncology and developmental abnormities, Plain x- rays of the head and Spine: Head injury, Skull deposits, spinal trauma, spinal degenerative diseases and spinal bifida. CT/MRI and of the head and spine: Head injury, intracranial tumors, hematomas, and hydrocephalus and spinal degenerative diseases.

Anatomy and physiology tropics: Scalp, Development of nervous system, Middle meningeal artery, Spine. Dermatomal supply of upper and lower limbs Sciatic nerve and other peripheral nerves.

* **Radiology** has no separate course specification it is integrated among other course specifications, e.g.: Medicine, surgery, Pediatrics, Obstetrics and Gynecology, Neurosurgery .....

Course	Teaching hours		
	Theoretical	Practical	Total
• **Oncology and Radiotherapy** Include: Clinico-pathologic Conferences	**90**	**50**	**140**
• **Radiology and Imaging Procedures**	70 hours included in Internal Medicine, Surgery, Obs&Gyn, Pediatrics, ENT		
• **Emergency Medicine**	Included in Internal Medicine, Surgery, Obs&Gyn, Pediatrics + 720 hours in Practical year		
• **Medical Ethics**	30 hours distributed all over the teaching plan with main focus in Psychology, Forensic Medicine		
• **Rehabilitation and Physical Therapy**	15 hours included in Internal Medicine and Surgery		

4- Teaching and learning methods

METHODS USED:

1. Lectures(Illustrated lecture
2. Small group teaching
3. Tutorials ,Seminars and Case study
4. Clinical classes
5. Clinical rounds(Emergency unit, Outpatient clinic, Staff rounds)

TEACHING PLAN:

Lectures: Students are divided into two groups, and lectures are given on Sundays and Tuesdays from 2:00-4:00 pm

Small group teaching: Students are divided into six groups and distributed in the departments and detailed schedule in the curriculum book, from 7:00 am to 8: 00am

Tutorials: Students are divided into 12 groups and provided from 8:30 to 9:30am.

Practical classes: Divided into 12 groups and provided from 10:00-12:00am.

Special surgery: students are divided into seven groups, provided one hour daily from 12:30 to 1:30 pm

Subjects	Hours / week	Total hours
1- Lectures	102	196
2- Small group teaching / tutorials	94	
3- Practical (19 weeks)	10	190
4- Urosurgery (3 weeks)	5	15
5- Orthopedics (3 weeks)	5	15
6- Emergency (3 weeks)	5	15
7- Neurosurgery (3 weeks)	5	15
8- Cardiothoracic surgery (3 weeks)	5	15
9- Radiology (2 weeks)	5	10
10- Anesthesiology (3 weeks)	5	15
11- Pediatric surgery (1week)	10	10
Total		**502**

5- Students Assessment methods:

5a: Attendance criteria: Faculty bylaws

5b: Assessment Tools:

Tool	Purpose(ILO)
Written examination	1-22, 71, 72
Oral examination	53-64, 67, 68, 72
Practical examination	22-52, 72

5c: Time schedule: Faculty bylaws

Examination	Week
1- First half of the academic year	Mid September to mid March
2- Mid-year exam	One MCQ exam at the middle of July
3- Second half of the academic year	Mid march to end of July
4- Practical exam	One at the end of each clinical round
5- Final exam	November- December

5d: Grading system:

Grade	Exam type	Marks allocated	
6th year	Specials	60	150
	Clinical round exam	40	
	Emergency surgery	10	
	MCQ	40	
Final written	3 papers x 150 =	450	690
Final clinical	80 OSCE 70 long	150	
Final oral	20 operative 30 radiology 20 anatomy 20 jars	90	
Total		**840**	

FORMATIVE ASSESSMENT:

Students know their marks in the trial exams for OSCE which is done at least twice in each surgical rotation.

5e: Examination Description

6th year	Description
1- End of round exam	OSCE and long case
2- End of year	MCQ
3- Final written	Paper I on volume I (Problem solving, short answer questions and essays) Paper II on volume II (Problem solving, short answer questions and essays) Paper III MCQ on volumes I and II
4- Final clinical exam	80 OSCE 70 long
5- Final oral exam	Operative (Oral discussion) Radiology (True/False questions on PowerPoint presentation of pictures) Anatomy (True/False questions on PowerPoint presentation of pictures) Surgical pathology (True/False questions on PowerPoint presentation of pictures)

6- List of references:

6.1: **Basic materials:** Department book:
6.2: **Essential books (text books):** Current Surgical therapy, Bailey and Love's Short textbook of surgery, and Norman Browse clinical surgery
6.3: **Recommended books:** Schwartz textbook of surgery
6.4: **Periodicals, Web sites:** http://www.medicine.cu.edu.eg/beta/en, http://www.ncbi.nlm.nih.gov/pubmed/

Clinical Training Year of the House Officer

3. Clinical Training Year of the House Officer

Actual working hours* of House Officers / Week in Cairo University Hospitals

Rotation	Emergency	Operating Room	Outpatient Clinics	Staff Rounds	Inpatient Ward	Total/ Week	Total hours / Round
General Surgery (2 Months)	----	12	4	2	28	46	368
Internal Medicine (2 Months)	12	----	4	2	28	46	368
Pediatrics (2 Months)	12	----	4	2	28	46	368
OBS &Gyn (2 Months)	12	12	4	2	16	46	368
Emergency & Anesthesia (2 Months)	56/Week						448
Medical Specialty (1 Month)	12	----	4	2	28	46	184
Surgical Specialty (1 Month)	----	12	4	2	28	46	184

***(One hour = 60 minutes)**

In addition to the 6 Major practical compulsory training rotations, each House Officer is obliged to attend 11 complementary courses as follows:

Infection Control, Basic Emergency and Surgical Skills, Immediate Life Support, Family Medicine, Ethics in Medical Practice, Communications in Health Care, Medico-legal Aspects, Acute Pain Management, How to Critically Appraise Evidence, Research Methodology, Addiction

The graduate is authorized to practice the medical profession after attending this year of training as decreed by the regulation

Key sources of information about program can be found:

- **Program validated document.**
- **Students Handbook (revised annually)**
- **Web address**: www.medicine.cu.edu.eg
- **Vice Dean of Education and Student Affairs e- mail address: sa@kasralainy.edu.eg**
- **Medical Education Development Center (MEDC):**

  0223684669-0223682457-0223689384-0223652106-01006029076

  Fax 022362843

Vice DEAN

Prof. Dr.Safinaz Salah Eldin Sayed

Faculty of Medicine
Cairo University