

# UNIVERSITY OF ANBAR

## COLLEGE OF MEDICINE



### CURRICULUM OF ANBAR COLLEGE OF MEDICINE

Prepared by curriculum committee

2021-2022

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## Preface

The Anbar College of Medicine was established in 1988 and accepted the first batch of students in the studying year 1990-1991. The college applies the curriculum of the English tradition of six academic years.

The educational program for the medical students must be designed in a well written curriculum to achieve competent and safe doctors who can practice medicine at all hospitals, primary health centers and various clinics all over the world. Our curriculum is designed to help the graduates to offer the best health services to the people particularly the Iraqi people.

The curriculum of our college is divided into seven chapters, the first chapter discusses the general outline of the whole curriculum while the remaining 6 chapters cover the six academic stages and in each one, there is a precise detail of each subject which belongs to the academic year. The curriculum of each subject contains a coordinator and teaching staff of that subject, introduction, objectives, content of the subject including theoretical lectures and practical or clinical courses with the hours and units for them, the materials and places used to implement the curriculum, methods of assessment of students and books recommended and approved for the application of curriculum.

The updating job of the curriculum is the result of the good cooperation between the members of the curriculum committee and the teaching staff of the college.

I and my colleagues in the Curriculum Committee hope that the new edition of the curriculum will be appreciated by our dear teaching staff and lovely students.

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## Acknowledgment

1. The curriculum committee highly appreciates the National Council for Accreditation of Medical Colleges for the creation of well-structured guidelines for accreditation which help us too much in our work.
2. We like to acknowledge the big efforts of Assistant Professor Dr. Thakir M Mohsin, the dean of the Anbar college of medicine for his continuous support of our work in updating the curriculum.
3. We would like to thank our colleagues in the college for their great job in updating every subject in our curriculum.
4. The members of curriculum committee are greatly indebted to the members of the college council for the excellent revision of the updating curriculum draft before they approve it.

**Key points**

1. The curriculum is an essential road map for teaching staff and medical students to achieve a higher educational level of our students.
2. The curriculum should be revised annually by the curriculum committee in the college in cooperation with departments.
3. Our curriculum is covering 37 subjects of the college requirements and 3 subjects of the university requirements.
4. Any department in the college can delete and add not more than 20% of any subject belongs to the department. These actions are taken according to the need of the Iraqi community in order to achieve better health services, discuss new technology for the diagnosis and treatment of various clinical conditions and updating the knowledge in daily clinical practice.
5. The curriculum committee in the college is responsible for updating the curriculum annually and presenting the updating forum to the college council (in the March month) to accept it or accept it after some changes. The accepting forum of the curriculum becomes dependable in the next studying year.
6. The curriculum committee is responsible for yearly preparing questioners (to the students, graduates and stakeholders), making an interview (with the students, graduate and stakeholders) and collecting the documents to the various components of the curriculum to maintain the accreditation level of the college. The results of these activities should be collected and preserved in the place of the accreditation data.
7. The curriculum committee comprise of chief and 8 members. The chief is one of the well expert teaching staff. Six of the members are from the well expert teaching staff, one member from employee, and one member from the students.
8. The curriculum of the college of medicine should be written in the English language except 3 subjects (Arabic language, Forensic medicine and Human rights and freedoms) which are written in Arabic language.
9. The curriculum committee takes in consideration every note from any one of the teaching staff, students and stakeholders. The notes are collected, well studied and took any beneficial points for updating the next version of the curriculum.
10. Our curriculum takes in consideration the controls, instructions and laws which are issued from the Iraqi Ministry of Higher Education and Scientific Research and the University of Anbar.
11. Every unit equal to 15 hours theoretical lectures or 30 hours practical or clinical hours.
12. To ensure that the curriculum is applied, every subject is supported by a log book which is filled by students during the studying period.
13. Our curriculum consists of compulsory courses with a credit of 255 unit (Table 1) which exceed the upper limit of our university requirements and

distribute over the 6 academic years. While the elective study comprises of many topics which are issued by each of the 4 clinical departments (internal medicine, surgery, obstetrics and gynecology and pediatrics) in the first day of the year for the students of the 6th academic year. Each student has the ability to choose one of these topic from each list of the four departments. These topics are student centered learning. The student is under at least 2 supervisors, one of them from the teaching staff of the 4 clinical departments and the other from the remaining basic departments, is prepared and presented the topic as a seminar. Following the presentation, an open discussion from the examining committee (3 in number from teaching staff), attendant teachers and students is performed and a mark is given to the student from the examining committee.

14. Total curriculum period=studying period + examination period  
=194 week + 30 week =224 week

Studying period = 194 week (30 week for each year of the first 5 academic years and 44 week for the 6<sup>th</sup> academic year).

Exam period = 30 (5 weeks for each academic year).

15. The starting day of the first 5 stages is on the 4<sup>th</sup> week of September, while for the 6<sup>th</sup> year is on first week of July.
16. The minimum passing score is 50 marks (50%).

Passing grades are:

- 90% or more Excellent
- 80% to less than 90% Very good
- 70% to less than 80% Good
- 60% to less than 70% Medium
- 50% to less than 60% Accepted
- Less than 50% Fail

17. The final first trial exam for the first 5 academic years starts at the last week of May. While the second trial starts at the first week of September.
18. Regarding the final exam of the sixth academic year, there are 4 trials. The first and third trials start at the last week of May while the second and fourth trials start at the last week of December on 2 consecutive years.
19. The general average of the student = {(the average of the 1<sup>st</sup> year× 5)+( the average of the 2<sup>nd</sup> year× 5)+( the average of the 3<sup>rd</sup> year× 5)+( the average of the 4<sup>th</sup> year× 20)+( the average of the 5<sup>th</sup>year× 25)+( the average of the 6<sup>th</sup> year× 40)}/100
20. The student is considered fail in the subject if she or he cannot achieve 50 in the subject after 2 final trials.
21. Any student who is absent for 10% of the subject duration without an excuse or 15% with an excuse, is considered fail in this subject.
22. Important Remarks for our students:
- A. Uniform clothes: According to University of Anbar regulations and instructions, each student has to wear the uniform white coat in the clinical

course. Those who do not achieve this will not be allowed to attend the lectures nor the clinical sessions.

- B. Warning: As it is not a sign of courtesy and keenness, in addition to its bad effect on the teaching course plan, please try not to enter the class if you arrived late after teacher starts his lecture. You should never enter the class if you arrived 15 minutes or more later.
- C. Courtesy: If you have problems with getting to a session, please discuss it with your teacher in advance or with the course organizer.

**Table 1: shows the total units and the units of each academic year**

Academic studying year	Number of units
First	39
Second	39
Third	36.5
Fourth	52.5
Fifth	44
Sixth	44
Total	255



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# Chapter 1

## Curriculum Specification for MBCHB (2021-2022)

### 1- Basic Information

A. Curriculum Title: Bachelor of Medicine and General Surgery MBChB

B. Curriculum Type: Single

C. Education Program: sequential integrated program

D. Type of the study: yearly system

E. Departments:

1. Human anatomy
2. Physiology
3. Chemistry and Biochemistry
4. Pharmacology
5. Microbiology
6. Pathology and Forensic Medicine
7. Community and Family Medicine
8. Internal Medicine
9. Surgery
10. Pediatrics
11. Obstetrics and Gynecology

F. Coordinator: Dean of the college: Assistant Professor Dr. Thakir M Mohsin

G. Date of curriculum specifications approval by: College Council on 2-9- 2021

### 2- Professional Information

A. Objectives

The aim of the curriculum is to provide the graduate with educational experience necessary for further training and practice in daily clinical practice through:

1. A core body of scientific knowledge, skills and attitudes essential for the practice in 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 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.
6. Research methodology as related to medical practice.

B. Intended Learning Outcomes

1. Knowledge and Understanding

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

- a. Describe the normal structure and function of human body.
- b. Describe molecular, biochemical and cellular mechanisms needed in maintaining homeostasis.

- c. Identify the developmental changes in humans and the effect of growth and aging on individuals and their family.
- d. Describe basics of normal and abnormal human behaviors.
- e. Identify altered structure and function of humans in various diseases and conditions in relation to gender and age.
- f. Describe the common diseases and life-threatening conditions as regards etiology, pathogenesis, clinical features, differential diagnosis and complications throughout the different age groups.
- g. 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.
- h. Describe the theoretical basis of professional, practical skills and evidence based medicine (EBM).
- i. Describe the role of genetics in health and disease and the basic principles of gene therapy and genetic counseling.
- j. 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.
- k. Define the principles of management and appropriate quality concepts and processes required for healthcare facilities.
- l. Describe the epidemiologic principles and the effect of social and demographic patterns on disease and vulnerability.
- m. Describe the Iraqi health systems and different population-based approaches of health care including disease burden, quality of life and well-being.
- n. Recognize basics of ethics, medico legal aspects of health problems, malpractice and common medical errors.
- o. Recognize basics of health and patient's safety and safety procedures during practical and clinical years.
- p. Define principles of clinical audit.

2. Professional Skills :

a. Practical and Clinical Skills:

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

- 1. Demonstrate basic sciences' practical skills relevant to the future practice and acquire practical, clinical skills and competencies.
- 2. Take and record a structured patient-centered history.
- 3. Perform full physical examination appropriate to age and gender in acute and chronic clinical conditions.
- 4. Assess the mental state of the patient.
- 5. Construct appropriate management strategies both diagnostic and therapeutic for patients with common acute and chronic diseases including medical, psychiatric and surgical conditions.
- 6. Compose an initial plan of management for stabilization of injured and critically-ill patients.
- 7. Provide first aid measures for injured and critically-ill patients.
- 8. Work out drug dosage based on patient's criteria and health condition.

9. Write safe prescriptions of different types of drugs.
10. Conduct community diagnosis for priority setting of community health problems.
- b. Procedures and technical skills  
By the end of the curriculum, the graduate will acquire the model-based skills (using manikin and simulators) required to:
  1. Perform venepuncture and collect blood samples.
  2. Insert a cannula into peripheral veins.
  3. Practice enteral, parenteral, inhalational and topical methods for drug administration.
  4. Perform suturing of superficial wounds.
  5. Demonstrate competency in cardiopulmonary resuscitation and basic life-support.
  6. Perform and interpret ECG.
  7. Perform and interpret basic respiratory function tests.
  8. Use a nebulizer for administration of inhalation therapy.
  9. Administer basic oxygen therapy.
  10. Insert a nasogastric tube.
  11. Perform bladder catheterization.
  12. Assist in procedure of normal labor.
  13. Perform and interpret basic bedside laboratory tests.
  14. Administer compulsory childhood vaccines.
  15. Adopt suitable measures for safety and infection control.
- c. Professional Attitude and Behavioral Skills  
By the end of the curriculum, the graduates will acquire the skills required to:
  1. Adopt an empathic and holistic approach to patients and their problems, taking into consideration beliefs values, goals and concerns.
  2. Respect the patient's right to know and share in decision making as well as dignity, privacy, information confidentiality and autonomy.
  3. Understand and respect the different cultural beliefs and values regardless of their disabilities in the community they serve.
  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.
  5. Apply the national code of ethics.
  6. Respect and follow the institutional code of conduct.
  7. Counsel patients suffering from different conditions as well as their families.
  8. Recognize one's own limitations of knowledge and skills referring patients to appropriate health facility at the appropriate stage.
  9. Ensure confidentiality and privacy of patients information.
  10. Treat all patients equally, and avoid stigmatizing any category regardless of beliefs, culture, and behaviors.
  11. Work cooperatively demonstrating respect with other health care professions for effective patient management.

12. Be willing to share in all types of inter- professional activities including collaborative and shared learning.
  13. Ensure the cost effectiveness of health care management.
  14. Notify about or report any physical or mental conditions related to himself, colleagues or any other person that might jeopardize patients' safety.
- d. Communication Skills: By the end of the program, the graduate will be able to:
1. Communicate clearly, sensitively and effectively with patients and their relatives and colleagues from a variety of health and social care professions.
  2. Communicate effectively with individuals regardless of their social, cultural, ethnic backgrounds, or their disabilities.
  3. Cope with situations where communication is difficult including breaking bad news.
  4. Show compassion to patients and their relatives in situations of stress and grief.
  5. Honor and respect patients and their relatives, superiors, colleagues and any other member of the health profession.
  6. Use different communication approaches to bring about behavioral change.

### 3- Methods of Assessment

For each subject in the curriculum, there are formative and summative assessments which are described in detail in the following six chapters.

# CHAPTER 2

## **Subjects for the annual system of the first stage**

No.	Subject
1	Biology
2	Chemistry
3	Physics
4	Anatomy
5	Foundation of Medicine
6	Computers
7	Human rights
8	Arabic language
9	physiology
10	English language

## Department of Human Anatomy

### Subject: Biology

Academic year: First year

Course coordinator:

1. Prof. Dr. Mahdi Salih Shallal (Ph.D.), Professor in Human Anatomy Department
2. Instructor Dr. Abdul Rahman M. Jeeran Al Fahdawi (Ph.D.), Lecturer in Human Anatomy Department

### Teaching staff:

- One Professor.
- Two lecturers.
- One assistant lecturer.

Allocated marks: 100 marks.

Course duration: One academic year.

### Introduction:

Biology is the study of life. Through the study of biology students employ the processes of science in their investigations and explore the diversity of life and the inter-relationship between organisms and their environment. Students develop an understanding and knowledge of the unit of life – the cell – whose structures and processes are shared by all living organisms and, in so doing, gain an insight into the uniqueness, function and role of organisms, including themselves. In addition, they become aware of the use by humans of other living organisms and their products to enhance human health and the human environment and make informed evaluations about contemporary biological issues.

The Human Anatomy Department in the College of Medicine, University of Anbar hosts the medical students on training course for 120 hours/yr. Our aim is to enhance the knowledge of our students and let them be aware about the first steps in studying to assess them in their clinical life.

### Overall Aims:

The broad aims of the Biology Curriculum are to enable students to:

- develop and maintain an interest in biology, a sense of wonder and curiosity about the living world, and a respect for all living things and the environment;
- construct and apply knowledge of biology, understand the nature of science in biology-related contexts, and appreciate the relationships between biological science and other disciplines;
- develop the ability to make scientific inquiries; think scientifically, critically and creatively; and solve biology-related problems individually and collaboratively;
- understand the language of science and communicate ideas and views on biology-related issues;
- be aware of the social, ethical, economic, environmental and technological implications of biology, and be able to make informed decisions and judgments on biology-related issues; and
- develop an attitude of responsible citizenship, and a commitment to promote personal and community health.



**General Objectives:****At the end of the course students should be able to:**

1. Describe the structural components of the cell , preliminary tissues and genetic engineering.
2. Describe the basic structure of the cell and chemistry of the cell.
3. Describe the processes that happen across the cell membrane.
4. Study the organelles of the cell and their functions.
5. Describe the growth of the cell and stages of the cell cycle.
6. Describe the primary tissues and their types and characteristics.
7. Describe the DNA and RNA and their role in genetics and genetic engineering
8. Learn more about the gene therapy to correct the defective genes.
9. Predict clinical signs to assess the interaction of branches of biomedical science.

**Components, duration and units of the curriculum**

No	Components	Duration	Unit
1	Theoretical lectures	60 hours	4
2	Practical Sessions	60 hours	2
3	Total	120 hours	6

**Places of completion the curriculum:**

1. Lecture hall in the college
2. Biology lab in the college

**Material used for completion the curriculum:**

1. Audiovisual aids.
2. Interaction with the students through questions.
3. Power point presentation.
4. Microscopes
5. Teaching microscope
6. Glass slides of human body tissue.
7. Computer.
8. Data show.
9. Biological charts.
10. Diagrams and posters.
11. Scientific experiments

**Syllabus:****Teaching Techniques:**

**Teaching will be conducted using the following techniques:**

1. Theoretical Sessions:

- lectures were designed to cover most of topics of the histological of human body.
- The time of the lecture is 50 minutes.
- There are 2 hours lecture \ week.

2. Practical Sessions:

- The practical sessions follow the theory lectures in the same week.
- The students are divided into 2 groups (A, B).
- Each group is subdivided into 6 subgroups.
- The time of each session is 2hr.
- There are one session / week.

PART 1: CELL BIOLOGY		
week		
1	Introduction to medical biology	<ul style="list-style-type: none"> <li>• Association of biology with medicine (biomedical science)</li> <li>• Historical background</li> <li>• Scientists contributed knowledge in medical biology.</li> <li>• Branches of biology</li> </ul>
2	The microscopes	<ul style="list-style-type: none"> <li>• Principle of action of microscope</li> <li>• Types of microscope: light m. and electron microscope.</li> <li>• Uses of microscopes</li> </ul>
3	Origin of life	<ul style="list-style-type: none"> <li>• The principles of cell theory</li> <li>• Organization of the cells</li> <li>• Growth and reproduction of the cells</li> <li>• Interdependence of organisms.</li> </ul>
4	Chemistry of the cell	<ul style="list-style-type: none"> <li>• From atom to molecules</li> <li>• Molecules of the life</li> <li>• Carbohydrates</li> <li>• Lipids</li> <li>• Proteins</li> <li>• Nucleic acids</li> </ul>

5	Cell structures and functions	<ul style="list-style-type: none"> <li>• What is a cell</li> <li>• How cells are organized (Cell organization)</li> <li>• Animal cells and plant cells</li> <li>• Types of the cells: prokaryotic and eukaryotic cells</li> <li>• Major differences between prokaryotic and eukaryotic cells</li> <li>• Cell size</li> <li>• Different shapes of the cell (cell morphology)</li> <li>• Cell specification</li> <li>• Cell differentiation</li> <li>• Major jobs of cells</li> </ul>
6	Structures of the plasma membrane (FFMS model)	<ul style="list-style-type: none"> <li>• Physical properties of the plasma membrane</li> <li>• Functions of plasma membrane.</li> <li>• Proteins function of plasma membrane:</li> <li>• Recognition</li> <li>• Communication</li> <li>• Structural support</li> <li>• Enzyme activity</li> <li>• transport</li> <li>• How substances cross it.</li> </ul>
7	Transport mechanisms	<ul style="list-style-type: none"> <li>• Simple diffusion</li> <li>• Facilitated diffusion</li> <li>• Osmosis</li> <li>• Active transport</li> <li>• cotransport</li> </ul>
8	Cell organelles	<p>The nucleus and endoplasmic reticulum</p> <ul style="list-style-type: none"> <li>• Structure</li> <li>• Functions</li> <li>• Types of ER</li> <li>• Differences between smooth and rough ER</li> </ul> <p>Mitochondria and cell metabolism</p> <ul style="list-style-type: none"> <li>• Structure and functions in cellular</li> </ul>

		respiration
9	Cell organelles	Ribosomes and protein synthesis Lysosomes and Golgi apparatus Food and water storage: different types of vacuoles The cytoskeleton and cell movements <ul style="list-style-type: none"> <li>• Types of cell junctions</li> </ul> Centrioles and cell division
10	The cell division	<ul style="list-style-type: none"> <li>• The cell cycle</li> <li>• Chromosomes structure, types, numbers and gene loci</li> <li>• Functions of the cell division</li> <li>• Factors affecting the cell division</li> </ul> Stages (details) <ul style="list-style-type: none"> <li>• Interphase (G0, G1, S, G2)</li> <li>• Prophase</li> <li>• Metaphase</li> <li>• Anaphase</li> <li>• Telophase</li> <li>• Cytokinesis</li> </ul> Meiosis
11	Cellular aging and death (apoptosis)	
12	REVISION and EXAM	

Part II: Molecular Genetics		
13	The genetic information	Genome Chromosomes genes Deoxyribonucleic acid DNA Structure of DNA Nucleotides and nucleosides Sequences of DNA DNA replication.. semiconsevative replication. The link between DNA replication and Chromosome duplication Plasmids.. types... functions..
14	RNA	Structure of RNA Types of RNAs

15	Gene Expression (Central Dogma)	Gene and Allele Gene Anatomy.. promoter and terminator Lactose Operon Transcription Translation
16	Gene transfer of bacteria	Transformation.. Griffiths experiment.. Transduction Conjugation
17	Polymerase chain reaction (PCR)	PCR definition Principle Types of PCR PCR programs.. requirements.. PCR product.. Typical thermal cycler conditions Application of PCR in medicine and forensic medicine
18	Gel electrophoresis	Gel electrophoresis Principle Preparation of agarose gel and polyacrylamide Running the Gel DNA illumination Recording the results
19	Gene therapy	Definition Target cells of Gene therapy In vivo and in vitro experiments Gene therapy by using adenovirus Naked DNA Lipoplexes Gene therapy reduces parkinsons disease symptoms Gene therapy cures blindness Antisense therapy
20	mutations	Definition Types Detection of mutant strains of bacteria Replica plating technique
21	REVISION and EXAM	

Week	topic	objective
22	Preparation of tissues for histological study	Paraffin section <ul style="list-style-type: none"> <li>• Fixation, dehydration, clearing</li> <li>• embedding &amp; Sectioning</li> <li>• Staining</li> </ul> Blood smear
23	Epithelial Tissue	CHARACTERISTIC FEATURES OF EPITHELIAL

		<p><b>CELLS</b></p> <ul style="list-style-type: none"> <li>• Basement Membranes.</li> <li>• Intercellular Adhesion &amp; Other Junctions. <ul style="list-style-type: none"> <li>○ Tight or occluding junctions</li> <li>○ Adherent or anchoring</li> <li>○ Gap junctions</li> </ul> </li> </ul> <p><b>SPECIALIZATIONS OF THE APICAL CELL SURFACE</b></p> <ul style="list-style-type: none"> <li>• Microvilli.</li> <li>• Stereocilia.</li> <li>• Cilia.</li> </ul> <p><b>TYPES OF EPITHELIA</b> Covering or lining Epithelia.</p> <ul style="list-style-type: none"> <li>• Simple (one layer of cells) <ul style="list-style-type: none"> <li>○ Squamous</li> <li>○ Cuboidal</li> <li>○ Columnar</li> <li>○ Pseudostratified</li> </ul> </li> <li>• Stratified (two or more layers of cells) <ul style="list-style-type: none"> <li>○ Squamous Keratinized</li> <li>○ Squamous non-keratinized</li> <li>○ Cuboidal</li> <li>○ Transitional</li> <li>○ Columnar</li> </ul> </li> </ul> <p>Secretory Epithelia &amp; glands.</p> <ul style="list-style-type: none"> <li>• Simple Glands (Ducts Do Not Branch)</li> <li>• Compound Glands (Ducts from Several Secretory Units Converge into Larger Ducts)</li> </ul> <p><b>TRANSPORT ACROSS EPITHELIA</b> <b>RENEWAL OF EPITHELIAL CELLS</b></p>
24	Connective Tissue	<p><b>CELLS OF CONNECTIVE TISSUE</b></p> <ul style="list-style-type: none"> <li>• Fibroblasts</li> <li>• Adipocytes</li> <li>• Macrophages &amp; the Mononuclear Phagocyte System</li> <li>• Mast Cells 1</li> <li>• Plasma Cells</li> <li>• Leukocytes</li> </ul> <p><b>FIBERS</b></p> <ul style="list-style-type: none"> <li>• Collagen</li> <li>• Reticular Fibers</li> <li>• Elastic Fibers</li> </ul> <p><b>GROUND SUBSTANCE</b> <b>TYPES OF CONNECTIVE TISSUE</b></p>

		<ul style="list-style-type: none"> <li>• Connective Tissue Proper               <ul style="list-style-type: none"> <li>○ Loose (areolar) connective tissue.</li> <li>○ Dense irregular connective tissue.</li> <li>○ Dense regular connective tissue</li> </ul> </li> <li>• reticular Tissue</li> <li>• Muroid Tissue</li> </ul> <p>Adipose Tissue</p> <p>WHITE ADIPOSE TISSUE</p> <ul style="list-style-type: none"> <li>• Storage &amp; Mobilization of Lipids</li> <li>• Histogenesis of White Adipose Tissue</li> </ul> <p>BROWN ADIPOSE TISSUE</p> <ul style="list-style-type: none"> <li>• Function of Brown Adipocytes</li> <li>• Histogenesis of Brown Adipose Tissue</li> </ul>
25		<p>Cartilage</p> <p>HYALINE CARTILAGE</p> <ul style="list-style-type: none"> <li>• Matrix.</li> <li>• Chondrocytes.</li> <li>• Perichondrium.</li> </ul> <p>ELASTIC CARTILAGE</p> <p>FIBROCARILAGE</p> <p>CARTILAGE FORMATION, GROWTH, &amp; REPAIR</p> <p>Bone</p> <p>BONE CELLS</p> <ul style="list-style-type: none"> <li>• Osteoblasts.</li> <li>• Osteocytes.</li> <li>• Osteoclasts.</li> </ul> <p>BONE MATRIX</p> <p>PERIOSTEUM &amp; ENDOSTEUM</p> <p>TYPES OF BONE</p> <ul style="list-style-type: none"> <li>• Lamellar Bone.</li> <li>• Woven Bone.</li> <li>• Compact bone.</li> <li>• Cancellous bone</li> </ul> <p>OSTEOGENESIS</p> <ul style="list-style-type: none"> <li>• Intramembranous Ossification.</li> <li>• Endochondral Ossification.</li> </ul> <p>BONE GROWTH, REMODELING, &amp; REPAIR</p> <p>METABOLIC ROLE OF BONE</p>
26	Nerve Tissue & the	DEVELOPMENT OF NERVE TISSUE

	Nervous System	<p><b>NEURONS</b></p> <ul style="list-style-type: none"> <li>• Cell body (Perikaryon).</li> <li>• Dendrites.</li> <li>• Axons.</li> <li>• Nerve impulses.</li> <li>• Synaptic Communication.</li> </ul> <p><b>GLIAL CELLS &amp; NEURONAL ACTIVITY</b></p> <ul style="list-style-type: none"> <li>• Oligodendrocytes.</li> <li>• Astrocytes.</li> <li>• Ependymal Cells.</li> <li>• Microglia.</li> <li>• Schwann Cells.</li> <li>• Satellite Cells of ganglia.</li> </ul>
27		<p><b>CENTRAL NERVOUS SYSTEM 174</b></p> <ul style="list-style-type: none"> <li>• Meninges.</li> <li>• Blood-brain barrier.</li> <li>• Choroid Plexus.</li> </ul> <p><b>PERIPHERAL NERVOUS SYSTEM</b></p> <ul style="list-style-type: none"> <li>• Nerve Fibers.</li> <li>• Nerve Organization.</li> <li>• Ganglia.</li> </ul> <p><b>NEURAL PLASTICITY &amp; REGENERATION</b></p>
28	Muscle Tissue	<p><b>SKELETAL MUSCLE</b></p> <ul style="list-style-type: none"> <li>• Organization of a Skeletal Muscle.</li> <li>• Organization within Muscle Fibers.</li> <li>• Sarcoplasmic reticulum &amp; Transverse Tubule System.</li> <li>• Mechanism of Contraction.</li> <li>• Innervation.</li> <li>• Muscle Spindles &amp; Tendon Organs.</li> <li>• Muscle Fiber Types.</li> </ul>
29	MUSCLE TISSUE	<p><b>CARDIAC MUSCLE</b></p> <p><b>SMOOTH MUSCLE</b></p> <p><b>REGENERATION OF</b></p>
30	REVISION and EXAM	



**Methods of assessment**

No	Exam	Type of assessment		Marks
1	First term	Theoretical part	Quizzes in the same theoretical lectures	2
			End term written exam (60% MCQs &/or EMQ & 40% essay questions, fill in the blanks and draw)	8
		Practical part	Practical exam	5
2	Second term	Theoretical part	Quizzes in the same theoretical lectures	2
			End term written exam (60% MCQs &/or EMQ & 40% essay questions, fill in the blanks and draw)	8
		Practical part	Practical exam	5
3	Final	Theoretical part	End term written exam (60% MCQs &/or EMQ & 40% essay questions, fill in the blanks and draw)	50
4		Practical part	Practical exam	20
5	Total			100

**Suggested Reading List:**

1. Biology by S. Mader.
2. Medical biology
3. Junqueira's Basic Histology By Mescher
4. Atlas of Histology By Eroschenko

## Department of Chemistry and Biochemistry

**Subject: Chemistry**

**Academic year: First year**

**Coordinator: Instructor Dr. Muhammad H. Al-Ajeel**

**A Head of Chemistry and Biochemistry Department**

**Teaching staff:**

1. Dr. Muhammad H. Al-Ajeel
2. Dr. Ausama Abbas Faisal
3. Dr. Methal R. Al-Kubaisee.

### Introduction

Chemistry & Biochemistry department courses covers the field of Medical biochemistry with a focus on human physiology and includes core themes from a wide range of science subjects including General chemistry, Medical chemistry, Biochemistry and Clinical Chemistry.

Laboratory diagnostic methods will be developed throughout the courses. Students will learn practical skills in analytical and diagnostic techniques applicable in a wide range of fields including Medical & Biochemistry.

- In 1<sup>st</sup> semester 1<sup>st</sup> stage; General chemistry; The principles and applications of scientific enquiry, including the detection of inorganic elements as qualitative technique and distinguish between organic compounds by specific reagents to identified organic compounds. Acid base concentration evaluate by titration methods as quantitative technique.
- In 2<sup>nd</sup> semester 1<sup>st</sup> stage; Basic biochemistry; including carbohydrates, lipids & proteins, by classification and general properties.

### A. Objectives

- This course prepares students for the general chemistry course in the first premedical year of the six-year medical program.
- It includes both theory and practical laboratory experience.
- Students learn chemistry through a cycle of exploration, concept invention and application.
- This helps students become lifelong learners and prepares them for their future careers as physicians.
- The topics covered include atomic structure, structure and bonding in compounds (ionic, covalent and intermolecular forces), Lewis structures, shapes of molecules, hybridization, organic groups structure and nomenclature, stereochemistry, types of reactions and Solutions & methods of expressing concentration.

**B. A detailed knowledge of:**

- The basic science underpinning the speciality in which the registrant practices, relevant general chemistry in field of medicine and the fundamental principles of chemistry practice.
- Implement the use of chemical tests and explain their significance in distinguish between inorganic groups (cations & anions)organic groups (alkens, alcohols, carboxylic & others)
- Topics studied in this course include atomic structure, covalent and ionic bonding,
- chemical reactions, chemical calculations, acid, base and solution chemistry, radiochemistry
- chemistry of hydrocarbons. Quantitative reasoning skills are developed and used where appropriate to enhance the understanding of these concepts. The medical and environmental

**C. The ability to:**

- To know the biomolecules' nomenclature , structure and their classification and functions.
- To know the relation between biomolecule's and the human body's functioning.
- The student will know the functioning and dynamics of a chemistry laboratory
- The students will know which parameters can affect the analytical results of a specimen since it is collected until it is processed.
- The students will integrate the knowledge gained on Chemistry and Biochemistry.
- The students will assess the choice of analytical techniques according to the screening targets.
- The students will know which laboratory tests are common in order to help in the Biochemistry laboratory assessment.
- The student will develop analysis, synthesis and reflective skills and will be able to related different topics,

**Medical Chemistry Components, duration and units of the curriculum**

No	Components	Duration	Units
1	Theoretical lectures	60 hours	4
2	Practical Laboratory	60 hours	2
3	Total	120hours	6

**Places of completion the curriculum:**

1. Studying hall in the college.
2. Laboratory for practical partin the college.

**Material used for completion the curriculum:**

1. Glassware & Chemicals.
2. Analytical instruments.
3. Videos

**Theoretical lectures: 60hours, 2hours/week**

No	Subject of lecture	Objectives from the lecture by 1hr
1.	<b>Hydrocarbons:</b> alkanes	- Nomenclature of alkanes - The physical properties. - Chemical reactions of alkane.
2.	<b>Hydrocarbons:</b> alkenes	- Nomenclature of alkenes - The physical properties. - Chemical reactions of alkane.
3.	<b>Stereochemistry:</b>	- To know the stereomerism chirality (optical isomerism geometrical isomerism).
4.		- A relationship to medical activity of organic compounds and living system.
5.	<b>Alcohol</b>	- Nomenclature of alcohols. - Physical properties.
6.		- Reactions of alcohols.
7.	<b>Oxidation of alcohol</b>	- Dehydration of alcohol in living system. - Qualitative tests.
8.	<b>Toxicity of alcohol to human</b>	- Physiological effect of alcohol.
9.	<b>The chemistry of carbonyl compounds (aldehydes)</b>	- Nomenclature of aldehydes. - Reactions: Addition reactions of aldehydes in living systems. - Condensation reaction in living systems. - Qualitative tests.
10.	<b>The chemistry of carbonyl compounds (Ketones)</b>	- Nomenclature of ketones. - Reactions: Addition reactions of ketones in living systems. - Condensation reaction in living systems. - Qualitative tests.
11.	<b>Carboxylic acids</b>	- Nomenclature carboxylic acids - Physical properties of carboxylic acids - Acidity of carboxylic acids
12.		- Reactions carboxylic acids - Acyl transfer reaction in living system.
13.	<b>Some of carboxylic acid derivatives.</b>	- Nomenclature of <b>urea, amides, esters</b> - Reactions. - Reaction in living system.
14.		- Nomenclature of <b>chloride acids, latams&amp;lactons</b> - Reactions. - Reaction in living system.
15.	<b>Amines</b>	- Amines Nomenclature & Reactions.
16.	<b>Thiol &amp; sulfa compounds</b>	- The organic compounds that contain sulfur Includes: Thiol & Disulfide - Drugs that contain sulfa.
17.	<b>Radioactivity and</b>	- To understand Radioactivity and Nuclear Chemistry

No	Subject of lecture	Objectives from the lecture by 1hr
	<b>medical uses of radio active isotopes</b>	- Types of reactions (Alpha , Beta and Gamma radiation) - Properties of nuclear radiation
18.		- Detecting ionizing radiation - Nuclear reactions and half life
19.	<b>Radiation dosages</b>	- Curie and Becquerel. - Radioactive tracers in biological research.
20.		- Medical uses of radioactive isotopes. - Advantages of using radioactive material.
21.	<b>Acids, bases and salts of medical interests</b>	- Definition of acid and base according to Arrhenius &Pronsted.
22.		- Neutralization and their importance to living system.
23.	<b>The system of international units (SIU)</b>	- Metric, mass, volume, temperature, quantity.
24.		- Density and specific gravity
25.	<b>The PH concept, acid-base balance</b>	- Acid-base titrations. - Acid-base balance in blood.
26.		- Abnormalities of acid-base balance in living system.
27.	<b>Solutions and methods of expressing concentration</b>	- Type of solutions. - Solubility of solutions.
28.		- Concentration of solutions - Molarity, molality, formality and normality
29.	<b>Buffers</b>	- Buffers concept. - Classifications of buffer systems.
30.	<b>buffer system of physiological importance</b>	- Buffer system in physiological importance.
31.	<b>Colloidal chemistry and biological systems</b>	- Colloidal concept. - Colloidal chemistry and biological systems.
32.	<b>Dialysis and living systems</b>	- Osmosis. - Dialysis. - Dialysis and biological systems.
33.	<b>Chelation principle</b>	- Chelation principle
34.	<b>Chelationapplicati on in medicine</b>	- Chelation importance in medicine
35.	<b>Ions in living systems and there importance</b>	- Ions (anion & cation )
36.		- Important of ions in medicine
37.	<b>Heterocyclic</b>	- Nomenclature.

No	Subject of lecture	Objectives from the lecture by 1hr
	<b>compounds</b>	
38.		- Classification of Heterocyclics.
39.	<b>Carbohydrates</b>	- Classification of carbohydrates
40.		- The three dimensional structures of monosaccharides - The stereo isomers of carbohydrates
41.		- The cyclic structures of monosaccharides
42.		- Glycosides. - The cyclic structures of disaccharides
43.		- Deoxy sugar.
44.		- Amino sugar. - Sugar phosphate.
45.		- Disaccharides - Polysaccharides.
46.		- Biological importance of carbohydrates
47.	<b>Lipids.</b>	- Lipids classification.
48.		- Biological roles of lipids.
49.		- Fatty acids, classification.
50.		- Fatty acids, reactions.
51.		- Prostaglandins, - Thromboxanes
52.		- Leukotrienes - Phospholipids
53.	<b>Protein and amino acids</b>	- Classification of amino acid.
54.		- Titration curves of amino acids.
55.		- Globular and fibrous protein.
56.		- Reactions of amino acids.
57.		- Biological activity of peptides.
58.		- Determination of amino acids sequences of polypeptides.
59.		- Classification of proteins.
60.		- Structural levels of protein

**Practical laboratories: 60 hours, 2 hours/week**

- 1- Laboratory discipline and precautions.
- 2- Test for cations. (2 weeks)
- 3- Test for anions. (2 weeks)
- 4- Identification of Inorganic compounds.
- 5- Titration. (2 weeks)
- 6- Hydrocarbons-(2 weeks)
- 7- Alcohols.
- 8- Phenols.
- 9- Distinguish between alcohols & phenoles
- 10- Aldehyds.
- 11- Ketenes.
- 12- Carboxylic acids.
- 13- Distinguish between Aldehyds, Ketenes & carboxylic acids.
- 14- Derivatives of carboxylic acids.
- 15- Identification of organic compounds.
- 16- Osmosis and dialysis.
- 17- Carbohydrates. (3 weeks)
- 18- Proteins reactions. (2 weeks)
- 19- Precipitation of proteins.
- 20- Lipids. (2 weeks)
- 21- Paper chromatography.(2 weeks)

**Methods of assessment**

No	Exam	Type of assessment		Marks
1	First term	Theoretical part	Quiz in the same theoretical lectures	2
			End term written exam (60% MCQs & 40% essay questions)	8
		Practical part	Practical exam	1
			Reports	1
			Quiz	1
			Theoretical written exam	2
2	Second term	Theoretical part	Quiz in the same theoretical lectures	2
			End term written exam (60% MCQs & 40% essay questions)	8
		Practical part	Practical exam	1
			Reports	1
			Quiz	1
			Theoretical written exam	2
3	Final	Theoretical part	End term written exam (60% MCQs & 40% essay questions)	50
4		Practical part	End term written exam (60% MCQs & 40% essay questions) for experimental laboratory.	20
5	<b>Total</b>			100

**Recommended references**

1. Lehninger: Principles of Biochemistry, Seventh Edition by David L. Nelson & Michael M. Cox. 7th ed. USA.
2. Theoretical lectures by Dr. Muhammad H. Al-Ajeel and Dr. Ausama Abbas Faisal.
3. Practical notes for students to learn biochemistry experimental by biochemistry department.



**University of Anbar**  
**College of Medicine**  
**Department: Physiology**  
**Course Title: Medical Physics.**  
**Term: First and second**  
**Stage: First**  
**Total number of hours: 75**

### First Year of M.B.CH.B. Program

Allocated marks	100 marks
Course duration	30 weeks ( One Academic Year )
Total hours	45 Theoretical hours, 60 Practical hours
Total units	5
Course supervisor	Dr.Mohammed Ubaid Hussein
Teaching staff	Theoretical teaching staff: Dr. Mohammed Ubaid Hussein, Dr. Enas S. Yousif  Practical Teaching Staff: Diea Abas mahmood . AL-mula  Under Supervision Of The Above Theory Teaching Staff.
Total	2 Ph.D Lecturers , 1 Researcher

### Introduction:

Medical physics: is the term of a science that overlaps with the two fields of medicine and physics and it refers to the applications of physics to the function of the human body in health and disease , is the application of the concept of physics in medicine.

Aims of the Medical physics : Application of the concepts and methods of physics to understanding the function of human body in health and disease . Physics of the body is to understanding physical aspect of the body such as ; forces on and in the body , work , energy ,power of the body, heat ,blood flow , respiration , electricity , ,circulation, and hearing

**The major systems covered in the study of Medical Physics are as follows:**

1. Introduction to medical physics .....(1 Hour)
2. Forces on and in the body ..... (2 Hours )

Static ,Frictional and dynamic forces on and in the body.

3. Principle of heat and cold in medicine....(2 Hours)

Physical basis of heat and temperature, thermometry and temperature scales, Thermograph ,heat therapy, use of cold in medicine ,cryosurgery.

4. Energy, work, and power of the body..... (3 Hours)

Conservation of energy in the body, energy change in the body, work and power, heat losses from the body.

5. Pressure definitions and characteristics in various body. (2 Hours)

Measurement of pressure in the body, pressure effects while diving.

6. Basics physics of lungs and breathing. (2 Hours)

Measurement of lung volumes, physics of alveoli, the breathing mechanism, airway resistance, work of breathing,

7. Basics Physics of the cardiovascular system. (3 Hours )

Work done by the heart, blood pressure and its measurement.

Pressure across the blood vessel wall, Bernoulli's principle blood flow laminar and turbulent , poiseuilles law .

8. Electricity within the body. (6 Hours )

Electrical potentials of nerves, electrical signals from muscles-the electro-myogram (EMg), electrocardiogram(ECG), electroencephalography(EEG).

9. Cardiovascular instrumentation . ( 2Hours)

Bio potentials of the heart, electrodes, defibrillators, pacemakers.

10. Electrical shock , high frequency and Low frequency electricity in medicine. ....( 2 Hours )

11. Magnetism within the body..... (1 Hour)

12. Sound in medicine .....( 3 Hours )

General properties of sound, the stethoscope, ultrasound picture of the body, ultrasound to measure motion, physiological effects of ultrasound in therapy .

13. Light in medicine....( 3 Hours )

Measurement of light and its units, applications of visible light in medicine, applications of microscopes in medicine.

14. Physics of the eyes and vision. (2 Hours )

Defective vision and its correction, instruments used in ophthalmology .

15. Laser –generation of laser light and application to medicine .( 1 Hour)

16. Optical devices in medical practice. (1 Hour)

17. Physics of diagnostic x-rays ....(2 Hours )

Production of x-ray beams, how x-ray absorbed, fluoroscopy,CT -scan .

18. Physics of nuclear medicine. ( 5 Hours )

Units of radioactivity, basic instrumentation of nuclear

medicine, radiation doses in nuclear medicine.

1. Physics of radiation therapy.

The dose units in radiotherapy , principles of radiation therapy

2. Radiation Detection .

Biological effects of ionizing radiation, Radiation protection in radiation therapy.

3. magnetic resonance imaging (MRI).

### Objectives:

#### To support students with:

- Competent Knowledge Skills:  
To acquire a core scientific knowledge about humans and medical physics with it , as science in health and disease .
- Practical Skills:  
To apply basic principles in the appropriate practical context.
- To acquire a list of practical skills at the introductory level.
- Non-technical Skills and Professional Behavior:  
To incorporate medical physics into the personal path of becoming a competent and caring physician to be aware of medical research to improve diagnoses and treatments of diseases

### Outcome of curriculum:

On completion of this course, the students should;

1-understand principles in medical physics

2-understand the relationship between physics and medicine .

3-have acquired sufficient knowledge of the above to begin to understand applications processes and appropriate therapeutic , from through ((what is medical physics? ) .

### Course Requirements:

Comfortable Teaching class Room supplied with teaching aids like data show & white board with its accessories.

### Evaluation: Students Evaluation Is Performed Through:

- 1- Short exams (quizzes).
- 2- Theoretical Term exam.
- 3- Practical Term exam
- 4- Final exam (theoretical final exam and practical final exam).

### Course Grading Scale:

First term:

Theory Exam Marks: 10

Practical Exam Marks: 5

Second Term:

Theory Exam Marks: 10

Practical Exam Marks: 5

Final Exam:

Theory Exam Marks: 50

Practical Exam Marks: 20

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Total Marks: 100

No	Exam	Type of assessment	Marks
1	First term	Quiz in the same theoretical lecture for each lecture	3
		End term written exam (60% MCQs & 40% essay questions)	7
		Practical exam.(oral , written exam.)	5
2	Second term	Quiz in the same theoretical lecture for each lecture	3
		End term written exam (60% MCQs & 40% essay questions)	7
		Practical exam.(oral , written exam.)	5
3	Final practice	Practical exam. (Written )	20
4	Final written	MCQs	30
		Essay questions	20
5	Total		100

**Places for teaching the curriculum:**

- ✓ Class room in the college. (Wide air-conditioned, with enough windows with curtains an enough illumination and supplied with teaching aids.
- ✓ Medical Physics Laboratory for undergraduate studies. (Wide with enough working benches, well aireated , with enough windows with curtains and enough illumination and supplied with teaching aids).

**Materials and devices used to accomplish the practical curriculum:-**

- ✓ Power supply , Travelling microscope
- ✓ Sterilizing , disinfection tools and materials.
- ✓ Cathode ray oscilloscope.
- ✓ capacitance and inductance
- ✓ Laser( He- Neon) , LASER Apparatus with Holder
- ✓ convex lens, Heater
- ✓ concave mirror ,induced, light source with holder
- ✓ Microscopes (compound microscopes). To Determination of the refractive index of the glass prism.
- ✓ capillary tube, bottle resonator, Beakers, magnet
- ✓ Teaching devices like stethoscopes, sphygmomanometers, tubes , rheostat, Clinical mercury thermometer
- ✓ Pendulum bob, stop-watch , stand clamp, steel ball bearing
- ✓ Geiger-Muller (G-M) tube, sealed source of gamma radiation, lead absorbers of varying thickness
- ✓ tuning forks of different frequencies, thermometer, Rubber pad, glass tube
- ✓ Spiral spring, half meter rule, Resistance Box
- ✓ Avometer , Ammeter , voltmeter ,

**Theoretical Class Schedule**

Teaching staff	Topics covered	Date
First Term		
Dr. Mohammed Ubaid Hussein	Terminology, modeling and measurement •	Week 1
Dr. Mohammed Ubaid Hussein	Physics of the body	Week 2

	Physics of the body Forces on and in the body. Introduction Statics Frictional forces Dynamics	
Dr. Enas S. Yousif	Physics of the skeleton Introduction Bone composition Skeleton design and bone strength Lubrication of bone joints Measurement of bone mineral in the body •	Week 3
Dr. Enas S. Yousif	Energy, work, and power of the body  Introduction Conservation of energy in the body  Energy changes in the body Work and power Heat losses from the body	Week 4
Dr. Mohammed Ubaid Hussein	• Pressure  Introduction, Measurement of pressure in the body ,Pressure inside the skull, Eye pressure,	Week 5
Dr. Mohammed Ubaid Hussein	•  Pressure in the digestive system, Pressure in the skeleton, Pressure in the urinary bladder, Pressure effects while diving Hyperbaric oxygen therapy (HOT)	Week 6
Dr. Enas S. Yousif	The physics of lung and breathing Introduction The airways Interaction of blood and lungs . Measurement of lung volumes Pressure-airflow-volume	Week 7

	.relationship of the lung Physics of alveoli The breathing mechanism Airway resistance Work of breathing Physics of some common lung disease	
Dr. Mohammed Ubaid Hussein	The physics of the cardiovascular System Introduction Major components of the cardiovascular system O <sub>2</sub> and CO <sub>2</sub> exchange in the capillary system work done by the heart Blood pressure and its measurement Pressure across the blood vessel wall (trans mural pressure)	Week 8
Dr. Mohammed Ubaid Hussein	Bernoulli's principle applied to the cardiovascular system The velocity of blood flow Blood flow (laminar and )turbulent Heart sounds The physics of some cardiovascular diseases Some other functions of the blood	Week 9
Dr. Mohammed Ubaid Hussein	Electricity within the body • Introduction The nervous system and the neuron Electrical potential of nerves Electrical signals from muscle )The electrocardiogram) Electrical signals from the heart (The electrocardiogram) Electrical signal from the brain (The electroencephalogram)	Week 10

Dr. Mohammed Ubaid Hussein	Electrical signals from the eye (the electrotinogram and the electrooculogram) Magnetic signals from the heart and the brain (the magnetocardiogram and the magnetoencephalogram) Current research involving electricity in the body	Week 11
Dr. Enas S. Yousif	Physics of the ear and  Hearing  Introduction The outer ear The middle ear The inner ear Sensitivity of the ear Hearing tests deafness and hearing aids	Week 12
Second Term		
Dr. Enas S. Yousif	Physics of eyes and vision Introduction Focusing elements of the eye Some other elements of the eye The retina-the light detector of the eye The sensation of the vision Diffraction effects on the eye Visual acuity and resolution of the eyes Optical illusions and related phenomena Defective vision and its correction Color vision and chromatic aberration Instruments used in ophthalmology	Week 13
Dr. Mohammed Ubaid Hussein	Application of physics in medicine  <ul style="list-style-type: none"> <li>• Application of heat and cold <ul style="list-style-type: none"> <li>• in medicine</li> <li>• Introduction</li> </ul> </li> </ul>	Week 14



	<ul style="list-style-type: none"> <li>Physical basis of heat and temperature</li> <li>Thermometry and temperature scales</li> </ul>	
Dr. Enas S. Yousif	Thermography - mapping and body temperature Heat therapy Use of cold in medicine Cryosurgery Safety with cryogenics	Week 15
Dr. Mohammed Ubaid Hussein	cardiovascular instrumentation introduction Biopotentials of the heart Electrodes of ECG Amplifier used with ECG Patient monitoring in ECG Defibrillation Pacemakers	Week 16
Dr. Mohammed Ubaid Hussein	<ul style="list-style-type: none"> <li>Applications of electricity and magnetism in medicine</li> <li>Introduction</li> <li>Electrical shock</li> <li>High frequency electricity in Medicine</li> </ul>	Week 17
Dr. Mohammed Ubaid Hussein	Low frequency electricity and magnetism in medicine Current research involving electricity applied to body	Week 18
Dr. Enas S. Yousif	Sound in medicine Introduction General properties of sound The body as a drum )percussion in medicine( The stethoscope Ultrasound pictures of the Sound Ultrasound to measure motion Physiological effects of ultrasound in therapy The production of speech phonation(	Week 19
Dr. Enas S.	Light in medicine	Week 20

Yousif	<p>Introduction</p> <p>Measurements of light and its units</p> <p>Application of visible light in medicine</p> <p>Application of ultraviolet and infrared in medicine</p> <p>Lasers in medicine</p> <p>Application of microscope in medicine</p>	
Dr.Mohammed Ubaid Hussein	<p>Application of Radiation in medicine</p> <p>Physics of diagnostic X-ray</p> <p>Introduction</p> <p>Production of X-ray beams</p> <p>Absorption of X-ray by the materials</p> <p>Making an X-ray image</p> <p>Radiation to patient from X-ray</p> <p>Producing lives X-ray images- fluoroscopy</p> <p>X-ray slices of the body</p> <p>Radiation taken without film</p>	Week 21
Dr.Mohammed Ubaid Hussein	<p>Physics of Nuclear medicine and application of Radioisotopes</p> <p>Introduction</p> <p>Basic characteristics and units of radioactivity</p> <p>Sources of radioactivity for Nuclear medicine</p> <p>Statistical aspects of Nuclear medicine</p> <p>Basic instrumentation and its applications</p> <p>Nuclear medicine imaging devices</p> <p>Physical principles of Nuclear medicine imaging procedure</p> <p>Therapy with radioactivity</p> <p>Radiation doses in nuclear</p>	Week 22

	medicine	
Dr.Mohamm ed Ubaid Hussein	Physics of Radiation therapy  Introduction The dose units used in Radiotherapy Principles of Radiation therapy A short course in Radiotherapy treatment planning Megavoltage therapy Short-distance in Radiotherapy or branchy thereby Other Radiation sources Closing though on Radiotherapy	Week 23
Dr.Mohamm ed Ubaid Hussein	Radiation protection Introduction Biological effect of ionizing Radiation Radiation protection units and limits Radiation protection instrumentation Radiation protection in diagnostic radiology Radiation protection in Radiation therapy Radiation protection in Nuclear medicine Radiation accidents	Week 24
Dr. Enas S. Yousif	Application of Nuclear physics in medicine Nuclear magnetic Resonance NMR Magnetic resonance imaging )MRI(	Week 25

**References : 1.J. Cameron (Medical Physics) 2.Irving P. Herman(Physics of the Human Body)**

**Practical Class Schedule****Practical Lectures**

Teaching staff	Topics covered	Date
First Term		
Dr.Mohammed Ubaid Hussein Diea Abas mahmood	The density of a liquid by means of a loaded test tube.	Week 1
Dr.Mohammed Ubaid Hussein Diea Abas mahmood	The focal length of a concave mirror.	Week 2
Dr. Enas S. Yousif Diea Abas mahmood	The falling of a small sphere through a viscous medium	Week 3
Dr. Enas S. Yousif Diea Abas mahmood	The velocity of sound by means of resonance tube closed at one end.	Week 4
Dr. Mohammed Ubaid Hussein Diea Abas mahmood	To verify ohm's law and to find unknown resistance by using ohm's law.	Week 5
Dr. Mohammed Ubaid Hussein Diea Abas mahmood	Find the refractive index of the prism.	Week 6
Dr. Enas S. Yousif Diea Abas mahmood	Boyles law	Week 7
Dr. Mohammed Ubaid Hussein Diea Abas mahmood	A simple critical angle method for the refractive index of a liquid using a glass block.	Week 8

Dr. Enas S. Yousif Deia Abas mahmood	The specific heat capacity of a poor conductor by the method of mixtures.	Week 9
Dr. Mohammed Ubaid Hussein ,  Dr. Enas S. Yousif  Deia Abas Muhmod	Revision	Week 12
Second Term		
Dr. Enas S. Yousif  Deia Abas Muhmod	Blood Pressure	Week 13
Dr. Mohammed Ubaid Hussein Deia Abas Muhmod	Simple pendulum	Week 14
Dr. Enas S. Yousif  Deia Abas Muhmod	Cathode ray oscilloscope.	Week 15
Dr. Mohammed Ubaid Hussein  Deia Abas Muhmod	To verify Newton 's law of cooling a liquid.	Week 16
Dr. Mohammed Ubaid Hussein  Deia Abas Muhmod	Determination of the refractive index of the glass prism.	Week 17
Dr. Mohammed Ubaid Hussein  Deia Abas Muhmod	Experiments with a spiral spring	Week 18
Dr. Enas S. Yousif	Experiments with cantilever	Week 19

Deia Abas Muhmod		
Dr. Enas S. Yousif	Temperature measurement using clinical mercury thermometer and thermocouple	Week 20
Deia Abas Muhmod		
Dr.Mohammed Ubaid Hussein	The acceleration of free fall by means of simple pendulum	Week 21
Deia Abas Muhmod		
Dr.Mohammed Ubaid Hussein	Experiments on radioactivity to investigate the characteristics of Geiger-Muller(G-M) tube	Week 22
Deia Abas Muhmod		
Dr.Mohammed Ubaid H.	semiconductor "Junction diode"	Week 23
Deia Abas Muhmod		
Dr.Mohammed Ubaid Hussein Deia Abas Muhmod	Measurement of A.C and D.C voltage with the Cathode Ray Oscilloscope (CRO)	Week 24
Dr.Mohammed Ubaid Hussein, Dr. Enas S. Yousif	Revision	Week 25
Deia Abas Muhmod		

## REFERENCES OF PRACTICAL :PRACTCAL MEDICAL PHYSICS

## Department of Human Anatomy

**Subject: Anatomy**

**Academic year: First year**

**Course coordinator: Assist. Prof. Dr. Adnan Hammad Mahdi**

**Assistant Professor and Head of Anatomy and Histology Department**

**Teaching staff:**

1. Three assistant professors.
2. Five lecturers.
3. Five assistant lecturers.

Allocated marks: 100 marks.

Course duration: One academic year.

### **Introduction:**

Human Anatomy is a laboratory-based study that investigates the structure of the human body. Topics covered will include the basic organization of the body and major body systems along with the impact of diseases on certain systems. We are constructed to introduce the basics of anatomy and the principles of dissection to the medical students. An understanding of human anatomy provides a fundamental framework for the accurate diagnosis and proper treatment of patients with medical problem, a significant population of any medical practice. The purpose of this curriculum is to provide a basic detailed plan for teaching human anatomy in our college, Unnecessary details and sophisticated clinical data were avoided from the Curriculum, regarding this as a first step in updating our anatomy curriculum in comparison with other worldwide. The curriculum also describe the subjects and topics in clinical anatomy given for medical student.

The Anatomy Department in the College of Medicine, University of Anbar hosts the medical students on training course for 180 hours/year. Our aim is to enhance the knowledge of our students and let them be aware about the first steps in studying human body to asses them in their clinical life.

To achieve this purpose, hard work and appropriate methods of learning were carried out by all anatomy academic staff.

### **Overall Aims:**

**The course is designed to introduce the student to:**

1. Medical terminology and methods used in gathering information.
2. Understanding of the structure and organization of the human body.
3. The correlation between structure and function.
4. An awareness of how anatomical knowledge may be applied effectively in clinical and scientific context.

5. The beginnings of an understanding of how to pursue independent and self-learning and how to work effectively in small groups.

#### General Objectives:

At the end of the course students should be able to:

1. Describe the structural components of the different regions of the human body.
2. Describe the basic anatomical structure of the different organs and systems of the human body.
3. Recognize the surface landmarks of the underlying bones, muscles and tendons, and internal structures (main nerves, vessels and viscera).
4. Enumerate the different branches of nerves and vessels.
5. Recall the actions of the different muscles.
6. Distinguish the movements of different joints and the muscles responsible for each movement.
7. Outline the major clinical applications of anatomical facts.
8. Predict clinical signs of nerve injuries based on their normal anatomy.

#### Components, duration and units of the curriculum

No	Components	Duration	Unit
1	Theoretical lectures	60 hours	4
2	Clinical course	120 hours	4
3	Total	180 hours	8

#### Places of completion the curriculum:

1. Lecture hall in the college
2. Anatomical lab in the college

#### Material used for completion the curriculum:

1. Audiovisual aids through animations and diagrams.
2. Interaction with the students through questions.
3. Power point presentation.
4. Cadavers
5. Skeletons
6. Individual bones
7. Pre-dissected specimens
8. Plastic specimens
9. Radiological films (Plain X-ray , CT scan and MRI films)
10. Diagrams and posters



11. Video tapes and movies.
12. Anatomage table.

## Syllabus:

### Teaching Techniques:

Teaching will be conducted using the following techniques:

1. Theoretical Sessions:
  - lectures were designed to cover most of topics in human anatomy. In addition to hints on surface anatomy, Radiology, clinical applications are given whenever appropriate.
  - The time of the lecture is 50 minutes.
  - There are 2 lecture/week and one discussion lecture/week.
2. Practical Sessions:
  - The practical sessions follow the theory lectures in the same week.
  - The students are divided into 2 groups (A, B).
  - Each group is subdivided into 6 subgroups.
  - The time of each session is 2hr.
  - There are 2 session / week.

A) General Anatomy: Theory 7 hr., Practical 8 hr.		
wk	Topic	Objective
1	Terminology of Anatomy, Skin, Fascia, and Bone.	<p>TO STUDY:</p> <ol style="list-style-type: none"> <li>1. The constituents of human skeleton:               <ol style="list-style-type: none"> <li>a) Axial skeleton: skull, vertebral column, sternum, ribs &amp; hyoid bone.</li> <li>b) Appendicular skeleton: bones of limbs.</li> </ol> </li> <li>2. Classification of bones according to shape: long, short, flat, irregular, pneumatic &amp; sesamoid bones.</li> <li>3. Features of bones: elevations (tubercle, tuberosity, condyle, spine), depressions (fossa, groove, notch) &amp; holes (foramen, canal).</li> <li>4. Functions of bones (support of body, attachment to muscles, protection, storehouse for calcium &amp; phosphorus, bone marrow forms blood cells).</li> </ol>
2	Types of joints, <i>muscles</i> ,	TO STUDY & UNDERSTAND:

	nerve & blood vessels	<ol style="list-style-type: none"> <li>1. Joints types and classification</li> <li>2. Attachments of skeletal muscles: origin &amp; insertion &amp; Innervation of muscles.</li> <li>3. Classification of skeletal muscles according to fiber arrangement.</li> <li>4. Difference between arteries &amp; veins.</li> </ol>
<i>B) Anatomy of Upper Limb: Theory 21hr. Practical 40hr.</i>		
3	Osteology of Upper Limb	<p>TO STUDY:</p> <p>The clavicle, the scapula &amp; the humerus, regarding:</p> <ol style="list-style-type: none"> <li>a) General features.</li> <li>b) Articulations.</li> </ol>
4	<p>The pectoral region &amp; breast</p> <p>The brachial plexus.</p>	<p>TO STUDY:</p> <ol style="list-style-type: none"> <li>1) Superficial fascia: <ul style="list-style-type: none"> <li>- Cutaneous nerves &amp; vessels.</li> <li>- Breast (in a female): shape &amp; position, nipple &amp; areola, mammary gland.</li> </ul> </li> <li>2) <u>Pectoralis major muscle ,Pectoralis minor &amp; Subclavius muscle muscles</u>: origin, insertion, nerve supply &amp; actions.</li> <li>3) Clavipectoral fascia.</li> <li>4) Stages of brachial plexus: roots, trunks, divisions &amp; cords. Relation of its stage to the clavicle.</li> <li>5) Branches of roots.</li> <li>6) Branches of upper trunk.</li> <li>7) Branches of lateral, medial &amp; posterior cords.</li> <li>8) Relations of cords &amp; their branches to axillary artery.</li> </ol>
5	<p>The Axilla.</p> <p>The back and the movement of the scapula.</p>	<p>TO STUDY:</p> <ol style="list-style-type: none"> <li>1) Boundaries of axilla: apex, base, walls (anterior, posterior, medial &amp; lateral)</li> <li>2) Contents of axilla.</li> <li>3) Axillary artery: beginning, course, subdivisions into 3 parts according to its relations</li> </ol>

		<p>to pectoralis minor muscle, branches of each part, termination</p> <p>4) Axillary vein: beginning, relations to parts of axillary artery, tributaries, termination</p> <p>5) The Muscles of the back.</p> <ul style="list-style-type: none"> <li>• First layer of muscles of back: Trapezius &amp; latissimus dorsi (origin, insertion &amp; nerve supply).</li> <li>• Second layer of muscles of back: Levator scapulae, rhomboideus minor &amp; rhomboideus major (origin, insertion &amp; nerve supply).</li> </ul> <p>6) The deferent types of the movement of the scapula</p>
6	<p>The shoulder region.</p> <p>Superficial vessels &amp; Nerve of UL</p>	<p>TO STUDY:</p> <p>1) Muscles of shoulder region: deltoid, supraspinatus, infraspinatus, subscapularis, teres minor &amp; teres major (origin, insertion &amp; nerve supply).</p> <p>2) Superficial &amp; deep relations to deltoid.</p> <p>3) Intermuscular spaces: quadrangular, upper triangular &amp; lower triangular spaces (boundaries, structures passing through each space).</p> <p>4) Name &amp; relations of Superficial vessels &amp; Nerve of UL and its branches.</p>
7	<p>The Shoulder joint.</p> <p>The arm &amp; cubital fossa</p>	<p>TO STUDY:</p> <p>1) The Shoulder joint; Type, articulation, movements, relations.</p> <p>2) Muscles of anterior compartment of arm: coracobrachialis, biceps brachii, &amp; brachialis (origin, insertion, important relations of each muscle).</p> <p>3) Nerve of anterior compartment: <i>musculocutaneous nerve</i> (formation &amp; root value, course &amp; relations, branches, termination).</p> <p>4) Muscles of posterior compartment of arm: triceps (origin, insertion, &amp; relations).</p> <p>5) Nerve of posterior compartment: <i>radial nerve</i></p>

		<p>(formation &amp; root value, course &amp; relations, branches, termination).</p> <p>6) Artery of arm: <i>brachial artery</i> (beginning, course &amp; relations, branches, termination).</p> <p>7) Cubital fossa: boundaries, roof, floor &amp; contents</p>
8	<p>The bones of forearm &amp; hand.</p> <p>The forearm flexor group.</p>	<p>TO STUDY:</p> <p>1) The Radius, the Ulna &amp; the bones of the hand, regarding:</p> <ul style="list-style-type: none"> <li>• General features.</li> <li>• Articulations.</li> </ul> <p>2) Muscles: (origin, insertion, nerve supply &amp; actions)</p> <ul style="list-style-type: none"> <li>• Superficial group: 5 muscles (Pronator teres, flexor carpi radialis, palmaris longus, flexor digitorum superficialis &amp; flexor carpi ulnaris).</li> <li>• Deep group: 3 muscles (flexor pollicis longus flexor digitorum profundus &amp; pronator quadratus).</li> </ul>
9	<p>The forearm Extensor group.</p> <p>The Vessels &amp; Nerve</p>	<p>TO STUDY:</p> <p>1) Muscles: (origin, insertion, nerve supply &amp; actions)</p> <ul style="list-style-type: none"> <li>• Superficial group: brachioradialis, extensor carpi radialis longus, extensor carpi radialis brevis, extensor digitorum, extensor digiti minimi, extensor carpi ulnaris &amp; anconeus.</li> <li>• Deep group: supinator, abductor pollicis longus, extensor pollicis brevis, extensor pollicis longus &amp; extensor indicis.</li> </ul> <p>2) Nerves: (course, relations &amp; branches in the forearm).</p> <ul style="list-style-type: none"> <li>• Median nerve.</li> <li>• Ulnar nerve.</li> <li>• Posterior interosseous nerve: origin, course &amp; relation, branches.</li> </ul> <p>3) Arteries: (beginning, course, relations &amp; branches in the forearm).</p> <ul style="list-style-type: none"> <li>• Radial artery.</li> <li>• Ulnar artery.</li> </ul>

10	The Hand	<p>TO STUDY:</p> <p>1) Deep fascia: flexor retinaculum, palmar aponeurosis &amp; fibrous flexor sheaths).</p> <p>2) Muscles: palmaris brevis, thenar, hypothenar, lumbricals &amp; interossei (palmar &amp; dorsal).</p> <p>3) Nerves: median &amp; ulnar nerves (course, relations &amp; branches in the palm).</p> <p>4) Arteries: radial &amp; ulnar arteries (course, relations &amp; branches in the palm).</p> <p>5) Dorsal venous arch: formation, beginning of cephalic &amp; basilic veins.</p> <p>6) Extensor retinaculum: attachments, structures passing superficial &amp; deep to it, functions.</p> <p>7) Extensor tendons: termination.</p>
11	<p>The Elbow &amp; Wrist Joints.</p> <p>Nerve Injuries</p> <p>Radiological anatomy of the UL</p>	<p>TO STUDY:</p> <p>1) The Elbow joint; Type, articulation, movements, relations.</p> <p>2) The wrist joint; Type, articulation, movements, relations.</p> <p>3) Clinical notes on Nerve injuries of the UL.</p>
12	Revision & Examination	

## C) Thorax: Theory 14 hr. ; Practical 32hr.

13	<p>Osteology of Thorax</p> <p>The Thoracic Wall &amp; Cavity</p>	<p>TO STUDY:</p> <p>1) Ribs: features of typical &amp; atypical ribs &amp; articulations.</p> <p>2) Thoracic vertebrae: features of typical &amp; atypical thoracic vertebrae &amp; articulations.</p>
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		<p>3) Sternum: parts, articulations.</p> <p>4) The thoracic cage in addition to the soft tissues occupying the intercostal spaces:</p> <ul style="list-style-type: none"> <li>○ Intercostal muscles: Vertical &amp; horizontal extent, action.</li> <li>○ Intercostal nerves: typical (course &amp; branches) &amp; atypical.</li> <li>○ Anterior &amp; posterior intercostal arteries: origin &amp; course.</li> <li>○ Anterior &amp; posterior intercostal veins: course &amp; termination.</li> </ul>
14	<p>The mediastinum: divisions &amp; contents.</p> <p>The root of lung &amp; Azygos veins</p>	<p>TO STUDY:</p> <p>1) Divisions of mediastinum: It is divided by a horizontal plane from the sternal angle to lower border of T4 into:</p> <ul style="list-style-type: none"> <li>• Superior mediastinum.</li> <li>• Inferior mediastinum: subdivided into: <ul style="list-style-type: none"> <li>○ Middle mediastinum: includes heart &amp; pericardium.</li> <li>○ Anterior mediastinum: anterior to heart &amp; pericardium.</li> <li>○ Posterior mediastinum: posterior to heart &amp; pericardium.</li> </ul> </li> </ul> <p>2) Boundaries &amp; contents of each mediastinum.</p> <p>3) Relations between the contents of each mediastinum.</p> <p>4) The root of lung &amp; Azygos system of veins and its tributaries.</p>
15	The lungs	<p>TO STUDY:</p> <p>1) Apex of lung (directed upward): relations.</p> <p>2) Base of lung (directed downward): relations, difference between right &amp; left lung.</p> <p>3) Costal surface: related to thoracic wall &amp; costal pleura; presents <i>the fissures of lungs</i>: (oblique fissure in both lungs &amp; horizontal (transverse) fissure in right lung only). Accordingly, the right lung has 3 lobes &amp; the left lung has 2 lobes.</p>

		<p>4) Medial surface: divided into:</p> <ul style="list-style-type: none"> <li>○ <i>Larger anterior mediastinal surface:</i> related to mediastinum &amp; contains the hilum of lung.</li> <li>○ <i>Smaller posterior vertebral surface:</i> related to sides of vertebral bodies, intervertebral discs &amp; sympathetic trunk.</li> </ul> <p>5) Borders:</p> <ul style="list-style-type: none"> <li>○ <i>Anterior:</i> thin &amp; sharp; presents <i>the cardiac notch &amp; the lingula</i> in the left lung; separates the costal surface from the mediastinal part of medial surface.</li> <li>○ <i>Posterior:</i> rounded &amp; thick; separates the costal surface from the vertebral part of medial surface.</li> <li>○ <i>Inferior:</i> separates costal &amp; medial surface from base of lung.</li> </ul> <p>5) Hilum of lung: a part of mediastinal surface of lung that gives passage to the structures forming <i>the root of lung</i>:</p> <ul style="list-style-type: none"> <li>○ Bronchus: the left divides after entering the lung (one opening); the right divides before entering (two openings).</li> <li>○ Pulmonary artery: the left is above &amp; in front of left bronchus; the right is between the 2 bronchi.</li> </ul> <p>c) Pulmonary veins: the superior is the most anterior structure in the hilum; the inferior is the most inferior structure in the hilum.</p> <p>d) Bronchial vessels: supply bronchi &amp; lungs:</p> <ul style="list-style-type: none"> <li>- <i>On the right side:</i> there is one artery &amp; 2 veins.</li> <li>- <i>On the left side:</i> there are 2 arteries &amp; 2 veins.</li> </ul> <p>e) Anterior &amp; posterior pulmonary plexuses of autonomic fibers: supply bronchi, lungs &amp; visceral pleura</p>
16	The Pericardium & Blood supply of the heart.	<p>TO STUDY:</p> <p>1) Pericardium:</p> <ul style="list-style-type: none"> <li>○ <i>Fibrous:</i> relations &amp; nerve supply.</li> <li>○ <i>Serous:</i> layers, sinuses.</li> </ul> <p>2) Arterial supply: right &amp; left coronary arteries (branches of each artery).</p>

		3) Venous drainage: tributaries of coronary sinus, anterior cardiac vein & venae cordis minimi.
17	The Heart.	<p>TO STUDY:</p> <p>a) External features: apex, base, surfaces &amp; borders.</p> <p>b) The interior of the heart</p> <p>1) Cavity of right atrium:</p> <ul style="list-style-type: none"> <li>○ Posterior smooth part “sinus venarum”: receives the openings of superior vena cava, inferior vena cava &amp; coronary sinus.</li> <li>○ Anterior rough part: marked by parallel muscular ridges “musculi pectinati” &amp; separated from the posterior part by a muscular ridge “crista terminalis”.</li> </ul> <p>2) Cavity of right ventricle:</p> <ul style="list-style-type: none"> <li>○ Inferior part “inflow tract”: formed of muscular projections “trabeculae carnae”; some of those are developed forming anterior, posterior &amp; septal papillary muscles attached to the cusps of tricuspid valve.</li> <li>○ Superior part “outflow tract or infundibulum”: conical, has smooth walls &amp; leads to pulmonary orifice.</li> </ul> <p>3) Cavity of left atrium: smooth wall except some musculi pectinati in left auricle, receives opening of pulmonary veins.</p> <p>4) Cavity of left ventricle:</p> <ul style="list-style-type: none"> <li>○ Inferior part “inflow tract”: compared to that of right ventricle; has thicker wall, denser trabeculae carnae &amp; larger papillary muscles (anterior &amp; posterior only).</li> <li>○ Superior part “outflow tract or aortic vestibule”: leads to aortic orifice.</li> </ul> <p>5) Atrioventricular valves: structure.</p> <ul style="list-style-type: none"> <li>○ Tricuspid valve: between right atrium &amp; ventricle, has 3 triangular cusps.</li> <li>○ Mitral valve: between left atrium &amp; ventricle, has 2 triangular cusps.</li> </ul>



		6) Semilunar valves: Structure. <ul style="list-style-type: none"><li>○ Pulmonary valve: between right ventricle &amp; pulmonary orifice, has 3 semilunar cusps.</li><li>○ Aortic valve: between left ventricle &amp; aortic orifice, has 3 semilunar cusps.</li></ul>
18	The superior mediastinum and big vessels.	TO STUDY: <ul style="list-style-type: none"><li>1. The superior mediastinum, its contents and important relation.</li><li>2. The major structures found in the superior mediastinum.</li><li>3. The great vessels of the heart and there branches in the chest.</li><li>4. The aortic arch and its branches passing to the neck.</li></ul>
19	Diaphragm & joints of thorax.  Lymph drainage of the thorax.	TO STUDY: <ul style="list-style-type: none"><li>1. Diaphragm regarding; constitution, attachment, nerve supply, arterial supply, venous drainage.</li><li>2. movements of the diaphragm and thoracic wall during breathing.</li><li>3. Thoracic duct and its course on the left side of the chest.</li><li>4. Lymph drainage on the right side of the chest.</li></ul>
20	Revision and Examination	
D) Anatomy of the Lower Limb: Theory 18 hr. ; Practical 40 hr.		
21	Bone of pelvis and thigh.	TO STUDY: <ul style="list-style-type: none"><li>1. The shape and surfaces of the pelvic bones, sacrum, and coccyx.</li><li>2. The femur bone regarding; shape, specific site name, and muscles attachment.</li><li>3. Muscles originate from the external &amp; internal surfaces of these bones and from the deep surfaces of the lumbar vertebrae, above.</li></ul>
22	The lumbo-Sacral plexus.  The femoral triangle and superficial veins	TO STUDY: <ul style="list-style-type: none"><li>1. Nerves that enter the lower limb from the abdomen and pelvis as terminal branches of the lumbosacral plexus.</li><li>2. Major nerves that originate from the lumbosacral plexus and leave the abdomen and pelvis to enter the lower limb.</li></ul>

		<ol style="list-style-type: none"> <li>The femoral nerve, obturator nerve, sciatic nerve, superior gluteal nerve, and inferior gluteal nerve.</li> <li>Other nerves that also originate from the plexus and enter the lower limb to supply skin or muscle include: <ul style="list-style-type: none"> <li>The lateral cutaneous nerve of the thigh,</li> <li>Nerve to obturator internus,</li> <li>Nerve to quadratus femoris,</li> <li>Posterior cutaneous nerve of thigh,</li> <li>Perforating cutaneous nerve.</li> <li>Branches of the ilio-inguinal and genitofemoral nerves.</li> </ul> </li> <li>The femoral triangle regarding; surface anatomy, content, and boundaries.</li> <li>The superficial veins and their tributaries.</li> <li>Clinical importance of the femoral triangle.</li> </ol>
23	<p>Inguinal region &amp; femoral vessels.</p> <p>Quadriceps group.</p>	<p>TO STUDY:</p> <ol style="list-style-type: none"> <li>The inguinal region regarding; surface anatomy, content, and boundaries.</li> <li>The major blood vessels (femoral artery and vein).</li> <li>Lymphatics of the lower limb also pass through inguinal.</li> <li>The femoral nerve, function, supply, and branches.</li> <li>The anterior compartment of thigh contains: <ul style="list-style-type: none"> <li>Sartorius.</li> <li>The quadriceps femoris muscles (rectus femoris, vastus lateralis, vastus medialis, and vastus intermedius).</li> </ul> </li> </ol>
24	<p>Adductor group.</p> <p>Gluteal region.</p>	<p>TO STUDY:</p> <ol style="list-style-type: none"> <li>The medial compartment of thigh which contains six muscles: <ul style="list-style-type: none"> <li>Gracilis.</li> <li>Pectineus</li> <li>Adductor longus</li> <li>Adductor brevis.</li> <li>Adductor magnus.</li> <li>Obturator externus).</li> </ul> </li> <li>Muscles in the region; origin, insertion, nerve supply, and action.</li> <li>Nerves enter the gluteal region from the pelvis through the greater sciatic foramen including: <ul style="list-style-type: none"> <li>Superior gluteal nerve.</li> </ul> </li> </ol>

		<ul style="list-style-type: none"> <li>• Sciatic nerve.</li> <li>• Nerve to the quadratus femoris.</li> <li>• Nerve to the obturator internus.</li> <li>• Posterior cutaneous nerve of the thigh.</li> <li>• Pudendal nerve.</li> <li>• Inferior gluteal nerve.</li> </ul> <p>4. The perforating cutaneous nerve, enters the gluteal region by passing directly through the sacrotuberous ligament.</p> <p>5. The blood vessels and lymphatics of the gluteal region.</p>
25	Post. & Lat. Aspect of thigh. The popliteal fossa	<p>TO STUDY:</p> <ol style="list-style-type: none"> <li>1. The posterior compartment of thigh contains 3 muscles:             <ul style="list-style-type: none"> <li>• Biceps femoris.</li> <li>• Semitendinosus.</li> <li>• Semimembranosus.</li> </ul> </li> <li>2. The lateral aspect of the thigh regarding surface anatomy, structures &amp; function</li> <li>3. The popliteal fossa regarding shape, boundaries, &amp; content.</li> <li>4. Clinical importance of the popliteal region.</li> </ol>
26	The hip & Knee joints	<p>TO STUDY:</p> <ol style="list-style-type: none"> <li>1. The hip joint regarding; articulation, articular surface, ligaments, action and important relation.</li> <li>2. The knee joint regarding; articulation, articular surface, ligaments, action and important relation.</li> <li>3. Clinical notes on sport injuries.</li> </ol>
27	Bones of leg & Foot	<p>TO STUDY:</p> <ol style="list-style-type: none"> <li>1. The shape and surfaces of the leg bones and foot.</li> <li>2. The leg bone regarding; shape, specific site name, and muscles attachment.</li> <li>3. Muscles originate from the surfaces of these bones.</li> <li>4. Ligament attached to these bones.</li> </ol>
28	The front & lateral aspect of the leg. The back of the leg & Ankle joint.	<p>TO STUDY:</p> <ol style="list-style-type: none"> <li>1. Muscles in the anterior compartment:             <ul style="list-style-type: none"> <li>• Tibialis anterior.</li> <li>• Extensor hallucis longus</li> <li>• Extensor digitorum longus.</li> <li>• Fibularis tertius</li> </ul> </li> <li>2. Blood vessels, Nerve and Lymphatics of the</li> </ol>

		anterior compartment. 3. Muscles in the lateral compartment: <ul style="list-style-type: none"> <li>• Peronius longus.</li> <li>• Peronius brevis.</li> </ul> 4. Blood vessels, Nerve and Lymphatics of the lateral compartment. 5. Muscles in the posterior compartment of leg which organized into two groups, superficial and deep. 6. Blood vessels, Nerve and Lymphatics of the posterior compartment. 4. The Ankle joint regarding; articulation, articular surface, ligaments, action and important relation.
29	The Foot	TO STUDY: 1. Tarsal tunnel, retinacula, and arrangement of major structures at the ankle. 2. Arches of the foot and its clinical and biomechanical importance. 3. Plantar aponeurosis regarding attachment & function. 4. Fibrous sheaths of toes and Extensor hood. 5. Intrinsic muscles, origin, insertion, nerve & action. 6. Blood vessels, Nerve and Lymphatics of the foot.
30	Revision & Examination	

### Methods of assessment

No	Exam	Type of assessment		Marks
1	First term	Theoretical part	Quizzes in the same theoretical lectures	2
			End term written exam (60% MCQs &/or EMQ & 40% essay questions, fill in the blanks and draw)	8
		Practical part	Practical exam in the Laboratory on the: <ul style="list-style-type: none"> <li>• Pre-dissected specimens.</li> <li>• Plastic specimens.</li> <li>• Bones.</li> <li>• Radiological films.</li> </ul>	5

2	Second term	Theoretical part	Quizzes in the same theoretical lectures	2
			End term written exam (60% MCQs &/or EMQ & 40% essay questions, fill in the blanks and draw)	8
		Practical part	Practical exam in the Laboratory on the: <ul style="list-style-type: none"> <li>• Pre-dissected specimens.</li> <li>• Plastic specimens.</li> <li>• Bones.</li> <li>• Radiological films.</li> </ul>	5
3	Final	Theoretical part	End term written exam (60% MCQs &/or EMQ & 40% essay questions, fill in the blanks and draw)	50
4		Practical part	Practical exam in the Laboratory on the: <ul style="list-style-type: none"> <li>• Pre-dissected specimens.</li> <li>• Plastic specimens.</li> <li>• Bones.</li> <li>• Radiological films.</li> </ul>	20
5	Total			100

### Suggested Reading List:

1. Clinical Anatomy by Regions, 8<sup>th</sup> Edition, By: Richard S. Snell MD, PhD.
2. Clinical Neuroanatomy, 7<sup>th</sup> Edition, By: Richard S. Snell
3. Gray's Anatomy for Students By: Richard L. Drake et.al
4. Grant's Atlas of Anatomy, 12<sup>th</sup> Edition ,By: Anne MR Agur, Arthur F Dalley
5. Cunningham's anatomy

**Department of Community and Family Medicine****Subject: Foundation of medicine****Year of the study: First year****Coordinator: Ass. Prof. Dr. Mahasin Ali Altaha****Teaching staff:**

1. Ass. Prof. Dr. Mahasin Ali Altaha
2. Ass. Prof. Dr. Salah Alani

**Introduction**

Foundation of medicine means introducing the concepts of health, disease and concept of prevention for the newly enrolled medical students as basis for understanding the basic and clinical sciences later on. Medical terminology is introduced in the second term of the year including medical terms of all systems of the body.

**Objectives**

- 1- To understand the concept of health and disease in general.
- 2- To know basic medical terms concerning epidemiology and communicable diseases.
- 3- To recognize and apply all levels of prevention.
- 4- To understand the effect of environment on health.
- 5- To come across common medical terms and their pronunciation.

**Components, duration and units of the curriculum as in this table:**

No	Components	Duration in hours	Units
1	Theoretical lectures	30	2
2	Clinical course or practical sessions	-----	-----

Places of a completion the curriculum:

A. Lecture hall in the college

**Syllabus of the theoretical lectures**

No	Name of the lecture	Name of the instructor	Term	Duration in hour/s	Objectives
1	A profile on history of medicine	Mahasin Ali Altaha	1 <sup>st</sup> term	2 hours	To know the history of medicine in pre-Islamic and Islamic era
2	Concepts of health and disease	Mahasin Ali Altaha	1 <sup>st</sup> term	1 hour	Dimensions and determinants of

					health
3	Basic definitions	Mahasin Ali Altaha	1 <sup>st</sup> term	3 hours	Basic knowledge about epidemiology, infectious, communicable diseases, and mode of transmission
4	Ecology of health	Mahasin Ali Altaha	1 <sup>st</sup> term	1 hour	Factors affecting health related to agent, host and environment
5	The concept of preventive medicine and prevention	Mahasin Ali Altaha	1 <sup>st</sup> term	2 hours	To recognize the four levels of prevention
6	The natural history of disease	Mahasin Ali Altaha	1 <sup>st</sup> term	1 hour	Stages of disease from start to termination
7	Measurement of population health	Mahasin Ali Altaha	1 <sup>st</sup> term	1 hour	Indicators of population and environmental health
8	Environment and health	Mahasin Ali Altaha	1 <sup>st</sup> term	1 hour	Risks in the environment affecting health
9	Air pollution	Mahasin Ali Altaha	1 <sup>st</sup> term	1 hour	Sources and prevention
10	Water pollution	Mahasin Ali Altaha	1 <sup>st</sup> term	1 hour	Types, sources and prevention
11	History of health care services in Iraq	Mahasin Ali Altaha	1 <sup>st</sup> term	1 hour	Organization of past and current health care system
12	General introduction to terminology	Dr. Salah Alani	2 <sup>nd</sup> Term	2 hour	To study and understand the origin and background of medical terminology and basics of it.
13	Basics of medical terminology	Dr. Salah Alani	2 <sup>nd</sup> Term	1 hour	To study and understand the

					terms: root, prefix and suffix.
14	Basics of medical terminology	Dr. Salah Alani	2 <sup>nd</sup> Term	1 hour	To study and understand the terms: root, prefix and suffix, and combining vowels
15	System terminology: medical terminology of anatomy	Dr. Salah Alani	2 <sup>nd</sup> Term	1 hour	To understand medical terminology of anatomy, positions and locations.
16-	System terminology: respiratory system terminology	Dr. Salah Alani	2 <sup>nd</sup> Term	1 hour	To understand respiratory system terminology
17	System terminology: GIT terminology	Dr. Salah Alani	2 <sup>nd</sup> Term	1 hour	To understand GIT terminology
18	System terminology: urinary system terminology	Dr. Salah Alani	2 <sup>nd</sup> Term	1 hour	To understand urinary system terminology
19	System terminology: cardiovascular terminology	Dr. Salah Alani	2 <sup>nd</sup> Term	1 hour	To understand cardiovascular terminology
20	System terminology: hematology and immunology terminology	Dr. Salah Alani	2 <sup>nd</sup> Term	2 hour	To understand hematology and immunology terminology
21	System terminology: nervous system terminology	Dr. Salah Alani	2 <sup>nd</sup> Term	1 hour	To understand nervous system terminology
22	System terminology: endocrine system terminology	Dr. Salah Alani	2 <sup>nd</sup> Term	1 hour	To understand endocrine system terminology
23	System terminology: musculoskeletal system terminology	Dr. Salah Alani	2 <sup>nd</sup> Term	1 hour	To understand musculoskeletal system terminology
24	Revision and assessment	Dr. Salah Alani	2 <sup>nd</sup> Term	1 hour	To recognize more medical terms.



**Methods of assessment**

No.	Type of exam	1 <sup>st</sup> term	2 <sup>nd</sup> term	Final exam	Total
1	Written exams (60% MCQs, 40% short assay)	13	13	70	96
2	Quiz exams	2	2	-----	4
3	Total	15	15	70	100

**Recommended books**

- 1- Textbook of Preventive and Social Medicine (JE Park)
- 2- Short textbook of public health medicine for the tropics (Lucas & Gillis)
- 3- Medical Terminology book

**Department of Physiology****Subject: Computer****Academic year: First Year**

Allocated marks	100 marks
Course duration	30 weeks ( One Academic Year )
Total hours	30 Theoretical hours 60 Practical hours
Number of units	Four units
Course coordinator	Dr. Haitham Abbas Khalaf
Teaching staff	Dr. Haitham Abbas Khalaf Programmer : Mustafa Amer Obaid

**Introduction:**

A computer is an electronic device that receives data, processes it, and then stores or displays them differently.

And of course the computers must be distinguished from medical and vitamin treatments

We have looked at the computer research in graduate studies and then processed according to our desire and output the results of the process of processing and stored in Lunto also transferred to another computer, the exchange of so-called networks.

**Objectives:**

- 1- Acquiring knowledge and scientific facts in the field of computer and information technology related to the life of the Saudi girl and the needs of her community
- 2- Training students and developing their scientific abilities to benefit from computers in:
  - ✚ Increase individual productivity
  - ✚ Using the computer as an educational tool
  - ✚ Using the computer as a means of searching, surveying and acquiring knowledge
  - ✚ The use of various computer applications effectively and successfully in the vicinity of the student family and social
- 3 - Provide students with creative mental abilities and help them to think inductive reasoning and deductive and development of its ability to solve the dilemmas
- 4 - Preparing the student to exercise the appropriate functions in the field of computer sector women
- 5 - Strengthening the desire factor towards the computer and its applications and the emergence of positive tendencies aimed at information technology
- 6 - To deepen the awareness and faith in the students of the power of God Almighty, who guided man to discover the computer
- 7 - To recognize the effects of the computer is very important in modern human civilization in terms of:
  - ✚ The role of computers in humanities and scientific aspects
  - ✚ Facilitate human life and increase individual productivity
  - ✚ The necessity of the computer and its technology for human progress
- 8 - Accustom students to values and behavior behaviors desirable socially and individually through:
  - ✚ Develop student curiosity
  - ✚ Gain self-reliance in performing the required work of the girl
  - ✚ Develop capacity for research, exploration and investigation

**Components, duration and units of the curriculum**

No	Components	Duration	Unit
1	Theoretical lectures	30 hours	2
2	Practical lectures	60 hours	2
3	Total	90 hours	4

**Places of completion the curriculum:**

1. Lecture hall in the college
2. Rooms for small teaching group
3. Computer laboratory
4. Computer maintenance rooms

**Devices used to complete the curriculum:**

1. Twenty laptops
2. Data Shaw
3. Hardware parts for PC DSK Top
4. Printers

**Theoretical lectures: 30 in number**

No.	Name of the lecture
1	About the computer and how to create and develop
2	Understand the process of understanding the computer hardware to input and output methods
3	Explain the components of the computer hardware and the method of linking
4	Operating System
5	Windows 7
6	Explanation of Albatross and folders for the system running Windows 7
7	Dealing with the screen and how to control its numbers
8	Dealing with windows
9	How to arrange windows and deal with icons
10	Taskbar Explained
11	Explain the start button
12	Desktop (Themes)
13	Start Menu
14	Power Button Options
15	Exam the first chapter
16	Microsoft Word 2010
17	Home Tab
18	Insert Tab
19	Page Layout Tab
20	View Tab
21	Microsoft Excel 2010 Tutorial
22	Home and Insert Tab
23	Page Layout Tab
24	Formulas Tab
25	Data Tab
26	PowerPoint Basics
27	Home and Design Tab
28	Transitions Tab
29	Animations and Slide show Tab
30	Chapter Two exam

**Lectures practical implementation of theoretical lectures**

## Chapter1

### Introduction to Computers

#### What are computers?

Computers are electronic devices that can follow instructions to accept input, process the input and then produce information.

Computers are made of

1. HARDWARE
2. SOFTWARE

#### Hardware

1. Central Processing Unit (CPU)
2. Input units
3. Output units
4. Memory (Main or Primary Memory & Secondary or Auxiliary Memory)




#### Input Devices

- ❖ Translate data from form that humans understand to one that the computer can work with
- ❖ Most common are keyboard and mouse

#### Examples of Input Devices

1. Keyboard
2. Mouse
3. Scanner
4. Pre-storage Device (Disk, CD's, ... etc.)
5. Optical mark recognition (Light Pin , Bar code scanners)
6. Microphone
7. Joystick

#### The CPU consists of :

-  Control Unit (CU)
-  Arithmetic and Logical Unit (ALU)
-  Some Registers

#### Primary Memory

Memory (fast, expensive, short-term memory): Enables a computer to store, at least temporarily, data, programs, and intermediate results. **Two general parts:**

- 1) RAM (Main Memory)**
- 2) ROM: Read Only Memory**

## Secondary Storage

Stores data and programs permanently: its retained after the power is turned off

1. Hard Drive (Hard Disk)
2. Floppy Disk
3. Optical Laser Discs CD-ROM, CD-RW, and DVD

## Output Devices

Pieces of equipment that translate the processed information from the CPU into a form that humans can understand.

## Output Devices

- ❖ Monitors
- ❖ Printers
- ❖ Dot matrix printers
- ❖ Ink jet printers
- ❖ Laser printers
- ❖ Sound Blasters (Sound Card By Creative Lab)
- ❖ Controlling other devices

## Chapter2

**The operating system** is the most important program in the computer. An operating system performs four primary functions. It manages and controls the hardware connected to a computer. It helps other programs running on a computer to use the hardware. It helps you organize and manage files and folders on the computer. It provides a user interface that allows you to interact with the hardware, the operating system itself, and other programs.

An example of an operating system is Windows 7.

### Desktop

The desktop is an on-screen work area that uses a combination of menus and icons. The desktop includes the following components:

#### Taskbar

#### Notification Area.

#### Start Button

In **Windows 7**, the Start button opens the Start menu. You can use the commands on the Start menu to start a program, or to restart or shutdown the computer. The Start menu typically displays the following commands:

My Documents, My Computer, My Network Places, Control Panel  
, Printers and Faxes, Help and Support, Search, Run.

#### Desktop (Themes)

To change the background of your desktop, right click anywhere, click Personalize and then choose one of the options provided.

#### Desktop (Gadgets)

- Gadgets are mini-programs which provide easy access to frequently used tools, such as a clock or calendar.
- To add gadgets to your desktop, right click anywhere and click Gadgets. Select one and drag it anywhere on your desktop.

#### Opening Folders or Programs

To open a folder or program from the desktop, you can either double click the icon with the left button of your mouse, or click it once and then press Enter on your keyboard

#### Desktop (Resizing and Moving Windows)

- ✓ To resize a window, move the mouse over a border until the pointer changes into a two-headed arrow, and then drag until the window is the size you want.
- ✓ To move a window, point to the window's title bar, drag the window to a new location, and then release the mouse button



## Desktop (Aero Snap)

To maximize a window, point to the window's title bar, drag it to the top of the screen and then release the mouse button

To see two windows side by side, drag one to the right of the screen until it snaps and the other to the left.

## Flip and Flip 3D

Flip and Flip 3D allow you to take a look at all your open windows and choose the one you want to work with.

- Flip: Alt + Tab
- Flip 3D: Win + Tab

## Aero Peak

To take a look at your desktop, making all your open windows transparent, move your mouse over the Show Desktop Button.

## Start Menu

The Windows interface provides a combination of menus and icons that allow you to interact with a computer. You can use a mouse to make selections, and issue commands, such as opening a program. An example of a commonly used program is Microsoft Paint.

## Help and Support

You can get information about how to perform a task, for example sharing a printer, by clicking the Help and Support button in the Start Menu.

## Power Button Options

- ❖ Switch User: allows you to log on with a different account without quitting the programs that the current user is running.
- ❖ Log off: quits all the programs and takes you to the Log On screen.
- ❖ Lock: takes you to the Log On screen without quitting any open programs so nobody can access your account if you walk away from the computer.
- ❖ Sleep: allows you to save energy by turning off the monitor. You can awaken the computer by moving the mouse or pressing any key on the keyboard.

## Windows Explorer

You can change the way you see the files in the Details Pane by clicking the arrow of the Change your View button and sliding the selector up and down.

## Performing Basic File Operations

Every file has an associated format that defines the way data is stored in the file. The file format is identified by a period (also called a dot) appended to a file name, followed by three or four letters. The following are some of the more common file formats:

- Word documents (.doc)
- Images (.gif and .jpg)
- Executable programs (.exe)
- Multimedia files (.wma and others)

## Chapter3

### Microsoft Word 2010 Tutorial

**Microsoft Word 2010** is a word-processing program, designed to help you create professional-quality documents. With the finest document- formatting tools, Word helps you organize and write your documents more efficiently. Word also includes powerful editing and revising tools so that you can collaborate with others easily.

#### The Ribbon

Understanding the Ribbon is a great way to help understand the changes between Microsoft 2003 to Microsoft 2010. The ribbon holds all of the information in previous versions of Microsoft Office in a more visual stream line manner through a series of tabs that include an immense variety of program features.

#### Home Tab

This is the most used tab; it incorporates all text formatting features such as font and paragraph changes.

#### Insert Tab

This tab allows you to insert a variety of items into a document from pictures, clip art, tables and headers and footers.

#### Page Layout Tab

This tab has commands to adjust page elements such as margins, orientation, inserting columns, page backgrounds and themes.

#### Reference Tab

This tab has commands to use when creating a Table of Contents and citation page for a paper. It provides you with many simple solutions to create these typically difficult to produce documents.

#### Mailing Tab

This tab allows you to create documents to help when sending out mailings such as printing envelopes, labels and processing mail merges.

#### Review Tab

This tab allows you to make any changes to your document due to spelling and grammar issues. It also holds the track changes feature which provides people with the ability to make notes and changes to a document of another person

#### View Tab

This tab allows you to change the view of your document to a different two page document or zoom.

## Chapter 4

### Microsoft Excel 2010 Tutorial

**Excel** is a spreadsheet program in the Microsoft Office system. You can use Excel to create and format workbooks (a collection of spreadsheets) in order to analyze data and make more informed business decisions. Specifically, you can use Excel to track data, build models for analyzing data, write formulas to perform calculations on that data, pivot the data in numerous ways, and present data in a variety of professional looking charts.

### The Ribbon

Understanding the Ribbon is a great way to help understand the changes between Microsoft 2003 to Microsoft 2010. The ribbon holds all of the information in previous versions of Microsoft Office in a more visual stream line manner through a series of tabs that include an immense variety of program features.

### Home Tab

This is the most used tab; it incorporates all text and cell formatting features such as font and paragraph changes. The Home Tab also includes basic spreadsheet formatting elements such as text wrap, merging cells and cell style

### Insert Tab

This tab allows you to insert a variety of items into a document from pictures, clip art, and headers and footers.

### Page Layout Tab

This tab has commands to adjust page such as margins, orientation and themes.

### Formulas Tab

This tab has commands to use when creating Formulas. This tab holds an immense function library which can assist when creating any formula or function in your spreadsheet.

### Data Tab

This tab allows you to modifying worksheets with large amounts of data by sorting and filtering as well as analyzing and grouping data.

### Review Tab

This tab allows you to correct spelling and grammar issues as well as set up security protections. It also provides the track changes and notes feature providing the ability to make notes and changes someone's document.

### View Tab

This tab allows you to change the view of your document including freezing or splitting panes, viewing gridlines and hide cells.

## Chapter5

### Microsoft PowerPoint

Is an electronic presentation program that helps people present a speech using a collection of slides. A PowerPoint presentation is a collection of slides that can be used to create oral presentations.

### File Tab

This tab opens the Back stage view which basically allows you to manage the file and settings in PowerPoint. You can save presentations, open existing ones and create new presentations based on blank or predefined templates. The other file related operations

### Ribbon

The ribbon contains three components:

- ✚ Tabs: They appear across the top of the Ribbon and contain groups of related commands.
- ✚ Home, Insert, Page Layout are examples of ribbon tabs.
- ✚ Groups: They organize related commands; each group name appears below the group on the Ribbon. For example, a group of commands related to fonts or a group of commands related to alignment, etc.
- ✚ Commands: Commands appear within each group as mentioned above.

Menu Category	Ribbon Commands
Home	Clipboard functions, manipulating slides, fonts, paragraph settings, drawing objects and editing functions
Insert	Insert tables, pictures, images, shapes, charts, special texts, multimedia and symbols
Design	Slide setup, slide orientation, presentation themes and Background
Transitions	Commands related to slide transitions
Animations	Commands related to animation within the individual slides
Slideshow	Commands related to slideshow set up and previews
Review	Proofing content, language selection, comments and comparing presentations
View	Commands related to presentation views, Master slides, color settings and window arrangements

**Odds of assessment**

No	Exam	Type of assessment	Marks
1	First term	Quiz in the same theoretical lecture for each lecture	2
		End term written exam (60% MCQs & 40% essay questions)	8
		End term written exam practical	5
2	Second term	Quiz in the same theoretical lecture for each lecture	2
		End term written exam (60% MCQs & 40% essay questions)	8
		End term written exam practical	5
3	Final practical	The final practical exam	20
4	Final written	Final written examination exam (60% MCQs and 40% essay questions)	50
5	Total		100

**Recommended books**

Some websites are certified

Microsoft ASP.net Fast&Easy Web Development

المادة: حقوق الإنسان والديمقراطية و الحريات العامة، و هي من متطلبات الجامعة

اسم منسق و مدرس المنهاج : أ.م. د. عماد علي دايح الشمري

المقدمة :

حقوق الإنسان هي مجموعة من القواعد القانونية والمبادئ الأساسية للقانون تشكل واقعا سياسيا واجتماعيا و قانونيا، يهدف على تثبيت دعائم الحياة الإنسانية على أسس تتوافق مع مقتضيات العدالة والوجدان السليم وهي قواعد تمثل في مجموعها نظاما للحق والعدل والمساواة في المجتمع الإنساني. وبالنظر إلى شطر كبير من هذه الحقوق والمبادئ نجدها تتطابق من حيث المصدر مع المبادئ الدينية والأخ فية ذلك أن هدف قواعد حقوق الإنسان هو تحقيق العدالة والمساواة والخير المطلق لأفراد المجتمع الإنساني دون النظر إلى الألوان أو الأديان أو الجنس أو الوضع المالي أو التطبيقي.

مادة حقوق الإنسان هي من متطلبات الجامعة تهدف إلى رفد طلبة الجامعة بالمعرفة بحقوقهم و حقوق الآخرين ليتسنى لهم التعامل الإنساني فيما بينهم و ما بينهم و الآخرين خلال فترة دراستهم و ما بعد الدراسة.

الكلية أعطت ٣٠ ساعة في السنة الدراسية الأولى و بواقع ساعة أسبوعيا لتغطية منهاج هذه المادة الحيوية،  
الأهداف :

١. تعزيز احترام حقوق الإنسان الأساسية.
٢. الإنماء الكامل للشخصية الإنسانية وإحساسها بالكرامة.
٣. تعزيز التفاهم والتسامح والمساواة بين الجنسين، والصداقة بين جميع الأمم والسكان الأصليين
٤. والمجموعات العرقية والقومية والدينية واللغوية.
٥. تمكين كل الأفراد من المشاركة بفاعلية في مجتمع حر.
٦. تمكين طلبة كلية الطب من التعامل مع المرضى تميي الإنسانية.
٧. تمكين طلبة كلية الطب من معرفة لوائح المهمة المتعلقة بحقوق الإنسان .

الأماكن التي تطبق بها المنهج :  
المواد المستخدمة في تطبيق المنهج : وسائل العرض

الوحدات والساعات :

ت	عدد الساعات النظرية	عدد الوحدات
1	30	عدد ٢

## المنهج النظري:

رقم	اسم المحاضرة	المدة/الساعة
1	-خصائص حقوق الإنسان. -تعريف : الحق لغة واصطلاحاً. -جذور حقوق الإنسان وتطورها في تاريخ البشرية	1
2	أولاً: القيم السائدة في المجتمع العراقي واشاعة الروح الوطنية ونبذ الأفكار المسيئة إلى الآخر مهما كان انتمائه.	1
3	ثانياً: القيم السائدة لدى طلبة الجامعات العراقية.	1
4	ثالثاً: التطرف ودوره في تفكيك المجتمع.	1
5	رابعاً: العمل على بناء فلسفة تربوية تؤكد حب العراق أولاً والانتماء إلى الوطن وأرضه.	1
6	حقوق الإنسان في الحضارات القديمة والوسطى مع التركيز على حضارة وادي الرافدين	1
7	حقوق الإنسان في الشرائع السماوية مع التركيز على حقوق الإنسان في الإسلام.	1
8	أولاً : الديانة المسيحية، والديانات الأخرى. ثانياً : الديانة الإسلامية. موقف الشرائع السماوية من حقوق الإنسان.	1
9	حقوق الإنسان في المذاهب والمدارس والنظريات السياسية.	1
10	حقوق الإنسان في الشركات الحقوق واعلاناتها، والثورات وداستيرها، ( الوثائق الإنجليزية، والثورات الأمريكية، الثورة الفرنسية، والثورات الروسية ).	1
11	الاعتراف الدولي بحقوق الإنسان منذ الحرب العالمية الأولى : عصبة الأمم، الأمم المتحدة	1
12	-مفهوم القانون الدولي الإنساني وتطوره التاريخي. الإعلان العالمي لحقوق الإنسان الصادر من منظمة الأمم المتحدة عام 1948م.	1



1	<p>-الدستور الاجتماعي.  أولاً: الميثاق الأعظم ( Magnacarta ) لسنة 1215.  ثانياً: عريضة الحقوق ( Petition of Rights ) لسنة 1628.</p>	13
1	<p>ثالثاً: قانون الإحضار ( قانون الحرية الشخصية ) ( Habeas corpus actor ) لسنة 1679 .</p>	14
1	<p>رابعاً: قانون الحقوق ( Bill of Rights ) لسنة 1689 .  -الدستور السياسي.  -المصادر القانونية لحقوق الإنسان في بريطانيا.  المصادر القانونية لحقوق الإنسان في العصر الحديث.</p>	15
1	<p>المصادر القانونية لحقوق الإنسان في الولايات المتحدة الأمريكية.  المصادر القانونية لحقوق الإنسان في فرنسا.</p>	16
1	<p>أولاً : إعلان حقوق الإنسان والمواطن الفرنسي ( 26 آب. 1789 )</p>	17

1	<p>ثانياً: الدساتير والاعلانات الفرنسية التي تلت إعلان الحقوق لسنة 1789 .</p> <p>1-دستور 3 آب 1791 .</p> <p>2-إعلان حقوق الإنسان والمواطن لسنة 1793 .</p> <p>3-دستور 1848 الفرنسي.</p>	18
1	<p>-اتفاقية لاهاي 1907</p> <p>-اتفاقية جنيف 1864</p> <p>-الأجهزة الرئيسية العامة في منظمة العفو الدولية.</p> <p>-أهداف منظمة العفو الدولية</p> <p>منظمة العفو الدولية 1961</p>	19
1	<p>ضمانات احترام وحماية حقوق الإنسان على الصعيد الوطني.</p> <p>ضمانات احترام وحماية حقوق الإنسان.</p>	20
1	<p>1-الضمانات في الدستور والقوانين</p> <p>2-الضمانات في مبدأ سيادة القانون.</p> <p>3-الضمانات في الرقابة الدستورية.</p>	21
1	<p>4-الضمانات في حرية الصحافة والرأي العام.</p> <p>5-دور المنظمات غير الحكومية في احترام وحماية حقوق الإنسان.</p> <p>7-ضمانات احترام وحماية حقوق الإنسان على الصعيد الدولي.</p>	22
1	<p>8-دور الأمم المتحدة ووكالاتها المتخصصة في توفير الضمانات.</p> <p>9-دور المنظمات الإقليمية ( الجامعة العربي، الاتحاد الأوروبي، الاتحاد الأفريقي، منظمة الدول الأمريكية، منظمة أسيان ).</p> <p>10-دور المنظمات الإقليمية والدولية غير الحكومية والرأي العام العالمي في احترام وحماية حقوق الإنسان.</p>	23

1	<p>-المعالجات المنهجية الناجحة لمكافحة الفساد الإداري وحماية المجتمع منه.</p> <p>-انعكاسات ظاهرة الفساد على حقوق الإنسان في المجتمع.</p> <p>-أسبابه وعوامله.</p>	24
1	<p>-أنواع الفساد</p> <p>-تعريف ظاهرة الفساد الإداري.</p> <p>تأثير ظاهرة الفساد الإداري على حقوق الإنسان والمجتمع.</p>	25
1	<p>-الميثاق العربي لحقوق الإنسان 1994 .</p> <p>-الميثاق الأفريقي لحقوق الإنسان 1981 .</p> <p>-الاتفاقية الأمريكية لحقوق الإنسان 1969 .</p>	26
1	<p>-الاتفاقية الأوروبية لحقوق الإنسان 1950</p> <p>الاعتراف الإقليمي بحقوق الإنسان.</p>	27

1	<p>المنظمات غير الحكومية المعنية بحقوق الإنسان. اللجنة الدولية للصليب الأحمر 1859 . واللجنة الدولية للهلل الأحمر. واللجنة الدولية لإغاثة الجرحى 1863 .</p>	28
1	<p>حقوق الإنسان في الدساتير العراقية بين النظرية والواقع والتطبيق حقوق الإنسان، التحديد، والتعريف، والضمانات -العلاقة بين حقوق الإنسان والحريات العامة الأول : في الإعلان العالمي لحقوق الإنسان والمواثيق الدولية الثاني : في المواثيق الإقليمية والدساتير الوطنية</p>	29
1	<p>اشكال واصناف حقوق الإنسان والترابط بينهما -حقوق الإنسان الفردية وحقوق الإنسان الجماعية حقوق الإنسان الاقتصادية والاجتماعية والثقافية وحقوق الإنسان المدنية والسياسية -حقوق الإنسان الحديثة : الحق في التنمية – الحق في البيئة النظيفة – الحق في التضامن – الحق في الإسلام ..... إلخ. -الترابط بين حقوق الإنسان كل لا يتجزء.</p>	30

## طريقة تقييم الطلبة :

ت	الامتحان	الدرجة	نوع الأسئلة
1	الفصل الأول	15	أسئلة مقالية قصيرة و طويلة
2	الفصل الثاني	15	أسئلة مقالية قصيرة و طويلة
3	الإمتحان النهائي	70	أسئلة مقالية قصيرة و طويلة
4	الدرجة النهائية	100	

## الكتب المقررة التي يقرأها الطالب :

١. القانون الدولي الانساني .
٢. حقوق الانسان وحرياته الاساسية .
٣. حقوق يجب ان تعرف الحقوق الاسلامية .

## منهاج مادة اللغة العربية لغير الاختصاص

اسم المادة : اللغة العربية و هي من متطلبات الجامعة

اسم منسق و مدرس المنهاج : أ.م. د. عماد علي دايع الشمري

المقدمة :

تنبع أهمية اللغة العربية من كونها أفصح اللغات في عبقريتها، وقدرتها المتجددة على التكيف مع مختلف العلوم الأخرى، مثل: الهندسة، والطب، والجبر، والفنون، والمعارف العلمية، وقد وصلت اللغة العربية إلى الإبداع في مجالات الأدب، والتأليف.

تعتبر اللغة العربية هي الأساس للتعامل مع المرضى في المستشفيات التعليمية التي يتدرب بها طلبة كلية الطب فسلامة اللغة العربية ضرورية لتحقيق هذا الغرض.

معظم المرضى في مستشفياتنا لا يحسنون الكلام باللغة الإنجليزية لذلك الطبيب الماهر الحاذق يستطيع أن يتعامل مع المرضى ويتفاهم معهم بلغتهم والكلام باللغة الفصيحة يفهمه الجميع حتى الأمي وبذلك يكون الطبيب قد انتفع بما درسه من محاضرات في اللغة العربية في كليته واثناء دراسته الأولية .

هذا المنهاج هو مخصص لجميع الطلبة الغير مختصين باللغة العربية و تعتبر مادة اللغة العربية إحدى مواد متطلبات جامعة الأنبار.

مادة اللغة العربية هي إحدى المواد التي تدرس في السنة الدراسية الأولى و تعطى ٣٠ ساعة بواقع ساعة أسبوعياً لتغطية مفردات المنهاج.

الأهداف :

١. تعريف الطلبة بلغتهم العربية ، من خلال الوقوف على اساليبها النحوية و اللغوية والاملائية والتي تفيدهم مستقبلاً .
٢. لتمكين طلبة كلية الطب من التعامل مع المرضى بلغة عربية سليمة .
٣. لتمكين طلبة كلية الطب كتابة التقارير الطبية و التقارير الطبية العدلية بلغة مفهومة و خالية من الأخطاء أثناء دراستهم و بعد تخرجهم و تعيينهم في المستشفيات العراقية أو العربية.
٤. الاستفادة من تعريب المصطلحات العلمية والطبية التي تقوم بها المجامع العلمية في الوطن العربي
٥. والعراق خاصة ولا يتم ذلك لطالب الطبية إلا اذا كان يمتلك الكثير من المفردات العربية
٦. والمصطلحات اللغوية التي تسهل عليه عملية ترجمة المصطلحات الأجنبية ووضع المصطلح العربي
٧. الفصح والصحيح إزاء المصطلح الأجنبي .

الأماكن التي تطبق بها المنهج : القاعة  
المواد المستخدمة في تطبيق المنهج: وسائل العرض  
الوحدات والساعات :

ت	عدد الساعات النظرية	عدد وحدات
1	30	مستوفي

## المنهاج النظري:

رقم	اسم المحاضرة	الساعة
1	التعريف باللغة العربية	1
2	أقسام الكلمة العربية ( الاسم – الفعل – الحرف ) .	1
3	الجملة وشبه الجملة .	1
4	المعرب والمبني .	1
5	علامات رفع الاسم ( الضمة – الألف – الواو ) .	1
6	اسم الإشارة (الإشارة إلى القريب – والإشارة إلى البعيد ) .	1
7	الاسم الموصول	1
8	رفع الفعل المضارع علامة رفع الفعل المضارع ( الضمة – ثبوت النون ) الأفعال الخمسة	1
9	نصب الفعل المضارع -علامة نصب المضارع (الفتحة – حذف النون ) . -حروف النصب .	1
10	الحرف ( حروف تدخل على الاسم )	1
11	حروف الجر.....	1
12	أن وأخواتها.....	1
13	حروف النداء.....	1
14	حروف تدخل على الفعل حروف النصب..... حروف الجزم..... قد – السين – وسوف.....	1
15	الجملة العربية	1
16	الجملة التي لها محل من الإعراب .	1
17	الجملة التي لا محل لها من الإعراب .	1
18	الظاء والضاد	1

1	همزة الوصل وهمزة القطع	19
1	كيف تُنطق همزة الوصل أمثلة على همزات الوصل.....	20
1	رسم الهمزة المتطرفة الهمزة المتطرفة وتنوين الفتح..... يتوقف رسم الهمزة المتطرفة على حركة الحرف السابق لها.	21
1	قواعد الإملاء والخط العربي: قواعد الإملاء وعلامات الترقيم	22
1	الأخطاء اللغوية الشائعة	23
1	خط الفارسي..... خط التعليق..... خط الرقعة..... الخط الكوفي..... خط النسخ..... خط الثلث..... الخط وأنواع الخطوط العربية	24
1	محمد مهدي الجواهري وقصيدته ( يا دجلة الخير.....)	25
1	معروف عبد الغني الرصافي وقصيدته ( الأرملة المرضعة.....)	26
1	شعراء المهجر.	27
1	دراسة عن الشاعر إليا أبو ماضي	28
1	دراسة عن الشاعر جبران خليل جبران.	29
1	القيم السائدة في المجتمع العراقي واشاعة الروح الوطنية ونبذ الأفكار المسيئة إلى الآخر مهما كان انتمائه.	30



## طرق تقييم الطلبة :

ت	الامتحان	الدرجة	نوع الأسئلة
1	الفصل الأول	15	أسئلة مقالية قصيرة و طويلة
2	الفصل الثاني	15	أسئلة مقالية قصيرة و طويلة
3	الإمتحان النهائي	70	أسئلة مقالية قصيرة و طويلة
4	الدرجة النهائية	100	

## الكتب المقررة التي يقرأها الطالب :

١. كتاب اللغة العربية لغير الاختصاص ، لمجموعة من الاساتذة .
٢. ملخص قواعد اللغة العربية ، تأليف : فؤاد نعمة .
٣. جامع الدروس العربية ، تأليف الشيخ : مصطفى الغلاييني .
٤. النحو الواضح ، تأليف : علي الجارم .

**University of Anbar  
College of Medicine  
Department of Physiology**

**Course Title: Medical physiology**

**First Year of M.B.CH.B. Program**

<b>Allocated marks</b>	<b>100 marks</b>
<b>Course duration</b>	<b>30 weeks ( One Academic Year )</b>
<b>Total hours</b>	<b>30 Theoretical hours</b>
<b>Course coordinator</b>	<b>Ass. Prof. Dr.Duraïd Taha AL-hadethi.</b>
<b>Teaching staff</b>	<b>Theoretical teaching staff: Ass. Prof. Dr. Ansaf Ibrahim, Lecturer Dr. Ahmad Talib, Ass. Lecturer Dr. Mohammed Ibrahim Ass. Prof. Dr. Yaser Mufeed</b>
<b>Total</b>	<b>1 Assistant Professor, 2 Lecturer, 1 ass. Lecturer</b>

### **Introduction:**

The study of physiology is, in a sense, the study of life. It asks questions about the internal workings of organisms and how they interact with the world around them. Physiology tests how organs and systems within the body work, how they communicate, and how they combine their efforts to make conditions favorable for survival.

**The Major Systems Covered In The Study Of Human Physiology Are As Follows:**

#### **1. INTRODUCTION TO PHYSIOLOGY**

**(1 hour)**

Subject and significance, Methods of physiological research, Physiology, and other sciences

#### **2. FUNDAMENTALS OF GENERAL PHYSIOLOGY (5 hours)**

Cellular organization, Homeostasis, Body fluids, volume and distribution, Body water functions, Body fluid dynamics, and Edema.

**Department of Physiology - Medical Physiology**

**3. BLOOD PHYSIOLOGY (12 hours)**

Composition and function, The red blood cell, Hemoglobin and hemoglobin variants, Iron metabolism, anemias, Destruction of the red blood cell, The white blood cell, Morphology and classification, Specific functions of the different variants, The immune system, allergy, The platelets, Homeostasis and blood coagulation, The plasma composition and function, the fibrinolytic activity of the plasma

**4. PHYSIOLOGY OF THE MUSCLE (6 hours)**

Introduction types of muscles, Skeletal muscles, structure, motor units, Excitability, Mechanical response of the muscle, Simple muscle twitch, Type of contraction, muscle fatigue, Summation of muscle contraction, Effect of two muscle stimuli, Effect of repeated stimuli, Clonus and tetanus, All or none law, muscle tone, The sliding filaments theory, Thermal and chemical changes during muscle contraction, Blood groups and blood transfusion

**5. PHYSIOLOGY OF THE NERVOUS SYSTEM****PHYSIOLOGY OF THE NERVE FIBERS. (4 hours)**

Properties of nerve fibers, Transmission along nerve fibers, Types of nerve fibers and compound action potential, Ionic theory of the membrane potential, Structure and type of nerve trunk, effect of cutting a motor nerve.

**SYNAPTIC AND NEUROMUSCULAR TRANSMISSION.**

Synaptic transmission, EPSP and IPSP, ionic bases, Convergence and divergence, spatial and temporal, Neuromuscular transmission and blocking substances.

**Objectives:**

**To support students with:**

**Competent Knowledge Skills:**

To acquire a core scientific knowledge about humans as a physiological entity. Clinical Skills:

To apply basic physiology principles in the appropriate clinical context.

To acquire a list of clinical skills at the introductory level.

**Non-technical Skills and Professional Behavior:**

**To incorporate physiology into the personal path of becoming a competent and caring physician**

**To be aware of physiological research to improve diagnoses and treatments of diseases**

**Outcome of curriculum:**

**On completion of this course, the students should; 1-understand normal body function from molecular to cellular,**

**cellular to tissue, tissue to organ, and organ to organ systems level.**

**2-understand interrelationships between organ systems.**

**3-have acquired sufficient knowledge of the above to begin to**

**understand human disease processes and appropriate therapeutic interventions.**

**Course Requirements:**

**Comfortable Teaching class Room supplied with teaching aids**

**like data show & white board with its accessories.**

**Places for teaching the curriculum:**

✓ **Class room in the college. (Wide air-conditioned, with enough windows with curtains and enough illumination and supplied with teaching aids.**

✓ **Charts, Atlases of Medical physiology**

✓ **Teaching Videos.**

**Theoretical Class Schedule**

Teaching staff	Topics covered	Date
Ass. Lecturer Dr. Mohammed Ibrahim	Introdution to physiology, Methods of physiological research, Physiology, and other sciences	Week 1
Ass. Prof. Dr. Yaser Mufeed	introduction to physiology fundamentals of general physiology, cellular organization □ - homeostasis □ - Body fluids, volume and distribution □ - dynamics,	Week 2&3
Ass. Prof. Dr. Yaser Mufeed	• - Edema Body water • functions • - Body fluid	Week 4&5
Lecturer Dr. Ahmad Talib	physiology of the muscle □ Introduction types of muscles □ Skeletal muscles, structure, □ motor units, Excitability. Mechanical response of the muscle □ Simple muscle twitch □ Type of contraction, muscle fatigue. □ Summation of muscle contraction. Effect of two muscle stimuli	Week 6&7
Lecturer Dr. Ahmad Talib	Clonus and tetanus. □ All or none law, muscle tone. □ The sliding filaments □ Theor Thermal and chemical changes □ during muscle contraction.	Week 8&9

lecturer. Dr. Ensaf Ibrahim	<b>BLOOD PHYSIOLOGY</b> □ Composition and function □ The red blood cell	Week 10&11
lecturer. Dr. Ensaf Ibrahim	<b>Hemoglobin and hemoglobin</b> □ variants Iron metabolism,	Week 12&13
lecturer. Dr. Ensaf Ibrahim	• anemias.Destruction of the red blood cell,	Week 14-
	Exam 1 <sup>st</sup> term	Week15
lecturer. Dr. Ensaf Ibrahim	The white blood cell, Morphology and classification, Specific functions of the different variants,	Week 16&17
lecturer. Dr. Ensaf Ibrahim	The immune system, allergy,	Week 18&19

lecturer. Dr. Ensaf Ibrahim	The platelets, Homeostasis and blood coagulation,	Week 18&1819 Week 20&21
lecturer. Dr. Ensaf Ibrahim	The plasma composition and function, the fibrinolytic activity of the plasma	Week 22&23
Ass. lecturer Mohamed Ibrahim	Properties of nerve fibers, Transmission along nerve fibers,	Week 24 &25
Ass. lecturer Mohamed Ibrahim	Types of nerve fibers and compound action potential, Ionic theory of the membrane potential,	Week 26&27
Ass. lecturer Mohamed Ibrahim Ass. lecturer Mohamed Ibrahim	Structure and type of nerve trunk, effect of cutting a motor nerve	WEEK28&29
	Exam 2 <sup>nd</sup> term	Week 30

**Methods of assessment**

No	Exam	Type of assessment	Marks
1	First term	Quiz in the same theoretical lectures	5
		End term written exam (60% MCQs & 40% essay questions)	10
2	Second term	Quiz in the same theoretical lectures	5
		End term written exam (60% MCQs & 40% essay questions)	10
4	Final written	MCQs	40
		Essay questions	30
5		Total	100

**Recommended book: .Guyton and hall textbook of medical physiology**

## English for Nurses

Course title: English for Nurses I & 11

The textbook title: Oxford English for Careers Nursing I(Student book) 2007

The author: Tony Grice

This textbook consists of 14 units. The units cover a wide range of topics related to the nursing profession. The book is taught over the two courses (15 weeks each) with other nursing-related skills

Course calendar: 15 weeks per course

Hours per week: 2 hours of theory Teaching

Credit hours: (2) credits per course

Course description:

The Oxford English for Careers Nursing 1 book covers different topics and involves the language used in a variety of nursing contexts, such as the hospital team, in and around the hospital, accidents and emergencies, pain, symptoms, caring for the elderly, nutrition and obesity. The book is designed to meet the language needs of nursing students who learn English to use it for communication in a specific professional situation. It focuses on developing the four language skills (e.g. speaking, listening, writing and reading) as well as grammar, vocabulary and pronunciation.

Course learning objectives:

After successful completion of this course, students will develop a confidence in using English language through constructing different grammatically correct sentences both in oral and written modes. In addition, students will deliver oral presentations and receive feedback on their performance. Students will also improve their reading fluency skills, enhance their listening skills, enlarge their vocabulary, strengthen their writing ability and improve their pronunciation skills.

Course learning outcomes: At the end of the course, students will be able to:

A-Grammar

identify the present continuous, simple past, past continues, and present perfect tenses, uses of will, comparisons, preposition of place and movements;

understand sentence structure in English;

apply passive voice in simple present and past tense correctly.

B-Vocabulary

- identify and define a range of nursing vocabulary.

C- Pronunciation

perceive and produce individual sounds (consonants, pure vowels, and diphthongs) in isolation as well as in content,

pronounce the English words including medical terms correctly;

place stress correctly on appropriate syllables and on words.

D-Reading

read and understand English texts;

grasp meaning of words and sentences from English texts.

B-Writing

write a patient summary, a pain report, a symptom report, an email job application, and an advice to a friend via email;

spell the medical terms correctly.

F-Speaking

produce yes/no and simple questions;

provide appropriate responses to simple questions; engage in simple conversations to express ideas and opinions; narrate simple experiences and series of events to convey its essence and intention.

G-Listening

understand meaning of words, phrases and sentences in context;

understand statements, questions, instructions, and commands;

follow directions given orally.

	Outlines English 1		
time	Course subject	Unit and course materials	Learning outcomes
Weeks	Review of verb tense	Forming correct sentences (speaking	



1&2	and grammar rules	and writing) with different verb tenses (Simple present, present continuous, present perfect, present perfect continuous, simple past, past continuous, past perfect, past perfect continuous, simple future, future perfect, and future perfect continuous). Speaking and writing sentences using (active form, passive form, and question form).	
Weekes 3&4	The hospital team	Unit one Reading (the nursing profession passage). Writing (profile of a student nurse) Vocabulary (verbs for describing job). Listening (1-an admission, 2- a job interview) speaking (ask questions and talk about yourself) pronunciation (pronounce the jobs).	introduce self Identify others Naming nursing schools and describing their locations in the local area and notionally. Naming and describing other facilities in the school and their locations. Naming and describing nursing specialties
Weekes 5&6	In and around the hospital	Unit two: Reading (wheel chair passage and it's my job: William O'Neil report), writing (Giving directions via email), grammar (prepositions of place and movement), vocabulary (hospital departments). Listening (1- directions, 2-the porter's office), speaking (picture description: spot the difference task), pronunciation (Where is the stress).	Naming and describing other healthcare specialties Naming healthcare settings in the local area and describing their locations
Week 7		1 <sup>st</sup> midterm exam	
Weekes 8&9	Hospital admission	Unit three: Reading (Bad hand writing passage and it's my job: Carmen Dornan), writing (patient summary), grammar (past simple v past continuous), vocabulary the admission procedures and patient record).	Communication (verbal and written, -Communication with students in school -Communication with healthcare professionals -Communication with patients -Communicate with community -Verbal communication -Written communication
Weeks 10&11	Clients' symptoms	Unit six: Reading (mystery Syndromes passage and it's my job: Sandy McGuire), writing (symptoms report), grammar (question forms), vocabulary (tongue	Assessing and documenting signs and symptoms using proper vocabulary and correct verb tenses

		diagnosis and night coughing).	
Weeks 12&13	Caring for the patients	Unit seven: Reading (old age and the brain passage), writing (letter of introduction to a care home), grammar (will), vocabulary (the effects of aging, problems and aids).	-Communicate with elderly people -Assess their health status -Explain nursing actions
Week 14		2 <sup>nd</sup> midterm exam	
Week 15	Hygiene	Unit eleven: Reading ask the nurse passage and it's my job: Harriet Banks), writing (A notice: hygiene reminder), grammar (must, have to, mustn't, need to, need-ing), vocabulary (hygiene equipment).	Patients' Teaching and Education -Writing a teaching plan for different age groups -Writing teaching plans for different health care problems -Verbally presents the education plan for clients -verbally respond to clients' questions or comments
		Outlines of English II	
Weeks 1&2	Monitoring the patient	Unit thirteen: Reading (general anesthetic passage), writing (describing a procedure), grammar (the passive voice), vocabulary (describing readings).	-Recording health status with proper language and correct grammar -Making a list of patient's needs -Recording the nursing action -Exchange information about the vital signs.
Weeks 3&4	Medication	Unit fourteen: Reading (pandemics and Tamiflu passage), writing (writing up an experiment), grammar (be going to v present continuous for future), vocabulary (types and forms of medication).	-Verbally explain the medication administration -Verbally explain the possible side-effects -Documenting the medication-related processes
Week 5		1 <sup>st</sup> midterm exam	
Week 6	Death and dying	Unit ten: Reading the hope children's hospice), writing (death certificate), grammar (expressing possibility), vocabulary dying vocabulary and the body after death).	Communicate (verbally and non verbally) with family using proper language and correct grammar -Express empathy -Reduce stress of patient's family
Weeks 7&8	Nursing process		-Asking questions using different verb tenses -Forming different

			<p>types of assessment questions (open-end, closed, open-broad ... etc.)</p> <p>-Writing the identified nursing diagnoses.</p> <p>-Describing clients' symptoms</p> <p>-Explain the planned nursing intervention for the client.</p> <p>-Record the implemented intervention</p>
Week 9	Patients discharge		<p>-Writing a discharge plan</p> <p>-Verbally describe the rules that should be followed by clients after being discharged from hospitals includes (medication, follow-up, home environment).</p>
Week 10	Reading skills		Reading and summarizing paragraphs main ideas
Weeks 11&12	Presentation skills		Presentation of specific subjects in different nursing specialities
Week 13		2 <sup>nd</sup> midterm exam	
Weeks 14&15	Writing skills		<p>-Writing nursing reports</p> <p>-Writing essays</p>

# CHAPTER 3

## **Subjects for the annual system of the second stage**

No.	Subject
1	Physiology
2	Biochemistry
3	Histology
4	Anatomy
5	Embryology
6	Democracy and Freedom

**University of Anbar**  
**College of Medicine**  
**Department of Physiology**

**Course Title: Medical physiology**

**Second Year of M.B.CH.B. Program**

Allocated marks	100 marks
Course duration	30 weeks ( One Academic Year )
Total hours	120 Theoretical hours 120 Practical hours
Course coordinator	Ass. Prof. Dr. Maher Ali Jasim.
Teaching staff	<p>Theoretical teaching staff: Ass. Prof. Dr. Maher A. Jasim , Assist. Prof. Dr. –Waleed Nassar, Ass. Prof. Dr. Raid Muhmid Suhil, Ass. Prof. Dr. Thakir Mohammed, Lecturer Dr. Khalid Messer, Lecturer Dr. Wesam Alfehan, Lecturer Dr. Ansaf Ibrahim, Ass. Lecturer Dr. Latief Fayyadh, Ass. Lecturer Dr. Ahmad Talib, Ass. Lecturer Dr. Mohammed Ibrahim</p> <p>Practical Teaching Staff: Lecturer Dr. Ansaf Ibrahim, Ass. Lecturer Dr. Latief Fayyadh, Ass. Lecturer Dr. Ahmad Talib, Ass. Lecturer Dr. Mohammed Ibrahim</p> <p>Under Supervision Of The Above Theory Teaching Staff.</p>
Total	4 Assistant Professor, 3 Lecturer , 3 ass. Lecturer

**Introduction:**

The study of physiology is, in a sense, the study of life. It asks questions about the internal workings of organisms and how they interact with the world around them.

Physiology tests how organs and systems within the body work, how they communicate, and how they combine their efforts to make conditions favorable for survival.

**The Major Systems Covered In The Study Of Human Physiology Are As Follows:**

**1. PHYSIOLOGY OF THE NERVOUS SYSTEM (28 hours)**

**THE AUTONOMIC NERVOUS SYSTEM**

Introduction and definition, the autonomic reflex action and its comparison to the somatic reflex, Functional anatomy: sympathetic and parasympathetic system, The concept of membrane receptor, Chemical transmission in the autonomic nervous system, Function of the sympathetic and parasympathetic nervous system, Higher control of autonomic function: spinal, medullary, hypothalamic, limbic and cortical

**BODY TEMPERATURE REGULATION**

Normal temperature and set-point, Heat production, shivering and non-shivering thermogenesis, Heat loss, hypothalamic regulation of body temperature, Fever and hypothermia.

**SENSATION**

Introduction and definition, the stimulus and the adequate stimulus, sensory receptors, Classification of sensory receptors, electrical and ionic events in receptor potential, The sensory unit, the receptive field and cortical representation, Coding of sensory information, the sensory pathways, Role of proprioceptors in reflex and voluntary muscular contraction, The stretch (tendon) reflex, The Golgi tendon organ and the inverse stretch, Gamma efferent

activity and muscle tone effect (lengthening reaction), Superficial deep and visceral sensation, Touch and pressure and sense vibration, Cold and warmth sensation, pain sensation ,Referred pain

## **SPECIAL SENSES**

### **A) Hearing and equilibrium**

Functional anatomy of the ear, Properties of the hearing system, Theories of hearing, Vestibular function

### **B) Vision**

Functional anatomy of the eye, Errors of refraction: myopia, hyperopia and astigmatism. Physiology of the retina, visual fields and visual pathway, Visual accommodation and visual reflexes, visual acuity , Color vision, cerebral cortical visual function

### **C) Smell and taste.**

Smell receptors and pathways, Physiology of olfaction, Taste receptor organs and pathways, Physiology of taste

## **CENTRAL NERVOUS SYSTEM**

Physiology of the spinal cord reflexes, The cerebellum and its role in motor control and movement, Physiology of the hypothalamus and limbic system, The brain stem and reticular formation, Wakefulness and sleep ,Cerebral control function, motor functions and sensory function, Conditioned reflexes ,E.E.G, Speech, Memory

## **2. RESPIRATORY PHYSIOLOGY**

(14 hours)

Functional anatomy, Lung volumes and capacities, Mechanics of breathing muscles of respiration, Pressure changes during the respiratory, Expansion of the lungs, Compliance. Airway resistance, Pulmonary circulation, Pressure low and resistance of pulmonary blood vessels, Alveolar ventilation, Distribution of ventilation and perfusion, Exchange of gases and diffusion capacity, Transport of oxygen by the blood ,Transport of carbon dioxide by the blood ,Control of ventilation ,Hypoxia, hypercapnia and hypocapnia, Oxygen therapy, Effect of exercise, Artificial respirator, Non respiratory function of the lungs, Pulmonary function tests, total and regional, Patterns of breathing, normal and abnormal.

## **3. THE CARDIOVASCULAR SYSTEM**

(24 hours)

Introduction to cardiovascular physiology, Anatomical review, autonomic supply, Blood supply, Specialized tissue

## **THE MYOCARDIUM**

Ultrastructure with comparison to skeletal muscle, Ionic role and bases of muscle contraction, excitation and contraction coupling, The mechanical properties of the cardiac muscle, Starling law of the heart (length-tension) relationship, types of muscle contraction, heart as a pump (contractility), The electrical activity of heart Action potential, fast response and slow response, The refractory periods, Pacemaker cells and pacemaker action potential

**THE ELECTROCARDIOGRAPHY**

General background, electrical axis PQRST waves and their clinical significance, the leads, Cardiac arrhythmias (block, Stokes-Adam Syndrome), Cellular basis of cardiac arrhythmias

**CARDIAC OUTPUT**

The cardiac function curve, The vascular function curve, Methods of measuring cardiac output, Factors regulations cardiac output

**THE CARDIAC CYCLY AND HEART SOUNDS**

Mechanism of sound, Abnormal sounds

**PROPRITIES OF VASCULAR SYSTEM**

Circulation, blood volume, haematocrit. Poiseulle's law, Ohm's law, Laplace law. Peripheral resistance, conductance, capacitance. Compliance, Laminar and turbulent flow, Reynolds numbers. Local regulation of blood flow, auto regulation control (intrinsic control) and neural control (extrinsic control). Regulations of blood pressure short and long term control, The pulse pressure, systolic blood pressure, diastolic blood Pressure and the Koratkov sounds

**THE VEINS AND THEIR FUNCTIONS**

General venous pressure and its regulation. Venous pump, reference point, the filling pressure

**HYPOTENSION AND SHOCK**

Transient hypotension, prolonged hypotension and its pathophysiological changes

**HYPERTENSION**

Volume loading mechanism, Vasoconstrictor mechanism, Secondary hypertension, primary hypertension (Essential), Heart failure

**CARDIAC HYPOTROPHY**

Centric, eccentric, pathophysiology of heart failure, Ischemic heart disease, Exercise physiology

**4. ENDOCRINE AND REPRODUCTIVE PHYSIOLOGY (22 hours)**

Introduction. The pituitary, hypothalamic hormone, adenohipophesis, neurohypophesis, clinical correlates. The thyroid, the metabolic rate iodine metabolism, clinical correlates. The parathyroid, Calcium metabolism and bone physiology, clinical correlates. The adrenal glands, the cortex, the medulla. The gonads. The tests, the ovary. Reproduction Pregnancy and lactation. Other organs with endocrine functions, pancreas



## 5. DIGESTION

(12 hours)

Introduction to the gastrointestinal tract. GIT Hormones, Salivary secretion, gastric secretion, pancreatic secretion, Secretion of bile, secretion of the small intestine, Secretion of large intestine, Basic principles of gastrointestinal absorption, Absorption in the small intestine, Regulation of gastrointestinal function, Gastrointestinal motility

## 6. RENAL PHYSIOLOGY

(8 hours)

Functional anatomy of the kidney, Auto regulation of renal blood flow, Mechanism of glomerular filtration rate, Reabsorption and secretion in the tubule, Water and sodium homeostasis, Effects of water loss, Regulation of tubular reabsorption of sodium. Regulation of potassium balance, Diuretics

## 7. ACID – BASE BALANCES

(6 hours)

The hydrogen ion and PH, Fundamental chemistry of acids and bases, Concept of PH and  $H^+$ ,  $H^+$  of body fluids, the Henderson- Hasselbaalch equation, Generation and elimination of  $H^+$ . Carbonic and acids, Body buffer systems distributor of body buffer systems, Respiratory regulation of acid – base balance, Renal regulation of acid – base balance, Acid-base abnormalities.

## 8. HIGH ALTITUDE PHYSIOLOGY + SEA DIVING PHYSIOLOGY (6 hours)

Effects of acceleratory forces on the body, Centrifugal acceleratory forces, Effects of linear acceleratory forces on the body, Problems of temperature in aviation and space physiology, Radiation at the high altitudes and space weightlessness in space

**Objectives:****To support students with:**

- Competent Knowledge Skills:  
To acquire a core scientific knowledge about humans as a physiological entity.  
Clinical Skills:  
To apply basic physiology principles in the appropriate clinical context.  
To acquire a list of clinical skills at the introductory level.
- Non-technical Skills and Professional Behavior:  
To incorporate physiology into the personal path of becoming a competent and caring physician  
To be aware of physiological research to improve diagnoses and treatments of diseases

**Outcome of curriculum:****On completion of this course, the students should;**

- 1-understand normal body function from molecular to cellular, cellular to tissue, tissue to organ, and organ to organ systems level.
- 2-understand interrelationships between organ systems.
- 3-have acquired sufficient knowledge of the above to begin to understand human disease processes and appropriate therapeutic interventions.

**Course Requirements:**

Comfortable Teaching class Room supplied with teaching aids like data show & white board with its accessories.

**Places for teaching the curriculum:**

- ✓ Class room in the college. (Wide air-conditioned, with enough windows with curtains an enough illumination and supplied with teaching aids.
- ✓ physiology Laboratory for undergraduate studies. (Wide with enough working benches, well aired, with enough windows with curtains and enough illumination and supplied with teaching aids).

**Materials used to accomplish the practical curriculum:-**

- ✓ Microscopes (compound light microscopes).
- ✓ Sterilizing and disinfection tools and materials.
- ✓ Hematological lab devices, incubator, oven, autoclave, refrigerator, water bath, Millipore filters and tube racks and hand disinfectant container.
- ✓ Slides with Permanent stained hematological specimens.
- ✓ Staining kits like Gram Stain Kit, Acid Fast Staining Kit, Albert stain kit and other required stains.
- ✓ Charts , Atlases of Medical physiology
- ✓ Teaching Videos.
- ✓ Experimental animals (frog) for muscle twitch study
- ✓ Teaching devices like stethoscopes, sphygmomanometers, oroscope, hammers and ophthalmoscope.
- ✓ Electrocardiography(ECG)
- ✓ Treadmill for exercise study and its effect on vital signs
- ✓ Spirometry for measurement of pulmonary function test.
- ✓ Myograph for measurement of simple muscle twitch

**Theoretical Class Schedule**

Teaching staff	Topics covered	Date
Ass. Lecturer Dr. Latief Fayyadh	acid – base balances The hydrogen ion and PH.	Week 1
Ass. Lecturer Dr. Latief Fayyadh	Fundamental chemistry of acids and bases, Respiratory regulation of acid base balance. Renal regulation of acid base balance. Acid- base abnormalities	Week 2
Assist. Prof. Dr. Waleed Nassar	Renal Physiology Functional anatomy of the kidney	Week 3
Assist. Prof. Dr. Waleed Nassar	Auto regulation of renal blood flow Mechanism of glomerular filtration rate	Week 4

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<p>Assist. Prof. Dr. Waleed Nassar</p> <p>Assist. Prof. Dr. Waleed Nassar</p>	<p>Reabsorption and secretion in the tubule</p> <p>-Water and sodium homeostasis</p> <p>Effects of water loss</p>	Week 5
<p>Assist. Prof. Dr. Waleed Nassar</p> <p>Ass. Lecturer Dr. Mohammed Ibrahim</p>	<p>Regulation of tubular reabsorption of sodium</p> <p>Regulation of potassium balance</p> <p>Diuretics</p> <p>DIGESTION</p> <p>Introduction to the GIT</p> <p>GIT Hormones, Salivary secretion, gastric secretion, pancreatic secretion</p>	Week 6
<p>Ass. Lecturer Dr. Mohammed Ibrahim</p> <p>Ass. Lecturer Dr. Mohammed Ibrahim</p>	<p>Secretion of bile, secretion of the small intestine</p> <p>Secretion of large intestine</p> <p>Basic principles of gastrointestinal absorption</p> <p>Absorption in the small intestine</p> <p>Regulation of gastrointestinal function</p> <p>Gastrointestinal motility</p>	Week 7
Ass. Prof. Dr. Maher A. Jasim	<p>Respiratory Physiology</p> <p>Functional anatomy</p> <p>Lung volumes and capacities</p> <p>Mechanics of breathing muscles</p>	Week 8

Ass. Prof. Dr. Maher A. Jasim	of respiration Pressure changes during the respiratory Expansion of the lungs, Compliance	
Ass. Prof. Dr. Maher A. Jasim	Airway resistance Pulmonary circulation Pressure Low and resistance of pulmonary blood vessels Alveolar ventilation  Distribution of ventilation and Perfusion, Exchange of gases and diffusion capacity Transport of oxygen by the blood Transport of carbon dioxide by the blood	Week 9
Ass. Prof. Dr. Maher A. Jasim	Control of ventilation Hypoxia, hypercapnia and hypocapnia, Oxygen therapy Effect of exercise , Artificial respirator  Non respiratory function of the lungs, Pulmonary function tests, total and regional Patterns of breathing, normal and abnormal	Week 10
Lecturer Dr. Khalid Messer	The Cardiovascular System Introduction to cardiovascular physiology, Anatomical review, autonomic supply, Blood supply Specialized tissue  Heart as pump (contractility) The electrical activity of heart Action potential, fast response and slow response The refractory periods	Week 11
Lecturer Dr. Khalid Messer	THE ELECTROCARDIOGRAPHY general background, electrical axis PQRST waves and their clinical significance, the leads	Week 12

Lecturer Dr. Khalid Messer	cardiac arrhythmias, cellular basis of cardiac arrhythmias  The cardiac function curve The vascular function curve Methods of measuring cardiac Output, Factors regulations cardiac output	
Lecturer Dr. Khalid Messer	General venous pressure and its regulation, Venous pump, reference point, the filling pressure. Hypotension and shock  Volume Loading mechanism Vasoconstrictor mechanism Secondary hypertension, primary hypertension (Essential) Heart failure	Week 13
Lecturer Dr. Khalid Messer	Regulations of blood pressure short and long term control The pulse pressure, systolic blood pressure, diastolic blood Pressure, Koratkov sounds  pathophysiology of heart failure Ischemic heart disease Exercise physiology	Week 14
Ass. Lecturer Dr. Latief Fayyadh	Endocrine and Reproductive Physiology Introduction	Week 15
Ass. Lecturer Dr. Latief Fayyadh	The pituitary, hypothalamic hormone, adenohypophesis, neurohypophesis, clinical correlates	
The second term		
Ass. Lecturer Dr. Latief Fayyadh	The thyroid, the metabolic rate iodine metabolism, clinical correlates	Week 16

Ass. Lecturer Dr. Latief Fayyadh	The parathyroid, Calcium metabolism and bone physiology, clinical correlates	
Ass. Lecturer Dr. Latief Fayyadh	The adrenal glands, the cortex, the medulla	Week 17
Ass. Lecturer Dr. Latief Fayyadh	The gonads. The tests, the ovary	
Ass. Lecturer Dr. Latief Fayyadh	Reproduction Pregnancy and lactation	Week 18
Ass. Lecturer Dr. Latief Fayyadh	Other organs with endocrine functions, pancreas	
Lecturer Dr. Wesam Alfehan	Synaptic transmission EPSP and IPSP, ionic bases Convergence and divergence, spatial and temporal Neuromuscular transmission and blocking substances.	Week 19
Lecturer Dr. Wesam Alfehan		
Lecturer Dr. Wesam Alfehan		Week 20
Lecturer Dr. Wesam Alfehan	Autonomic Nervous System Introduction and definition, the autonomic reflex action and its comparison to the somatic	

Lecturer Dr. Wesam Alfehan	Functional anatomy: sympathetic and parasympathetic system. The concept of membrane receptors Chemical transmission in the autonomic nervous system	Week 21
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Lecturer Dr. Wesam Alfehan	Function of the sympathetic and parasympathetic nervous system. Higher control of autonomic function: spinal, medullary, hypothalamic, limbic and cortical	
Lecturer Dr. Wesam Alfehan	Body temperature regulation Normal temperature and set-point Heat production, shivering and non-shivering thermogenesis.	Week 22
Lecturer Dr. Wesam Alfehan	Heat loss, hypothalamic regulation Of body temperature Fever and hypothermia.	
Lecturer Dr. Wesam Alfehan	Sensation Introduction and definition, stimulus and the adequate stimulus sensory receptors Classification of sensory receptors electrical and ionic events in receptor potential The sensory unit, the receptive field and cortical representation Coding of sensory information, the sensory pathways	Week 23
Lecturer Dr. Wesam Alfehan	Role of proprioceptors in reflex and voluntary muscular contraction The stretch (tendon) reflex	Week 24
Lecturer Dr. Wesam Alfehan	The Golgi tendon organ and the inverse stretch, Gamma efferent activity and muscle tone effect (lengthening reaction)	
Lecturer Dr. Wesam Alfehan	Cold and warmth sensation, pain sensation Referred pain	Week 25
Ass. Prof. Dr. Raid Al-Ani	SPECIAL SENSES Hearing and equilibrium Functional anatomy of the ear	

Ass. Prof. Dr. Raid Al-Ani	Properties of the hearing system Theories of hearing Vestibular function	Week 26
Ass. Prof. Dr. Thakir Mohammed	Functional anatomy of the eye Errors of refraction: myopia, hyperopia and astigmatism Physiology of the retina, visual fields and visual pathway	
Ass. Prof. Dr. Thakir Mohammed	Visual accommodation and visual reflexes, visual acuity Color vision, cerebral cortical visual function	Week 27
Ass. Prof. Dr. Raid Al-Ani	Smell receptors and pathways Physiology of olfaction	
Ass. Prof. Dr. Raid Al-Ani	Taste receptor organs and Pathways, Physiology of taste	Week 28
Lecturer Dr. Wesam Alfehan	Physiology of the spinal cord Reflexes, The cerebellum and its role in motor control and movement	
Lecturer Dr. Wesam Alfehan	Physiology of the hypothalamus and limbic system	Week 29
Lecturer Dr. Wesam Alfehan	The brain stem and reticular formation Wakefulness and sleep	
Lecturer Dr. Wesam Alfehan	Cerebral control function, motor functions and sensory function Conditioned reflexes	Week 30
Lecturer Dr. Wesam Alfehan	E.E.G Speech Memory	

### Practical Class Schedule

The teaching staff	Topics covered	Date
Lecturer Dr. Ansaf Ibrahim Ass. Lecturer Dr. Mohammed Ibrahim	Introduction in haematology Introduction in haematology	Week 1
Lecturer Dr. Ansaf Ibrahim Ass. Lecturer Dr. Mohammed Ibrahim	Anticoagulant Anticoagulant	Week 2
Lecturer Dr. Ansaf Ibrahim Ass. Lecturer Dr. Mohammed Ibrahim	Blood films Blood films	Week 3
Lecturer Dr. Ansaf Ibrahim Ass. Lecturer Dr. Mohammed Ibrahim	Stains of blood Stains of blood	Week 4
Lecturer Dr. Ansaf Ibrahim Ass. Lecturer Dr. Mohammed Ibrahim	Red Blood Cells (RBC <sub>s</sub> ) Count Red Blood Cells (RBC <sub>s</sub> ) Count	Week 5
Lecturer Dr. Ansaf Ibrahim Ass. Lecturer Dr. Mohammed Ibrahim	Hb (Haemoglobin) estimation. Hb (Haemoglobin) estimation.	Week 6
Lecturer Dr. Ansaf Ibrahim Ass. Lecturer Dr. Mohammed Ibrahim	PCV (Packed Cell Volume). PCV (Packed Cell Volume).	Week 7
Lecturer Dr. Ansaf Ibrahim Ass. Lecturer Dr. Mohammed Ibrahim	ESR (Erythrocyte Sedimentation Rate). ESR (Erythrocyte Sedimentation Rate).	Week 8
Lecturer Dr. Ansaf Ibrahim	Total white blood cells count (TLC)	Week 9

Ass. Lecturer Dr. Mohammed Ibrahim	Total white blood cells count (TLC)	
Lecturer Dr. Ansaf Ibrahim Ass. Lecturer Dr. Mohammed Ibrahim	Differential WBC <sub>s</sub> count Differential WBC <sub>s</sub> count	Week 10
Lecturer Dr. Ansaf Ibrahim Ass. Lecturer Dr. Mohammed Ibrahim	Diseases disorder of differential WBC <sub>s</sub> count Diseases disorder of differential WBC <sub>s</sub> count	Week 11
Lecturer Dr. Ansaf Ibrahim Ass. Lecturer Dr. Mohammed Ibrahim	Platelets (Thrombocytes)count  - Platelets (Thrombocytes)count	Week 12
Lecturer Dr. Ansaf Ibrahim Ass. Lecturer Dr. Mohammed Ibrahim	Reticulocytes count Reticulocytes count	Week 13
Lecturer Dr. Ansaf Ibrahim Ass. Lecturer Dr. Mohammed Ibrahim	Reticulocytes count Reticulocytes count	Week 14
Second Term		
Ass. Lecturer Dr. Latief Fayyadh Ass. Lecturer Dr. Ahmad Talib	Vital signs(Part 1) Vital signs(Part 1)	Week 16
Ass. Lecturer Dr. Latief Fayyadh Ass. Lecturer Dr. Ahmad Talib	Vital signs(Part 2) Vital signs(Part 2)	Week 17
Ass. Lecturer Dr. Latief Fayyadh	Vital signs(Part 3) in relation to exercise Vital signs(Part 3) in relation to	Week 18

Ass. Lecturer Dr. Ahmad Talib	exercise	
Ass. Lecturer Dr. Latief Fayyadh	<i>Physical examination (general)</i>	Week 19
Ass. Lecturer Dr. Ahmad Talib	<i>Physical examination (general)</i>	
Ass. Lecturer Dr. Latief Fayyadh	Precordial examination	Week 20
Ass. Lecturer Dr. Ahmad Talib	Precordial examination	
Ass. Lecturer Dr. Latief Fayyadh	Respiratory examination	Week 21
Ass. Lecturer Dr. Ahmad Talib	Respiratory examination	
Ass. Lecturer Dr. Latief Fayyadh	Abdominal examination	Week 22
Ass. Lecturer Dr. Ahmad Talib	Abdominal examination	
Ass. Lecturer Dr. Latief Fayyadh	Sensory system examination	Week 23
Ass. Lecturer Dr. Ahmad Talib	Sensory system examination	
Ass. Lecturer Dr. Latief Fayyadh	Motor system Examination	Week 24
Ass. Lecturer Dr. Ahmad Tlib	Motor system Examination	
Ass. Lecturer Dr. Latief Fayyadh	Cranial nerves Examination(1)	Week 25
Ass. Lecturer Dr. Ahmad Talib	Cranial nerves Examination(1)	
Ass. Lecturer Dr. Latief Fayyadh	Cranial nerves Examination(2)	Week 26
Ass. Lecturer Dr. Ahmad Talib	Cranial nerves Examination(2)	
Ass. Lecturer Dr. Latief Fayyadh	Electrocardiogram (ECG)	Week 27

Ass. Lecturer Dr. Ahmad Talib	Electrocardiogram (ECG)	
Ass. Lecturer Dr. Latief Fayyadh	Electrocardiogram (ECG)	Week 28
Ass. Lecturer Dr. Ahmad Talib	Electrocardiogram (ECG)	
Ass. Lecturer Dr. Latief Fayyadh	Scientific videos	Week 29
Ass. Lecturer Dr. Ahmad Talib	Scientific videos	
Ass. Lecturer Dr. Latief Fayyadh	Revision	Week 30
Ass. Lecturer Dr. Ahmad Talib	Revision	

**Methods of assessment**

No	Exam	Type of assessment	Marks
1	First term	Quiz in the same theoretical lectures	3
		End term written exam (60% MCQs & 40% essay questions)	7
		Practical exam.(Data show slides, spot diagnosis exam.)	5
2	Second term	Quiz in the same theoretical lectures	3
		End term written exam (60% MCQs & 40% essay questions)	7
		Practical exam.(Data show slides, spot diagnosis exam.)	5
3	Final clinical	Oral exam	5
		Data show slides and spot diagnosis exam	15
4	Final written	MCQs	30
		Essay questions	20
5	Total		100

**Recommended book: .Guyton and hall textbook of medicalphysiology**

1. Harper's Illustrated Biochemistry; by Robert K. Murray, Daryl K. Granner, Peter A. Mayes & Victor W. Rodwell, Lange Medical Books/McGraw-Hill, twenty-sixth edition; 2003. New York
2. Lippincott's. Illustrated Reviews: Biochemistry; by.. Denise R. Ferrier & Bradford Jameson, Wolters Kluwer; Sixth Edition; 2014 Philadelphia.
3. Theoretical lectures by Dr. Muhammad H. Al-Ajeel and Dr. Ausama Abbas Faisal.
4. Practical notes for students to learn biochemistry experimental by biochemistry department.
5. 400 MCQs in Biochemistry Answers by Dr. Muhammad H. Al-Ajeel.

**Department of Chemistry and Biochemistry****Subject: Biochemistry****Academic year: Second year****Coordinator: Instructor Dr. Muhammad H. Al-Ajeel****A Head of Chemistry and Biochemistry Department****Teaching staff:**

1. Dr. Muhammad H. Al-Ajeel
2. Dr. Ausama Abbas Faisal
3. Lecturer: Methal R. Al-Kubaisee
4. Lecturer: Rana T. Alani

**Introduction**

Biochemistry department courses covers the field of biochemistry with a focus on human physiology and includes core themes from a wide range of science subjects including General chemistry, Biochemistry and Clinical Chemistry.

Laboratory diagnostic methods will be developed throughout the courses. Students will learn practical skills in analytical and diagnostic techniques applicable in a wide range of fields including Biochemistry.

- In 2<sup>nd</sup> stage; The basic science underpinning the speciality in which the registrant practices, relevant basic clinical medicine and the fundamental principles of clinical practice.
- Finally, Clinical Chemistry will provide an advanced knowledge of the metabolism and function of Vitamins, Carbohydrates, Lipids, Proteins, Nucleic acids and hormones.
- In addition to the laboratory investigation of metabolism disorders.

**A. Objectives**

- The structure and function of the human body, as relevant to practice, together with a knowledge of health, disease, disorder and dysfunction, and pathology;
- The role of other professions in health and social care.
- The theoretical basis, and the variety of approaches to, assessment and intervention.

**B. A detailed knowledge of:**

- The basic science underpinning the speciality in which the registrant practices, relevant basic clinical Biochemistry in field of medicine and the fundamental principles of clinical practice.
- Demonstrate an advanced knowledge of the metabolism and functions of Carbohydrates, Lipids, Proteins, Nucleic acids & Hormones.
- Implement the use of biochemical tests and explain their clinical significance in the assessment of thyroid, pituitary, adrenal, hypothalamic, ovarian and testicular function.



- Demonstrate an advanced knowledge of the use of biochemical tests as tumour markers.
- Apply with advanced knowledge the use of biochemical tests and describe their clinical significance in the assessment of iron status.
- Demonstrate professional insight and knowledge into abnormalities associated with protein metabolism.

### C. The ability to:

- To be able to relate biochemistry to the human body.
- To know the biomolecules' structure and their functions.
- To know the metabolism general structure and its components.
- To know the relation between clinical biochemistry and the human body's functioning.
- Identify the clinical decision which the test/intervention will inform.
- The student will know the functioning and dynamics of a clinical laboratory
- The students will know which parameters can affect the analytical results of a specimen since it is collected until it is processed.
- The students will integrate the knowledge gained on Biochemistry, Anatomy and Physiology, in order to understand the pathophysiology of disease processes and their correlation in the study of body functions.
- The students will assess the choice of analytical techniques according to the screening targets.
- The students will know which laboratory tests are common in order to help in the Haematology and Clinical Biochemistry laboratory assessment.
- The students will learn how to assess blood test results and their involvement in the assessment of different pathologies.
- The student will develop analysis, synthesis and reflective skills and will be able to related different topics,
- To learn how to manage different sources of information.

### D. Biochemistry Components, duration and units of the curriculum

No	Components	Duration	Units
1	Theoretical lectures	90 hours	6
2	Practical Laboratory	60 hours	2
3	Total	150 hours	8

### Places of completion the curriculum:

1. Studying hall in the college
2. Laboratory for practical part in the college.
3. Seminar rooms for small teaching groups

**Material used for completion the curriculum:**

1. Glassware and Chemicals.
2. Analytical instruments.
3. Teaching videos

**Theoretical lectures: 90 lectures, 3 hours/week**

No	Name of lecture	Objectives from the lecture by 1 hour
1.	Enzymes	<ul style="list-style-type: none"> <li>- Classification of enzymes</li> <li>- Factors affecting enzymatic reactions</li> <li>- Enzymes specificity</li> </ul>
2.		<ul style="list-style-type: none"> <li>- Enzyme Structure</li> <li>- Model of enzyme action</li> <li>- 1-lock and key</li> <li>- 2-induced fit model</li> </ul>
3.		<ul style="list-style-type: none"> <li>- Mechanism of enzyme action</li> <li>- Inhibition of enzymes</li> <li>- 1-reversible inhibition</li> <li>- 2-irreversible inhibition</li> <li>- Uses of inhibition</li> </ul>
4.		<ul style="list-style-type: none"> <li>- Factors affecting catalytic of enzymes</li> <li>- Enzymes in clinical diagnosis</li> <li>- Enzymes and genetic diseases</li> </ul>
5.	Clinical enzymology	<ul style="list-style-type: none"> <li>- Plasma enzymes</li> <li>- Functional enzymes</li> <li>- Non Functional enzymes</li> </ul>
6.		<ul style="list-style-type: none"> <li>- Medical importance of non Functional enzymes</li> <li>- lactate dehydrogenase</li> <li>- creatine kinase</li> <li>- Aspartate amino transferase</li> <li>- Alanine amino transferase</li> <li>- Alkaline phosphate</li> <li>- Nucleotide phosphate</li> <li>- Gamma glutamyl transferase</li> <li>- Enzyme profile in liver diseases</li> <li>- Acid phosphatase</li> <li>- Amylase</li> </ul>
7.	Antioxidants	<ul style="list-style-type: none"> <li>- Free radicals</li> <li>- Formation of Free radicals</li> </ul>
8.		<ul style="list-style-type: none"> <li>- Free radicals in biological</li> <li>- Protection from free radicals</li> </ul>
9.	Vitamin and coenzymes	<p>The fat soluble vitamins:</p> <p>Vitamin A</p> <ul style="list-style-type: none"> <li>- Metabolism of vitamin A</li> <li>- Releasing to the circulation</li> <li>- Visual activity of vitamin A</li> <li>- vitamin A deficiency</li> <li>- Hypervitaminosis</li> </ul>

No	Name of lecture	Objectives from the lecture by 1 hour
10.		Vitamin D (calciferol) <ul style="list-style-type: none"> <li>- Cholecalciferol (D3)</li> <li>- Ergosterol (D2)</li> <li>- Metabolism of Vitamin D</li> </ul>
11.		<ul style="list-style-type: none"> <li>- function of Vitamin D</li> <li>- major function</li> <li>- on intestine</li> <li>- on bone</li> <li>- minor function</li> <li>- on the kidney</li> <li>- Rickets</li> <li>- OsteomalasiaHypervitaminosis</li> </ul>
12.		Vitamin K <ul style="list-style-type: none"> <li>- Sources</li> <li>- Functions of vitamin K</li> <li>- Vitamin K deficiency</li> <li>- Deficiency of vitamin K in newborn</li> </ul>
13.		Vitamin E (tocopherol) <ul style="list-style-type: none"> <li>- Sources</li> <li>- Structures</li> <li>- Metabolism</li> <li>- Function of vitamin E</li> <li>- Vitamin E deficiency</li> <li>- Hypervitaminosis</li> </ul>
14.		The water soluble vitamins <ul style="list-style-type: none"> <li>- Ascorbic acid biochemical function</li> <li>- Thiamin and enzymatic reactions</li> </ul>
15.		<ul style="list-style-type: none"> <li>- Riboflavin biochemical function</li> <li>- Niacin, function and importance</li> <li>- Pyridoxine ,importance of transamination</li> <li>- Pantothenic acid and coenzyme</li> <li>- Biotin and its role</li> </ul>
16.		<ul style="list-style-type: none"> <li>- Folic acid , function, metabolism and antagonism</li> <li>- Vitamin B12 ,mechanism of action arid anemia</li> </ul>
17.	Metabolism of minerals and trace elements	Calcium <ul style="list-style-type: none"> <li>- Function of calcium:</li> <li>- The factors that counterbalance the degree of absorption of calcium:</li> <li>- Hormonal regulation of calcium</li> <li>- Controlling hormones</li> <li>- Influencing hormones</li> </ul>
18.		<ul style="list-style-type: none"> <li>- Disorder of calcium metabolism</li> <li>- Hypercalcaemia</li> <li>- Effects on the kidneys</li> </ul>

No	Name of lecture	Objectives from the lecture by 1 hour
		<ul style="list-style-type: none"> <li>- Effects on CNS</li> <li>- Effects on stomach</li> <li>- Effects on blood pressure</li> <li>- Effects on heart</li> </ul>
19.		<ul style="list-style-type: none"> <li>- Causes of hypercalcaemia</li> <li>- Hypocalcaemia</li> <li>- Symptoms of hypocalcaemia</li> <li>- Causes</li> <li>- Causes of neonatal hypocalcaemia</li> </ul>
20.		<p>Phosphate</p> <ul style="list-style-type: none"> <li>- Hormonal regulation:</li> <li>- Function of phosphate</li> <li>- Intracellular function</li> <li>- Extracellular function</li> </ul>
21.		<ul style="list-style-type: none"> <li>- Hypophosphataemia</li> <li>- Causes</li> <li>- Clinical manifestations</li> <li>- Hyperphosphataemia</li> <li>- Causes</li> <li>- Clinical manifestations</li> </ul>
22.		<p>Iron</p> <ul style="list-style-type: none"> <li>- Iron metabolism</li> <li>- Distribution of iron in the body</li> <li>- Complex physiological factors</li> <li>- b. Local factors in the GIT</li> <li>- Iron transport in plasma</li> </ul>
23.		<ul style="list-style-type: none"> <li>- Factors affecting on the plasma iron concentration</li> <li>- Physiological factors</li> <li>- Plasma total iron-binding capacity (TIBC)</li> <li>- B- Pathological factors</li> <li>- iron deficiency anemia</li> </ul>
24.		<p>Zinc</p> <ul style="list-style-type: none"> <li>- Zinc metabolism</li> <li>- Zinc deficiency</li> </ul> <p>Copper</p> <ul style="list-style-type: none"> <li>- Copper metabolism</li> <li>- copper deficiency</li> </ul> <p>Magnesium</p> <ul style="list-style-type: none"> <li>- Metabolism of magnesium</li> <li>- Magnesium deficiency</li> </ul> <p>Selenium</p> <ul style="list-style-type: none"> <li>- Metabolism of selenium</li> </ul>

No	Name of lecture	Objectives from the lecture by 1 hour
		- Selenium deficiency
25.	Bioenergy	- Free energy - ATP as an energy carrier
26.		- Electron transport chain - Oxidative Phosphorylation
27.	Carbohydrates	- Introduction to Metabolism Glycolysis - The reactions of glycolysis
28.		The Citric Acid Cycle (CAC) - The reactions of CAC
29.		- ATP Formation in the Catabolism of Glucose
30.		- Regulation of Glycolysis & CAC pathway
31.		- Fructose & Galactose catabolism
32.		- Reoxidation of Cytoplasmic NADH.
33.		- Under aerobic conditions: Malate shuttle & Glycerol phosphate shuttle. - Under anaerobic conditions: The lactic acid cycle (Cori cycle)
34.		Glycogen - Metabolism of Glycogen - Glycogen Synthesis & Breakdown
35.		- Regulation of Glycogen metabolism - Disorders of Glycogen Metabolism
36.		- Metabolism of Monosaccharides and Disaccharides - Disorders of metabolism of Mono & Disaccharides
37.		Gluconeogenesis - Regulation of Gluconeogenesis & Glycolysis in the liver
38.		- The Pentose Phosphate Pathway
39.		Hormones concerned with glucose homeostasis: - Insulin - Glucagon.
40.		Disorders of Carbohydrate Metabolism - Hyperglycemia & Diabetes mellitus (DM): Type 1 & Type 2 - Hypoglycemia. - Diabetic ketoacidosis
41.	Lipids	- Introduction Fatty acids

No	Name of lecture	Objectives from the lecture by 1 hour
		<ul style="list-style-type: none"> <li>- DE NOVO synthesis of fatty acids</li> <li>- Relationship between GLUCOSE METABOLISM and PALMITATE SYNTHESIS</li> </ul>
42.		<ul style="list-style-type: none"> <li>- Oxidation of Fatty Acids: (Ketogenesis)</li> <li>- Fuel Catabolism: Net ATP in glycolysis &amp; <math>\beta</math>-Oxidation</li> </ul>
43.		<p>Ketone Bodies</p> <ul style="list-style-type: none"> <li>- Pathway of ketogenesis in the liver</li> <li>- Formation, utilization, and excretion of ketone bodies</li> <li>- Regulation of ketogenesis</li> </ul>
44.		<p>Triglycerid</p> <ul style="list-style-type: none"> <li>- Synthesis of Triglycerid</li> <li>- Hormonal regulation of Triglyceriddegradation.</li> </ul>
45.		<p>Cholesterol</p> <ul style="list-style-type: none"> <li>- Synthesis of Cholesterol</li> <li>- Regulation of cholesterol synthesis</li> </ul>
46.		<p>Bile acid and bile salts</p> <ul style="list-style-type: none"> <li>- biosynthesis of bile acids</li> <li>- Synthesis of bile salts</li> <li>- Degradation of cholesterol</li> </ul>
47.		<p>Lipoproteins</p> <ul style="list-style-type: none"> <li>- Classification of Lipoproteins</li> </ul>
48.		<ul style="list-style-type: none"> <li>- Lipoprotein Metabolism:</li> <li>- The exogenous pathway transports</li> <li>- The endogenous pathway</li> <li>- The reverse cholesterol pathway</li> </ul>
49.		<p>Apolipoproteines</p> <ul style="list-style-type: none"> <li>- Classification of Lipoproteins</li> </ul>
50.		<p>Disorders of Lipid Metabolism</p> <ul style="list-style-type: none"> <li>- Primary: inherited (Familial).</li> <li>- Secondary: Clinically obvious disease &amp; Covert conditions.</li> </ul>
51.	Amino Acids	<ul style="list-style-type: none"> <li>- Introduction</li> <li>- Nutritionally nonessential AAs: The short biosynthetic pathways</li> <li>- The glutamate dehydrogenase reaction</li> <li>- The glutamine synthetase reaction</li> </ul>
52.		<ul style="list-style-type: none"> <li>- Formation of alanine by transamination of pyruvate</li> <li>- The asparagine synthetase reaction</li> <li>- Serine biosynthesis</li> </ul>
53.		<ul style="list-style-type: none"> <li>- Glycine biosynthesis: from Serine , or choline.</li> <li>- Biosynthesis of proline from glutamate</li> <li>- Biosynthesis of Tyrosine from phenylalanine</li> </ul>

No	Name of lecture	Objectives from the lecture by 1 hour
54.		Amphibolic intermediates formed from the carbon skeletons of AAs <ul style="list-style-type: none"> <li>- Catabolism of Gln , His , Arg&amp; Pro to <math>\alpha</math>-Ketoglutarate</li> <li>- Catabolism of Val to Succinyl-CoA</li> <li>- Catabolism of L-Asparagine to Oxaloacetate</li> </ul>
55.		<ul style="list-style-type: none"> <li>- Catabolism of Cystine&amp; 4-OH-Pro to Pyruvate</li> <li>- Catabolism of Ile , Leu&amp;Thr to Acetyl-CoA</li> <li>- Catabolism of Met to Propionyl-CoA</li> </ul>
56.		<ul style="list-style-type: none"> <li>- Proteins</li> <li>- Digestion of dietary proteins</li> <li>- Catabolism of Amino Acids</li> </ul>
57.		<ul style="list-style-type: none"> <li>- Biosynthesis of Urea</li> <li>- Urea Cycle</li> </ul>
58.		Metabolic defects in amino acid metabolism <ul style="list-style-type: none"> <li>- Phenylketonuria (PKU)</li> <li>- Maple syrup urine disease (MSUD)</li> <li>- Albinism</li> <li>- Homocystinuria</li> <li>- Hyperammonemia</li> </ul>
59.	Nucleic Acids	- Constitution and general properties of nucleic acid
60.		- Metabolism of purine
61.		- Metabolism of pyrimidine
62.		- Catabolism of purine & pyrimidine
63.		- Hyperuricemia and gout disease
64.		<ul style="list-style-type: none"> <li>- Biochemical mutations</li> <li>- Porphyrin metabolism</li> <li>- Porphyrin disorder</li> </ul>
65.		Protein Synthesis <ul style="list-style-type: none"> <li>- The genetic code</li> <li>- Components required for translation</li> </ul> Codon recognition
66.		Steps in protein synthesis <ul style="list-style-type: none"> <li>- Initiation</li> <li>- Elongation</li> <li>- Termination</li> <li>- Polysomes</li> <li>- Protein targeting</li> </ul> Regulation of translation
67.	Hormones	<ul style="list-style-type: none"> <li>- Introduction</li> <li>- Classification of Hormones</li> </ul>

No	Name of lecture	Objectives from the lecture by 1 hour
68.		- Mechanisms of Hormone Action
69.		Hormones secreted by the Human - Endocrine Glands: Hypothalamus Pituitary; Posterior & Anterior
70.		- Thyroid Gland - Parathyroid Gland - Pancreas Gland - Adrenal Glands: Medulla & Cortex
71.		- Regulating Plasma Hormone Levels - Clearance of Hormone from the Body
72.		- Male & Female reproductive
73.		- Thyroid hormones & disorders.
74.		- Hormones Assay
75.	Digestion and absorption	- Digestion of carbohydrates
76.		- Absorption of carbohydrates
77.		- Digestion of protein
78.		- Absorption of protein
79.		- Digestion of fats and absorption
80.		- Mechanism of detoxification
81.	Special Topics	Globular Proteins - Structure and function of hemoglobin
82.		Liver function - Liver test Disorder
83.		Kidney function - kidney test - Disorder
84.		Intermediary Metabolism Cancer - Glycolysis and respiration in cancer cells - Convergence and deletions - Correlation of biochemical parameters with tumor growth - Polyamine
85.		Tumor markers



No	Name of lecture	Objectives from the lecture by 1 hour
		<ul style="list-style-type: none"> <li>- Introduction</li> <li>- Alpha-fetoprotein (AFP)</li> <li>- Beta-2-microglobulin (B2M)</li> <li>- Beta-human chorionic gonadotropin (Beta-hCG)</li> <li>- CA15-3/CA27.29: Breast cancer</li> <li>- CA19-9: Pancreatic cancer, gallbladder cancer, bile duct cancer, and gastric cancer</li> <li>- CA-125: Ovarian cancer</li> <li>- Calcitonin: Medullary thyroid</li> <li>- carcerryonic antigen (CEA): Colorectal cancer</li> <li>- PSA: prostatic cancer</li> <li>- And others</li> </ul>
86.		Biochemistry of Extracellular & Intracellular Communication <ul style="list-style-type: none"> <li>- Membranes: Structure &amp; Function</li> <li>- Intracellular fluid (ICF) &amp; Extracellular fluid (ECF)</li> <li>- The Ionic Compositions of Intracellular &amp; Extracellular Fluids Differ Greatly</li> <li>- Cellular membranes compositions.</li> </ul>
87.		Multiple Myeloma <ul style="list-style-type: none"> <li>- Diagnosis by Electrophoresis.</li> <li>- Components of Serum Protein Electrophoresis</li> </ul>
88.		The chemistry of elderly
89.		Pediatric biochemistry
90.		Alcohol poisoning

**Practical Laboratory: 60 hours, 2hours/week**

- 1- The use of laboratory.
- 2- Enzyme nature catalysis.
- 3- Enzyme specificity and factors affecting on enzyme activity.
- 4- Photometry.
- 5- Saliva.
- 6- Blood sugar estimation.
- 7- Diagnosis of diabetes mellitus.
- 8- Vitamins. (2 weeks)
- 9- Colorimetry.
- 10- Determination of serum potassium.
- 11- Determination of serum calcium.
- 12- Determination of serum phosphate.
- 13- Determination of serum Magnesium.
- 14- Determination of serum cholesterol.
- 15- Determination of serum Triglyceride..
- 16- Determination of serum HDL.
- 17- Determination of total protein.
- 18- Determination of serum uric acid.
- 19- Determination of serum urea.
- 20- Determination of serum GOT.
- 21- Determination of serum GPT.
- 22- Determination of serum CPK.
- 23- Determination of serum LDH.
- 24- Determination of serum alkaline phosphatase.
- 25- Determination of serum Bilirubin.
- 26- Determination of serum Creatinine.
- 27- Estimation of TSH level by ELIZA.
- 28- Estimation of T3 level by ELIZA.
- 29- Estimation of T4 level by ELIZA.

**Methods of assessment**

No	Exam	Type of assessment		Marks
1	First term	Theoretical part	Quiz in the same theoretical lectures	1
			Seminar	1
			End term written exam (60% MCQs & 40% essay questions)	8
		Practical part	Practical exam	1
			Reports	1
			Quiz	1
			Theoretical written exam	2
2	Second term	Theoretical part	Quiz in the same theoretical lectures	1
			Seminar	1
			End term written exam (60% MCQs & 40% essay questions)	8
		Practical part	Practical exam	1
			Reports	1
			Quiz	1
			Theoretical written exam	2
3	Final	Theoretical part	End term written exam (60% MCQs & 40% essay questions)	55
4		Practical part	End term written exam (60% MCQs & 40% essay questions) for experimental laboratory.	15
5	Total			100

**Recommended References**

- Harper's Illustrated Biochemistry; by Robert K. Murray, Daryl K. Granner, Peter A. Mayes & Victor W. Rodwell, Lange Medical Books/McGraw-Hill, twenty-sixth edition; 2003. New York
- Lippincott's. Illustrated Reviews: Biochemistry; by.. Denise R. Ferrier & Bradford Jameson, Wolters Kluwer; Sixth Edition; 2014 Philadelphia.
- Theoretical lectures by Dr. Muhammad H. Al-Ajeel and Dr. Ausama Abbas Faisal.
- Practical notes for students to learn biochemistry experimental by biochemistry department.
- 400 MCQs in Biochemistry Answers by Dr. Muhammad H. Al-Ajeel.

## Department of Human Anatomy

**Subject: Histology**

**Academic year: Second year**

**Course coordinator: Prof. Dr. Mahdi Salah Shalal**

**Professor and Histology and Embryology, Department of Human Anatomy**

**Teaching staff:**

- One Professor.
- Two lecturers.
- One assistant lecturers.

Allocated marks: 100 marks.

Course duration: One academic year.

### Introduction:

Human Histology is a laboratory-based study that investigates the microscopic structure of the different human body systems. An understanding of human body tissues provide a fundamental and accurate early pathological diagnosis which help of proper treatment of patients with medical problem. The purpose of this curriculum is to provide a basic detailed plan for teaching human Histology in our college. In updating our Histology curriculum, Unnecessary details and sophisticated clinical data were avoided from the Curriculum

The Anatomy Department in the College of Medicine, University of Anbar hosts the medical students on training course for 135 hours/yr. Our aim is to enhance the knowledge of our students and let them be aware about the first steps in studying the tissue of the human body to asses them in their clinical life.

### Overall Aims:

**The course is designed to introduce the student to:**

1. Medical terminology and methods used in gathering information.
2. Understanding of the structure and organization of the human body.
3. The correlation between structure and function.
4. An awareness of how Histological knowledge may be applied effectively in and scientific context.
5. Understand how to differentiate between normal and pathological tissue.
6. The beginnings of an understanding of how to pursue independent and self-learning and how to work effectively in small groups.

**General Objectives:**

**At the end of the course students should be able to:**

1. Describe the structural of human body cells and the components of the different organs.
2. Describe the different type of tissues like epithelial tissue, connective tissue, muscular tissue and the nervous tissue of different organs of human body.
3. The correlation between the structure and the function of the body organs.
4. Learning of the blood tissue and bone marrow component and the ways of the formation of the cells of different body tissue.
5. The ability to know the immunity cells and the different immunity organs and the other mean of body defense methods.
6. The ability of clinical and disease application of the major histological information.

**Components, duration and units of the curriculum**

No	Components	Duration	Unit
1	Theoretical lectures	45 hours	3
2	Practical Sessions	90 hours	3
3	Total	135 hours	6

**Places of completion the curriculum:**

1. Lecture hall in the college
2. Anatomical lab in the college

**Material used for completion the curriculum:**

1. Audiovisual aids.
2. Interaction with the students through questions.
3. Power point presentation.
4. Microscopes
5. Teaching microscope
6. Glass slides of human body tissue.
7. Computer.
8. Data show.
9. Histological charts.
10. Diagrams and posters.

**Syllabus:****Teaching Techniques:****Teaching will be conducted using the following techniques:**

1. Theoretical Sessions:
  - lectures were designed to cover most of topics of the histological of human body.
  - The time of the lecture is 60 minutes.
  - There are 2 theoretical lecture/week for the first term and 1 lecture/week for the second term.
2. Practical Sessions:
  - The practical sessions follow the theory lectures in the same week.
  - The students are divided into 2 groups (A, B).
  - Each group is subdivided into 6 subgroups.
  - The time of each session is 3 hours.
  - There are one session/ week.

Week	Subject
1	The blood tissue: Blood leukocyte: differential diagnosis, normal percentage, erythrocytes : shape, structure and function, blood platelets: structure and function.
2	Myeloid tissue: General structure, erythropoiesis, granulopoiesis, structure and development of blood platelets.
3	Nervous tissue : Constituents of nervous tissue, neurons: structure and classification, organoids of neurons, axons and dendrites.
4	Nervous tissue: Supporting cells in CNS and PNS, synapses, nerve fibers, cerebrospinal and autonomic ganglia.
5	Cardiovascular system: Blood vessels: types of arteries, types of veins, venules, types of capillaries, sinusoids, and arteriovenous anastomosis.
6	Cardiovascular system: Wall of the heart, cardiac valves, and pulse conducting system.
7	Lymphatic system: Lymphatic vessels, lymphatic organs, tonsils, lymph nodes, and hemolymph nodes
8	Lymphatic system: Thymus, spleen: the different theories of arterio-venous circulation, and lymphatic nodules in other non lymphatic organs.
9	Respiratory system: Nasal cavity, vestibular region, respiratory, region olfactory region, larynx, and trachea.
10	Respiratory system: Lung: bronchi, bronchioles, alveolar ducts, alveoli, interalveolar septum, and pleura.
11	Digestive system: Oral cavity, lip, tongue, lingual papillae, and esophagus.
12	Digestive system: Stomach: cardiac portion, fundic portion, pyloric portion, and small intestine.
13	Digestive system: Duodenum, jejunum, ileum, large intestine: colon, and recto anal junction.
14	Digestive system: Accessory glands: liver, and pancreas.

15	Revision and examination
16	Urinary system: Unipyramidal kidney, multipyramidal kidney: general microscopic structure, nephron: portions and function.
17	Urinary system: Guxtaglomerular complex: portions and function, ureter, urinary bladder, and urethra.
18	Endocrine system: Pituitary gland: embryonic origin, adenohypophysis and endocrine cell types, neurohypophysis, hypothalamic portion.
19	Endocrine system: Thyroid gland: structure and function, adrenal gland: structure and function, parathyroid gland: structure and function, endocrine cells in other organs
20	Male reproductive system: Histological structure of testis, seminiferous tubules, spermatozoa development, adult spermatozoa, interstitial cells.
21	Male reproductive system: Epididymis, ductus deferens, prostate gland, vesicular gland, bulbourethral gland.
22	Male reproductive system: Penis and spermatic cord.
23	Female reproductive system: Histological structure of ovary, and ovarian follicle development.
24	Female reproductive system: Ovulation, corpus luteum and function oviduct portions.
25	Female reproductive system: Histological structure of uterus, cyclic changes in the endometrium, cervix, vagina, mammary gland and functional conditions.
26	Sensory organs: Eye: histological structure: cornea, sclera, choroid, ciliary body, iris, retina, eyelid.
27	Sensory organs: Ear: histological structure of internal ear: osseous labyrinth, membranous labyrinth, cochlear duct, organ of corti.
28	Skin: Epidermis, dermis, hair follicles: structure, classification, and arrangement.
29	Skin: Skin glands: sebaceous gland, sweat glands, arrector pili muscle, Nail.
30	Revision and examination

**Methods of assessment**

No	Exam	Type of assessment		Marks
1	First term	Theoretical part	Quizzes in the same theoretical lectures	2
			End term written exam (60% MCQs &/or EMQ & 40% essay questions)	8
		Practical part	Practical exam	5
2	Second term	Theoretical part	Quizzes in the same theoretical lectures	2
			End term written exam (60% MCQs &/or EMQ & 40% essay questions)	8
		Practical part	Practical exam	5
3	Final	Theoretical part	End term written exam (60% MCQs &/or EMQ & 40% essay questions)	50
4		Practical part	Practical exam	20
5	Total			100

**Suggested Reading List:**

1. Junqueira's Basic Histology By Mescher
2. Atlas of Histology By Eroschenko



## Department of Human Anatomy

**Subject: Anatomy**

**Academic year: Second year**

**Course coordinator: Assist. Prof. Dr. Adnan Hammad Mahdi**

**Assistant Professor and Head of Anatomy and Histology Department**

**Teaching staff:**

1. Three assistant professors.
2. Five lecturers.
3. Five assistant lecturers.

Allocated marks: 100 marks.

Course duration: One academic year.

### Introduction:

Human Anatomy is a laboratory-based study that investigates the structure of the human body. Topics covered will include the basic organization of the body and major body systems along with the impact of diseases on certain systems. We are constructed to introduce the basics of anatomy and the principles of dissection to the medical students. An understanding of human anatomy provides a fundamental framework for the accurate diagnosis and proper treatment of patients with medical problem, a significant population of any medical practice. The purpose of this curriculum is to provide a basic detailed plan for teaching human anatomy in our college, Unnecessary details and sophisticated clinical data were avoided from the Curriculum, regarding this as a first step in updating our anatomy curriculum in comparison with other worldwide. The curriculum also describe the subjects and topics in clinical anatomy given for medical student.

The Anatomy Department in the College of Medicine, University of Anbar hosts the medical students on training course for 210 hours/year. Our aim is to enhance the knowledge of our students and let them be aware about the first steps in studying human body to asses them in their clinical life.

To achieve this purpose, hard work and appropriate methods of learning were carried out by all anatomy academic staff.

### Overall Aims:

**The course is designed to introduce the student to:**

1. Medical terminology and methods used in gathering information.
2. Understanding of the structure and organization of the human body.
3. The correlation between structure and function.
4. An awareness of how anatomical knowledge may be applied effectively in clinical and scientific context.
5. The beginnings of an understanding of how to pursue independent and self-learning and how to work effectively in small groups.

**General Objectives:****At the end of the course students should be able to:**

1. Describe the structural components of the different regions of the human body.
2. Describe the basic anatomical structure of the different organs and systems of the human body.
3. Recognize the surface landmarks of the underlying bones, muscles and tendons, and internal structures (main nerves, vessels and viscera).
4. Enumerate the different branches of nerves and vessels.
5. Recall the actions of the different muscles.
6. Distinguish the movements of different joints and the muscles responsible for each movement.
7. Outline the major clinical applications of anatomical facts.
8. Predict clinical signs of nerve injuries based on their normal anatomy.

**Components, duration and units of the curriculum**

No	Components	Duration	Unit
1	Theoretical lectures	60 hours	4
2	Clinical course	150 hours	5
3	Total	210 hours	9

**Places of completion the curriculum:**

1. Lecture hall in the college
2. Anatomical lab in the college

**Material used for completion the curriculum:**

1. Audiovisual aids through animations and diagrams.
2. Interaction with the students through questions.
3. Power point presentation.
4. Cadavers
5. Skeletons
6. Individual bones
7. Pre-dissected specimens
8. Plastic specimens
9. Radiological films (Plain X-ray , CT scan and MRI films)
10. Diagrams and posters
11. Video tapes and movies.
12. Anatomage table.

**Syllabus:****Teaching Techniques:**

Teaching will be conducted using the following techniques:

## 1. Theoretical Sessions:

- lectures were designed to cover most of topics in human anatomy. In addition to hints on surface anatomy, Radiology, clinical applications are given whenever appropriate.
- The time of the lecture is 50 minutes.
- There are 2 lecture/week and one discussion lecture/week.

## 2. Practical Sessions:

- The practical sessions follow the theory lectures in the same week.
- The students are divided into 2 groups (A, B).
- Each group is subdivided into 6 subgroups.
- The time of each session is 2.5 hours.
- There are 2 session / week.

A: The Head and neck: Theory 20 hr., Discussion 10 hr., Practical 60 hr.		
week	Topic	Objective
1	The Neck	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Skin</li> <li>- Cutaneous Nerves               <ul style="list-style-type: none"> <li>- Greater occipital nerve</li> <li>- Lesser occipital nerve</li> <li>- Greater auricular nerve</li> <li>- Transverse cutaneous nerve</li> <li>- Supraclavicular nerve</li> </ul> </li> <li>-Superficial Fascia               <ul style="list-style-type: none"> <li>-Platysma</li> </ul> </li> <li>- Superficial Veins               <ul style="list-style-type: none"> <li>- External jugular vein and its tributaries</li> <li>- Anterior jugular vein</li> </ul> </li> <li>- Superficial Lymph Nodes</li> <li>- Deep Cervical Fascia</li> </ul>

		<ul style="list-style-type: none"> <li>- Axillary Sheath</li> <li>- Carotid Sheath</li> </ul>
2	The Triangles of the Neck	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Sternocleidomastoid</li> <li>- Posterior triangle of the neck</li> <li>- Content of the posterior triangle of the neck</li> <li>- Arteries: Subclavian artery (third part), Superficial cervical artery, suprascapular artery, occipital artery.</li> <li>-Veins: External jugular vein and its tributaries, Subclavian Vein</li> <li>-Nerves: Brachial plexuses, Spinal part of accessory nerve, branches of the cervical plexus-Anterior Triangle of the Neck and its contents</li> <li>- Digastric muscle</li> <li>- Stylohyoid muscle</li> <li>- Digastric triangle</li> <li>- Carotid triangle and its contents</li> <li>- Muscular triangle and its contents               <ul style="list-style-type: none"> <li>- Infrahyoid muscles</li> <li>- Sternohyoid</li> <li>- Sternothyroid</li> <li>- Thyrohyoid</li> </ul> </li> </ul>
3	Main Arteries and Nerves of the Neck	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Common Carotid Artery</li> <li>-External Carotid Artery, its relations and branches</li> <li>-Internal Carotid Artery and its relation</li> <li>-Main Veins of the Neck               <ul style="list-style-type: none"> <li>-Internal Jugular Vein, its relations and tributaries</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>-Main Lymph nodes of the Neck               <ul style="list-style-type: none"> <li>-Deep cervical lymph nodes</li> </ul> </li> <li>- Main Nerves of the Neck               <ul style="list-style-type: none"> <li>-Vagus nerve and its branches</li> <li>-Accessory nerve</li> <li>-Hypoglossal nerve</li> </ul> </li> <li>-Cervical of the Sympathetic Trunk Part               <ul style="list-style-type: none"> <li>-Superior cervical ganglion and its branches</li> <li>-Middle cervical ganglion and its branches</li> <li>-Inferior cervical ganglion and its branches</li> </ul> </li> <li>-Cervical Plexus               <ul style="list-style-type: none"> <li>-cutaneous branches</li> <li>-Muscular branches</li> <li>-Phrenic nerve</li> </ul> </li> </ul>
4	Viscera of the Neck	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>-Thyroid gland, its lobes, relations, blood supply, and lymph drainage</li> <li>-Parathyroid glands and its blood supply</li> <li>-Trachea, its relations, blood supply, and nerve supply</li> <li>-Esophagus, its relations, blood supply, and nerve supply</li> <li>-The Root of the Neck               <ul style="list-style-type: none"> <li>-Scalenus anterior and its relations</li> <li>-Scalenus medius</li> <li>-Scalenus posterior</li> <li>-Subclavian artery</li> <li>-First part, its relations and branches</li> <li>-Second part, its relations and branches</li> <li>-Third part</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>-Subclavian vein and its relations</li> <li>-Thoracic Duct</li> <li>-Lymph Drainage of the Head and Neck</li> <li>-Regional groups of lymph nodes</li> <li>-Deep cervical lymph nodes</li> </ul>
5	The Head	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>-The Scalp and its structure</li> <li>-Muscles of the scalp</li> <li>-Sensory nerve supply of the scalp</li> <li>-Arterial supply of the scalp</li> <li>-Venous drainage of the scalp</li> <li>-Lymph drainage of the scalp</li> </ul>
6	The Face	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>-Skin of the face</li> <li>-Sensory nerves of the face               <ul style="list-style-type: none"> <li>-Ophthalmic nerve and its branches</li> <li>-Maxillary nerve and its branches</li> <li>-Mandibular nerve and its branches</li> </ul> </li> <li>-Arterial supply of the face               <ul style="list-style-type: none"> <li>-Facial artery and its branches</li> </ul> </li> <li>-Venous drainage and its branches               <ul style="list-style-type: none"> <li>-Facial vein and its tributaries</li> </ul> </li> <li>-Lymph drainage of the face</li> <li>-Bones of the face</li> <li>-Muscle of the face (muscles of the facial expression)               <ul style="list-style-type: none"> <li>-Muscles of the eyelids</li> <li>-Muscles of the nostrils</li> </ul> </li> </ul>

		-Muscles of the lips and cheeks
7	The Parotid Region	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>-Parotid salivary gland <ul style="list-style-type: none"> <li>-Type and position of the gland</li> <li>-Shape, lobes and processes of the gland</li> </ul> </li> <li>-Parotid duct</li> <li>-Structures within the parotid gland</li> <li>-Relations of the parotid gland</li> <li>-Blood supply, lymph supply, and nerve supply of the gland.</li> <li>-Muscles of Mastication <ul style="list-style-type: none"> <li>-Masseter muscle</li> </ul> </li> <li>-The Temporal and infratemporal Fossae</li> <li>-Contents of the temporal fossa <ul style="list-style-type: none"> <li>-Temporalis</li> <li>-Temporal fascia</li> <li>-Deep temporal nerves</li> <li>-Auriculotemporal nerve</li> <li>-Superficial temporal artery</li> </ul> </li> <li>-Contents of the infratemporal fossa <ul style="list-style-type: none"> <li>-Lateral pterygoid</li> <li>-Medial pterygoid</li> <li>-Mandibular division of the trigeminal nerve</li> <li>-Chorda tympani</li> <li>-Maxillary artery</li> <li>-Pterygoid venous plexus</li> <li>-Maxillary vein</li> </ul> </li> <li>-Temporomandibular Joint</li> </ul>

		<ul style="list-style-type: none"> <li>-Articulation</li> <li>-Type of joints</li> <li>-Ligaments</li> <li>-Nerve supply and movements</li> <li>-The mandible</li> <li>-The hyoid bone</li> </ul>
8	The submandibular region	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>-Muscles of the submandibular region               <ul style="list-style-type: none"> <li>-Digastric</li> <li>-Mylohyoid</li> <li>-Hyoglossus</li> <li>-Geniohyoid</li> <li>-Genioglossus</li> <li>-Styloglossus</li> </ul> </li> <li>-Salivary glands               <ul style="list-style-type: none"> <li>-Submandibular gland                   <ul style="list-style-type: none"> <li>-type and parts of the gland</li> <li>-Relations of the superficial and deep parts.</li> <li>-Submandibular duct</li> <li>-Blood supply, lymph drainage, and nerve supply of the gland.</li> </ul> </li> </ul> </li> </ul>
9	The Submandibular region	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Sublingual gland               <ul style="list-style-type: none"> <li>-Type and location</li> <li>-Relations</li> <li>-Sublingual duct                   <ul style="list-style-type: none"> <li>-Blood supply, lymph drainage, and nerve supply of the gland</li> </ul> </li> </ul> </li> <li>-Nerves of the submandibular regions</li> </ul>



		<ul style="list-style-type: none"> <li>-Lingual nerve and its branches</li> <li>-Submandibular ganglion</li> <li>-Glossopharyngeal nerve and its branches</li> <li>-Hypoglossal nerve and its branches</li> <li>-Blood vessels of the submandibular region</li> <li>-Facial artery and its branches and the facial vein</li> <li>-Lingual artery and its branches and the lingual vein</li> </ul>
10	The Skull	<p>TO STUDY:</p> <p>Composition</p> <ul style="list-style-type: none"> <li>-Anterior view of the skull</li> <li>-Lateral view of the skull</li> <li>-Posterior view of the skull</li> <li>-Superior view of the skull</li> <li>-Inferior view of the skull</li> <li>-Neonatal skull</li> <li>-The cranial cavity</li> <li>-Vault of the skull</li> <li>-Interior of the base of the skull               <ul style="list-style-type: none"> <li>-Anterior cranial fossa</li> <li>-Middle cranial fossa</li> <li>-Posterior cranial fossa</li> </ul> </li> <li>-The meninges               <ul style="list-style-type: none"> <li>-Dura mater of the brain</li> <li>-Archnoid mater of the brain</li> <li>-Pia mater of the brain</li> </ul> </li> <li>-The venous blood sinuses               <ul style="list-style-type: none"> <li>-Superior sagittal sinus</li> <li>-Inferior sagittal sinus</li> </ul> </li> </ul>

		<ul style="list-style-type: none"><li>-Straight sinus</li><li>-Transverse sinus</li><li>-Sigmoid sinus</li><li>-Occipital sinus</li><li>-Cavernous sinus</li><li>-Superior and inferior petrosal sinuses</li><li>-Hypophysis cerebri</li><li>-Location and description and its blood supply</li></ul>
11	Revision & Examination	
B: The Neuroanatomy: Theory 20 hrs, discussion 10 hrs, practical 30 Hrs		
12	The Spinal Cord	<p>TO STUDY:</p> <ul style="list-style-type: none"><li>- Protection and coverings.</li><li>- Meninges of the spinal cord.</li><li>- Gross appearance of the spinal cord.</li><li>- Structure of the spinal cord:<ul style="list-style-type: none"><li>- Nerve cell groups in the anterior gray columns.</li><li>- Nerve cell groups in the posterior gray column.</li><li>- Nerve cell groups in the lateral gray column.</li><li>- The gray commissure and the central canal.</li></ul></li><li>- The white matter and its structure.</li><li>- The ascending tracts of the spinal cord and their anatomical organization.</li><li>- the function of the ascending tracts.<ul style="list-style-type: none"><li>- Lateral Spinothalamic Tract.</li><li>- Anterior Spinothalamic Tract.</li><li>- Fasciculus Gracilis and Fasciculus Cuneatus.</li><li>- Posterior Spinocerebellar Tract.</li><li>- Anterior spinocerebellar Tract.</li></ul></li></ul>

13	The spinal cord	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Other ascending Pathways             <ul style="list-style-type: none"> <li>- Spinotectal Tract.</li> <li>- Spinoreticular Tract.</li> <li>- Spino-olivary Tract.</li> <li>- Visceral Sensory Tract.</li> </ul> </li> <li>- The descending tract of the spinal cord and their anatomical organization.</li> <li>- Function of the descending tracts.             <ul style="list-style-type: none"> <li>- Corticospinal Tract.</li> <li>- Reticulospinal Tracts.</li> <li>- Tectospinal Tract.</li> <li>- Rubrospinal Tract.</li> <li>- Vestibulospinal Tract.</li> <li>- Olivospinal Tract.</li> <li>- Descending autonomic fibers.</li> </ul> </li> <li>- Intersegmental tracts.</li> <li>- Reflex arc.</li> <li>- Dermatome</li> </ul>
14	The Brain stem- The medulla oblongata	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Cranial meninges.</li> <li>- Venous blood sinuses.</li> <li>- The brainstem.</li> <li>- Gross appearance of the medulla oblongata.             <ul style="list-style-type: none"> <li>- Level of decussation of the pyramid.</li> <li>- Level of Decussation of Lemnisci.</li> <li>- Level of the Olives.</li> <li>- Olivary Nuclear Complex.</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>- Vestibulocochlear Nuclei.</li> <li>- The ambiguous nucleus.</li> <li>- Central gray matter.</li> <li>- Level Just Inferior to the Pons.</li> </ul>
15	The Pons, the Midbrain and the cerebellum	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Internal Structure of the Pons.               <ul style="list-style-type: none"> <li>- Transverse section through the caudal part.</li> <li>- Transverse section through the cranial part.</li> </ul> </li> <li>- Gross Appearance of the Midbrain.               <ul style="list-style-type: none"> <li>- The Internal Structure of the Midbrain.</li> <li>- Transverse Section at the Level of the Inferior Colliculi.</li> <li>- Transverse Section at the Level of the Superior Colliculi.</li> </ul> </li> <li>- Gross Appearance of the Cerebellum.               <ul style="list-style-type: none"> <li>- Structure of the Cerebellum.</li> <li>- Structure of the Cerebellar Cortex.</li> </ul> </li> <li>- Functional Areas of the Cerebellar Cortex               <ul style="list-style-type: none"> <li>- Intracerebellar Nuclei.</li> </ul> </li> </ul>
16	The cerebrum	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Cerebrum and its subdivisions.</li> <li>- Diencephalon and its gross features.</li> <li>- Thalamus and its subdivisions.</li> <li>- Nuclei of the thalamus.               <ul style="list-style-type: none"> <li>- Anterior part.</li> <li>- Medial part.</li> <li>- Lateral part.</li> <li>- Dorsal tier of the nuclei.</li> <li>- Ventral tier of the nuclei.</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>- Other nuclei of the thalamus.</li> <li>- Intralaminar nuclei.</li> <li>- Midline nuclei.</li> <li>- Reticular nuclei.</li> <li>- Medial geniculate body.</li> <li>- Lateral geniculate body.</li> </ul>
17	The cerebrum	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- subthalamus</li> <li>- Epithalamus.               <ul style="list-style-type: none"> <li>- Habenular nucleus.</li> <li>- Pineal body.</li> </ul> </li> <li>- Hypothalamus.               <ul style="list-style-type: none"> <li>- Hypothalamic nuclei.                   <ul style="list-style-type: none"> <li>- Medial zone.</li> <li>- Lateral zone.</li> </ul> </li> </ul> </li> <li>- Relations of the hypothalamus.               <ul style="list-style-type: none"> <li>- Optic chiasma.</li> <li>- Tuber cinereum.</li> <li>- Mammillary bodies.</li> <li>- Third ventricle.</li> </ul> </li> <li>- General appearance of the cerebral hemispheres.               <ul style="list-style-type: none"> <li>- Superolateral surface of the hemisphere.</li> <li>- Medial and inferior surfaces of the hemisphere.</li> <li>- Internal structure of the cerebral hemisphere.</li> <li>- Lateral ventricle.</li> </ul> </li> </ul>
18	The Basal nuclei.	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Corpus striatum.</li> <li>- Caudate nucleus</li> </ul>

		<ul style="list-style-type: none"> <li>- Lentiform nucleus</li> <li>- Amygdaloid nucleus.</li> <li>- Claustrum.</li> <li>- White matter of the cerebral hemispheres.               <ul style="list-style-type: none"> <li>- Commissure fibers.</li> <li>- Association fibers.</li> <li>- Projection fibers.</li> <li>- Septum pellucidum.</li> </ul> </li> <li>- Ventricles of the brain.</li> <li>- Blood supply of the brain.               <ul style="list-style-type: none"> <li>- Internal carotid artery.</li> <li>- Vertebral artery.</li> <li>- Circle of Willis.</li> <li>- Veins of the brain.</li> </ul> </li> </ul>
19	The Cranial nerves	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Olfactory nerve</li> <li>- Optic nerve.</li> <li>- Oculomotor nerve.</li> <li>- Trochlear nerve.</li> <li>- Trigeminal nerve.</li> <li>- Abducent nerve.</li> <li>- Vestibulocochlear nerve.</li> <li>- Glossopharyngeal nerve.</li> <li>- Vagus nerve.</li> <li>- Accessory nerve.</li> <li>- Hypoglossal nerve.</li> </ul>
20	The Functional areas of the cerebral cortex.	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Functional area of the cerebral cortex.</li> </ul>

		<ul style="list-style-type: none"> <li>- Autonomic nervous system.</li> <li>- Brain injury</li> </ul>
C:The Abdomen and Pelvis: Theory 20 hrs, discussion 10 hrs, practical 60 hrs		
21	The Structure of the abdominal wall	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Bones. <ul style="list-style-type: none"> <li>- Lumbar vertebrae.</li> <li>- Sacrum.</li> <li>- Coccyx.</li> <li>- Hip bones.</li> </ul> </li> <li>- Structure of the anterior abdominal wall. <ul style="list-style-type: none"> <li>- Skin.</li> <li>- Superficial fascia.</li> <li>- Deep fascia.</li> </ul> </li> <li>- Muscles of the anterior abdominal wall. <ul style="list-style-type: none"> <li>- External oblique muscle.</li> <li>- Internal oblique muscle.</li> <li>- Transversus abdominis.</li> <li>- Rectus abdominis.</li> <li>- Pyramidalis.</li> </ul> </li> <li>- Rectus sheath.</li> <li>- Function of the anterior abdominal wall.</li> <li>- Fascia transversalis.</li> <li>- Extraperitoneal fat and the parietal peritoneum.</li> <li>- Nerves of the anterior abdominal wall.</li> <li>- Arteries of the anterior abdominal wall.</li> <li>- Veins of the anterior abdominal wall. <ul style="list-style-type: none"> <li>- Superficial veins.</li> <li>- Deep veins.</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>- Lymph drainage of the anterior abdominal wall.</li> <li>- Superficial lymph vessels.</li> <li>- Deep lymph vessels.</li> </ul>
22	The Inguinal canal	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Inguinal canal</li> <li>- Femoral sheath and canal.</li> <li>- Male external genital organs.               <ul style="list-style-type: none"> <li>- Spermatic cord and its structure.</li> <li>- Vas deference.</li> <li>- Testicular artery.</li> <li>- Testicular vein.</li> <li>- Lymph vessels.</li> <li>- Covering of the spermatic cord.</li> </ul> </li> <li>- Scrotum.</li> <li>- Testis.</li> <li>- Epididymis.</li> <li>- Blood supply of the testis and epididymis.</li> <li>- Lymph drainage of the testis and epididymis.</li> <li>- Penis.               <ul style="list-style-type: none"> <li>- Root of the penis.</li> <li>- Body of the penis.</li> <li>- Glans penis.</li> </ul> </li> <li>- Dorsal vessels and nerves of the penis.</li> <li>- Structure of the posterior abdominal wall.               <ul style="list-style-type: none"> <li>- Psoas muscle.</li> <li>- Quadratus lumborum muscle.</li> <li>- Iliopsoas muscle.</li> </ul> </li> <li>- Fascial lining of the anterior abdominal wall.</li> </ul>



23	The Abdominal Cavity	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Peritoneum.</li> <li>- Intraperitoneal and retroperitoneal relationships.</li> <li>- Peritoneal ligament, Omenta, and mesenteries.</li> <li>- Peritoneum as seen on transverse section of the abdomen.</li> <li>- Peritoneum as seen on sagittal section of the abdomen.</li> <li>- Nerve supply of the peritoneum.</li> <li>- Esophagus (abdominal part).</li> <li>- Gastroesophageal sphincter.</li> <li>- Stomach.</li> <li>- Blood supply of the stomach.</li> <li>- Nerve supply of the stomach.</li> </ul>
24	The intestine	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Small intestine               <ul style="list-style-type: none"> <li>- Duodenum.</li> <li>- Parts of the duodenum.</li> <li>- Mucous membrane and duodenal papillae.</li> <li>- Blood and nerve supply and lymph drainage.</li> </ul> </li> <li>- Jejunum and ileum.               <ul style="list-style-type: none"> <li>- Blood and nerve supply and lymph drainage.</li> </ul> </li> <li>- Large intestine.               <ul style="list-style-type: none"> <li>- Cecum.</li> <li>- Blood and nerve supply and lymph drainage.</li> </ul> </li> <li>- Appendix.               <ul style="list-style-type: none"> <li>- Blood and nerve supply and lymph drainage.</li> </ul> </li> <li>- Ascending colon.               <ul style="list-style-type: none"> <li>- Blood and nerve supply and lymph drainage.</li> </ul> </li> <li>- Transverse colon.</li> </ul>

		<ul style="list-style-type: none"> <li>- Blood and nerve supply and lymph drainage.</li> <li>- Descending colon.</li> <li>- Blood and nerve supply and lymph drainage.</li> <li>- Blood supply of the gastrointestinal tract.</li> <li>- Celiac artery.</li> <li>- Left gastric artery and its branches.</li> <li>- Splenic artery and its branches.</li> <li>- Hepatic artery and its branches.</li> <li>- Superior mesenteric artery and its branches.</li> <li>- Inferior mesenteric artery and its branches.</li> <li>- Marginal artery.</li> <li>- Venous drainage.</li> <li>- Portal vein and its tributaries.</li> <li>- Splenic vein.</li> <li>- Superior mesenteric vein.</li> <li>- Inferior mesenteric vein.</li> <li>- Left gastric vein.</li> <li>- Right gastric vein.</li> <li>- Cystic vein.</li> </ul>
25	The Accessory Organs of the Gastrointestinal Tract	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Liver.</li> <li>- Peritoneal ligaments of the liver.</li> <li>- Blood and nerve supply and lymph drainage.</li> <li>- Blood circulation through the liver.</li> <li>- Bile duct of the liver.</li> <li>- Gall Bladder.</li> <li>- Function.</li> </ul>

		<ul style="list-style-type: none"> <li>- Blood and nerve supply and lymph drainage.</li> <li>- Pancreas               <ul style="list-style-type: none"> <li>- Its structure.</li> <li>- Pancreatic duct.</li> </ul> </li> <li>- Spleen.               <ul style="list-style-type: none"> <li>- Blood and nerve supply and lymph drainage.</li> </ul> </li> <li>- Retroperitoneal space.</li> <li>- Kidneys.               <ul style="list-style-type: none"> <li>- Covering and renal structure.</li> <li>- Blood and nerve supply and lymph drainage.</li> </ul> </li> <li>- Ureter.               <ul style="list-style-type: none"> <li>- Blood and nerve supply and lymph drainage.</li> </ul> </li> <li>- Suprarenal glands.               <ul style="list-style-type: none"> <li>- Blood supply.</li> </ul> </li> <li>- Arteries of the posterior abdominal wall.               <ul style="list-style-type: none"> <li>- Aorta and its branches.</li> </ul> </li> <li>- Veins of the posterior abdominal wall.               <ul style="list-style-type: none"> <li>- Inferior vena cava and its tributaries.</li> </ul> </li> <li>- Nerves of the posterior abdominal wall.               <ul style="list-style-type: none"> <li>- Lumbar plexus.</li> </ul> </li> </ul>
26	The Pelvis	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>-Basic anatomy.</li> <li>- The orientation of the pelvis.</li> <li>- False pelvis.</li> <li>- True pelvis.</li> <li>- Structure of the pelvic wall.               <ul style="list-style-type: none"> <li>- Anterior pelvic wall.</li> <li>- Posterior pelvic wall.</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>- Periformis muscle.</li> <li>- Lateral pelvic wall.</li> <li>- Obturature membrane.</li> <li>- Sacrotuberous ligament.</li> <li>- Sacrospinous ligament.</li> <li>- Obturator internus muscle.</li> <li>- Inferior wall of the pelvis.</li> <li>- Pelvic diaphragm.</li> <li>- Levator ani muscle.</li> <li>- Coccygeus muscle.</li> <li>- Pelvic fascia.</li> <li>- Visceral layer of the pelvic fascia.</li> <li>- Parietal layer of the pelvic fascia.</li> <li>- Nerves of the pelvis.</li> <li>- Sacral plexus and its relations and branches.</li> <li>- Branches of the lumbar fascia.</li> <li>- Lumbosacral trunk.</li> <li>- Obturator nerve.</li> <li>- Autonomic nerves.</li> <li>- Pelvic part of the sympathetic trunk.</li> <li>- Pelvic splanchnic nerve.</li> <li>- Superior hypogastric plexus.</li> <li>- Inferior hypogastric plexus.</li> </ul>
27	The Arteries of the pelvis	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Common iliac artery.</li> <li>- External iliac artery.</li> <li>- Arteries of the true pelvis</li> <li>- Internal iliac artery and its branches.</li> </ul>

		<ul style="list-style-type: none"> <li>- Superior rectal artery.</li> <li>- Ovarian artery.</li> <li>- Median sacral artery.</li> <li>- Veins of the pelvis.               <ul style="list-style-type: none"> <li>- External iliac vein.</li> <li>- Internal iliac vein.</li> <li>- Median sacral vein.</li> </ul> </li> <li>- Lymphatics of the pelvis.</li> <li>- Joints of the pelvis.               <ul style="list-style-type: none"> <li>- Sacroiliac joints.</li> <li>- Symphysis pubis.</li> <li>- Sacrococcygeal joint.</li> </ul> </li> <li>- Sex differences of the pelvis.</li> </ul>
28	The Contents of the pelvic cavity	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Sigmoid colon.               <ul style="list-style-type: none"> <li>- Location and description.</li> <li>- Relations.</li> <li>- Blood and nerve supply and lymph drainage.</li> </ul> </li> <li>- Rectum.               <ul style="list-style-type: none"> <li>- Location and description.</li> <li>- Relations.</li> <li>- Blood and nerve supply and lymph drainage.</li> </ul> </li> <li>- Pelvic viscera of the male.               <ul style="list-style-type: none"> <li>- Ureter.</li> <li>- Urinary bladder.                   <ul style="list-style-type: none"> <li>- Location and description.</li> <li>- Relations.</li> <li>- Blood and nerve supply and lymph drainage.</li> </ul> </li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>- Male genital organs.</li> <li>- Vas deferens.</li> <li>- Seminal vesicles.</li> <li>- Blood supply and lymph drainage.</li> <li>- Function.</li> <li>- Ejaculatory duct.</li> <li>- Prostate.</li> <li>- Location and description.</li> <li>- Relations.</li> <li>- Structure of the prostate.</li> <li>- Function of the prostate.</li> <li>- Blood and nerve supply and lymph drainage.</li> <li>- Prostatic urethra.</li> <li>- Visceral pelvic fascia.</li> <li>- Peritoneum.</li> </ul>
29	The Pelvic viscera of the female	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Ureter.</li> <li>- Urinary bladder.</li> <li>- Female genital organs.</li> <li>- Ovaries.</li> <li>- Location and description.</li> <li>- Function.</li> <li>- Blood and nerve supply and lymph drainage.</li> <li>- Uterine tube.</li> <li>- Location and description.</li> <li>- Function.</li> <li>- Blood and nerve supply and lymph drainage.</li> <li>- Uterus.</li> </ul>

		<ul style="list-style-type: none"> <li>- Location and description.</li> <li>- Relations.</li> <li>- Function.</li> <li>- Position of the uterus.</li> <li>- Structure of the uterus.</li> <li>- Blood and nerve supply and lymph drainage.</li> <li>- Supports of the uterus.</li> <li>- Uterus in the child.</li> <li>- Uterus after menopause.</li> <li>- Uterus in pregnancy.</li> <li>- Role of the uterus in labor.</li> <li>- Vagina.</li> <li>- Location and description.</li> <li>- Relations.</li> <li>- Function.</li> <li>- Blood and nerve supply and lymph drainage.</li> <li>- Supports of the vagina</li> <li>- Visceral pelvic fascia.</li> <li>- Visceral pelvic fascia and infection.</li> <li>- Peritoneum.</li> <li>- Broad ligament and its parts and contents.</li> </ul>
30	The Perineum	<p>TO STUDY:</p> <ul style="list-style-type: none"> <li>- Pelvic diaphragm.</li> <li>- Anal canal.</li> <li>- Structure.               <ul style="list-style-type: none"> <li>- The mucous membrane of the upper half.</li> <li>- The mucous membrane of the lower half.</li> </ul> </li> <li>- Muscular coat.</li> </ul>

		<ul style="list-style-type: none"> <li>- Anal sphincter. <ul style="list-style-type: none"> <li>- Internal anal sphincter.</li> <li>- External anal sphincter.</li> </ul> </li> <li>- Pudendal nerve and its branches.</li> <li>- Pudendal artery and its branches.</li> <li>- Male urogenital triangle.</li> <li>- Male urethra. <ul style="list-style-type: none"> <li>- Prostatic part.</li> <li>- Membranous part.</li> <li>- Penile part.</li> </ul> </li> <li>- Sphincter urethrae muscle.</li> <li>- Bulbourethral glands.</li> <li>- Female urogenital triangle. <ul style="list-style-type: none"> <li>- Vulva.</li> <li>- Clitoris.</li> <li>- Mons pubis.</li> <li>- Labia majora.</li> <li>- Labia minora.</li> <li>- Vestibule.</li> <li>- Greater vestibular glands.</li> </ul> </li> <li>- Female Urethra.</li> </ul>
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**Methods of assessment**

No	Exam	Type of assessment		Marks
1	First term	Theoretical part	Quizzes in the same theoretical lectures	2
			End term written exam (60% MCQs &/or EMQ & 40% essay questions, fill in the blanks and draw)	8
		Practical part	Practical exam in the Laboratory on the: <ul style="list-style-type: none"> <li>• Pre-dissected specimens.</li> <li>• Plastic specimens.</li> <li>• Bones.</li> <li>• Radiological films.</li> </ul>	5
2	Second term	Theoretical part	Quizzes in the same theoretical lectures	2
			End term written exam (60% MCQs &/or EMQ & 40% essay questions, fill in the blanks and draw)	8
		Practical part	Practical exam in the Laboratory on the: <ul style="list-style-type: none"> <li>• Pre-dissected specimens.</li> <li>• Plastic specimens.</li> <li>• Bones.</li> <li>• Radiological films.</li> </ul>	5
3	Final	Theoretical part	End term written exam (60% MCQs &/or EMQ & 40% essay questions, fill in the blanks and draw)	50
4		Practical part	Practical exam in the Laboratory on the: <ul style="list-style-type: none"> <li>• Pre-dissected specimens.</li> <li>• Plastic specimens.</li> <li>• Bones.</li> <li>• Radiological films.</li> </ul>	20
5	Total			100

**Suggested Reading List:**

1. Clinical Anatomy by Regions, 8th Edition, By: Richard S. Snell MD, PhD.
2. Clinical Neuroanatomy, 7<sup>th</sup> Edition, By: Richard S. Snell
3. Gray's Anatomy for Students By: Richard L. Drake et.al
4. Grant's Atlas of Anatomy, 12<sup>th</sup> Edition ,By: Anne MR Agur, Arthur F Dalley
5. Cunningham's anatomy

**Department of Human Anatomy****Subject: Embryology****Academic year: Second year****Course coordinator: Prof. Dr. Mahdi Salah Shalal****Professor in Histology and Embryology, Department Human Anatomy****College of Medicine, University of Anbar****Teaching staff:**

- One Professor.
- one lecturer.

Allocated marks: 100 marks.

Course duration: One academic year.

**Introduction:**

Human development is one of the most exciting topics to study not only as a medical student, but also for our fundamental understanding of the human body. Of all health issues in Medicine, fertility and reproduction is a topic that will affect everyone. It necessary for the student of medicine to study the development of human organs day by day to have a better understanding to able to differentiate between the normal and abnormal human fetus.

The Anatomy Department in the College of Medicine, University of Anbar hosts the medical students for theoretical course for 30 hours/year. Our aim is to enhance the knowledge of our students and let them be aware about the first steps in studying the development of the human body organs to asses them in their clinical life.

**Overall Aims:****The course is designed to introduce the student to:**

1. Medical terminology and methods used in gathering information.
2. Understanding of the formation of different organs of the human body.
3. The correlation between of different embryonic structures and the formation of the human body organs.
4. Understand how to differentiate between normal embryonic structures and the congenitally defect structures.
5. The beginnings of an understanding of how to pursue independent and self-learning of how the different embryonic structures develop into organs

**General Objectives:**

**At the end of the course students should be able to:**

1. Describe the cell division and the arrangement of the chromosomes in the formation of fertilized ovum.
2. Describe the changes takes place in the ovary and uterus, the division of the fertilized ovum, and the process of cell implantation in the wall of the uterus.
3. To know the formation of different types of cells and organs and the changes occurred in the shape of the fetus with the progress of time.
4. Learning the details of the formation of the placenta, umbilical cord, the embryonic membranes, the formation of twins, and the congenital defects.
5. The correlation between the development of different embryonic structure and its congenital defects.

**Components, duration and units of the curriculum**

No	Components	Duration	Unit
1	Theoretical lectures	30 hours	2
3	Total	30 hours	2

**Places of completion the curriculum:**

1. Lecture hall in the college
2. Anatomical lab in the college

**Material used for completion the curriculum:**

1. Audiovisual aids.
2. Interaction with the students through questions.
3. Power point presentation.
4. Computer.
5. Data show.
6. Embryologic charts.
7. Videos, diagrams and posters.

**Syllabus:****Teaching Techniques:**

Teaching will be conducted using the theoretical Sessions:

- lectures were designed to cover most of topics of the embryological development of human body.
- The time of the lecture is 60 minutes.
- There are one theoretical lecture/week.

Wee ks	Subject
1	Gametogenesis: Cell divisions leading to mature ova and sperms.
2	Ovulation, fertilization, and implantation. Ovarian and menstrual cycles.
3	Cleavage and blastocyst formation, appearance and distribution of mesoderm.
4	Fate of trophoblast, the early placenta, the fate of inner cell mass.
5	Formation of notochord, neural tube and crest, growth of amnion.
6	Fate of ectodermal germ layer.
7	Fate of mesodermal germ layer.
8	Fate of endodermal germ layer, effect of folding on gut and body.
9	Major changes from third month to birth. Fetal membrane and placenta.
10	Teratogenic agents: Examples of toxic effects at sensitive or critical age.
11	Development of muscles, fate of somites.
12	Development of cartilage and bones. The limb buds.
13	Kidneys: fate of pro-, meso-, and metanephros. Ascent of kidneys.
14	Ureter, urinary bladder, urachus and fate of umbilical vessels.
15	Primitive testis, ovary: cell migration from wall of yolk sac.
16	Descent of gonads, fate of mesonephric and paramesonephric ducts.
17	External genitalia of male and female.
18	CVS: Formation of the heart tube, its foldings and divisions.
19	Cardiac septa and chamber formation.
20	Big vessels.
21	Fetal circulation and changes after birth.
22	GIT: Elongation and rotation of primitive gut. Foregut, liver and pancreas.
23	Midgut: Parts and rotation to final position.
24	Hindgut: Cloaca and urorectal septum, the fate of the area.
25	Pharyngeal arches: The first arch, nose and upper lip.
26	Fate of other arches, the respiratory diverticulum, thyroid, parathyroid, and thymus.

27	CNS: changes in the neural tube, brain vesicles and flexures.
28	Sensory and motor nuclei, cranial and spinal nerves, meninges.
29	Skin, hair, mammary gland.
30	General review.

### Methods of assessment

No	Exam	Type of assessment		Marks
1	First term	Theoretical part	Quizzes in the same theoretical lectures	2
			End term written exam (60% MCQs &/or EMQ & 40% essay questions)	13
2	Second term	Theoretical part	Quizzes in the same theoretical lectures	2
			End term written exam (60% MCQs &/or EMQ & 40% essay questions)	13
3	Final	Theoretical part	End term written exam (60% MCQs &/or EMQ & 40% essay questions)	70
5	Total			100

### Suggested Reading List:

1. Langman's Medical Embryology by T. W. Sadler

المادة: الديمقراطية و الحريات العامة، و هي من متطلبات الجامعة

اسم منسق و مدرس المنهاج : م. د. محمد صبحي

المقدمة :

تعد مادة الديمقراطية والحريات العامة مقررات ذات صبغة عالمية مرتكزة على ميثاق الأمم المتحدة والدساتير الديمقراطية ومن ضمنها دستور جمهورية العراق، مادة الحريات العامة هي من متطلبات الجامعة تهدف إلى رفد طلبة الجامعة بالمعرفة بحقوقهم وحقوق الآخرين ليتسنى لهم التعامل الإنساني فيما بينهم و ما بينهم و الآخرين خلال فترة دراستهم و ما بعد الدراسة.

الكلية أعطت ٣٠ ساعة في السنة الدراسية الثانية و بواقع ساعة أسبوعياً لتغطية منهاج هذه المادة الحيوية،  
الأهداف :

١. تعزيز احترام الحريات الأساسية.
٢. الإنتماء الكامل للشخصية الإنسانية وإحساسها بالكرامة.
٣. تعزيز التفاهم والتسامح والمساواة بين الجنسين، والصداقة بين جميع الأمم والسكان الأصليين
٤. تمكين كل الأفراد من المشاركة بفاعلية في مجتمع حر.
٥. تمكين طلبة كلية الطب من التعامل مع المرضى بكل إنسانية.
٦. تمكين طلبة كلية الطب من معرفة القوانين المهمة المتعلقة بالحريات العامة.

الأماكن التي تطبق بها المنهج :  
المواد المستخدمة في تطبيق المنهج : وسائل العرض

الوحدات والساعات :

ت	عدد الساعات النظرية	عدد الوحدات
1	30	عدد ٢

2	الديموقراطية والحريات العامة (المرحلة الثانية) المحاضرة الاولى/ مقدمة عامة - لماذا الحريات العامة وليس حقوق الانسان - تدرس مادة الديمقراطية والحريات العامة - اهمية الحريات العامة	1
1	المحاضرة الثانية/ إشكالية الاخذ بالحريات العامة والازمات التي تواجهها - اسباب سياسية واجتماعية - اسباب اقتصادية - اسباب تقنية	2
1	المحاضرة الثالثة/ النظام القانوني للحريات العامة- القاعدة الشرعية للدولة القانونية - اثر النصوص الدستورية على شرعية الحريات العامة ١- قيمة اعلانات الحقوق قانونيا ٢- قيمة ضمانات الحقوق	3
1	المحاضرة الرابعة/ اثر القانون العادي كضمانة للحقوق والحريات - اثر المراسيم والتنظيمات على الحريات العامة وضعا	4
1	المحاضرة الخامسة/ تنظيم الحريات العامة من قبل السلطات العامة - اشكال تنظيم الحريات اداريا - نتائج اعلان حالة الطوارئ	5
1	المحاضرة السادسة/ النظرة العامة للحريات العامة - اصل الحقوق والحريات- موقف المشرع من الحقوق والحريات العامة - استخدام مصطلح الحريات العامة	6
1	المحاضرة السابعة/ الطبيعة الوظيفية لمفهوم الحريات العامة - الاعتبارات الفلسفية للحق الطبيعي- الاعتبارات البنيوية للحق الوضعي - الاعتبارات الاقتصادية والحريات العامة	7
1	المحاضرة الثامنة/ الانظمة السياسية من حيث ممارسة السلطة - المونوقراطية القديمة (الملكة المطلقة، 1 (monocratic)- الأنظمة الفردية (المونوقراطية) ) الدكتاتورية، الاستبدادة) ٢- الدكتاتورية المذهبية والايديولوجية ٣- خصائص الدكتاتورية	8



9	المحاضرة التاسعة/ الأنظمة الديمقراطية - تاريخ الديمقراطية - الاسلام والديموقراطية	1
10	المحاضرة العاشرة / انواع الديمقراطية ١ - الديمقراطية المباشرة ٢ - الديمقراطية شبه المباشرة ٣ - الاستفتاء على انواعه المختلفة	1
11	المحاضرة الحادية عشر/ ضمانات الحريات العامة - التقاضي او التظلم غير القضائي - الطعن القضائي- تحديد مسؤولية الدولة عن اعمالها الشرعية	1
12	المحاضرة الثانية عشر - طبيعة القضاء الفرنسي - مجالات الاختصاص القضائي في مجال الحريات العامة	1
13	المحاضرة الثالثة عشر/ اثر ازدواجية القضاء على الحريات العامة - مجلس الدولة - وضع القضاء قانوناً	1

1	المحاضرة الرابعة عشر - الحريات العامة في مقتضات الفقه الاداري - المبادئ العامة التي تحكم الفقه الاداري في مجال الحريات العامة	14
1	المحاضرة الخامسة عشر/ مفهوم المساواة - التطور التاريخي لمفهوم المساواة - التطور الحديث لفكرة المساواة - المساواة بين الجنسين - المساواة بين الافراد تبعاً لمعتقداتهم وعنصرهم	15
1	المحاضرة السادسة عشر/ تصنيف الحريات العامة - الحريات الاساسية او الفردية- الحريات الفكرية والحريات الثقافية- الحريات الاقتصادية والاجتماعية	16
1	المحاضرة السابعة عشر/ الحريات الاساسية او الفردية - حريات الامن والشعور والاطمئنان - اثر تطبيق الامن الفردي	17
1	المحاضرة الثامنة عشر - الاخذ بمبدأ عدم رجعة القوانين	18
1	المحاضرة التاسعة عشر/ مراحل التطور النسبية لمبدأ الأمن الفردي في العهد الملكي ١- ما قبل الثورة الفرنسية ٢- في فترة الثورة ٣- الفترة الامبراطورية	19
1	المحاضرة العشرون/ الاجراءات الحادة للحريات الفردية وضمانها - الحجز والتوقيف، الحبس، الحجز على ذمة التحقيق	20
1	المحاضرة الحادية والعشرون / المحاكم الخاصة في فرنسا الجمهورية الخامسة المحاضرة الثانية والعشرون / حرب التحرير الجزائرية والقضاء الاستثنائي	21
1	المحاضرة الثانية والعشرون / حرب التحرير الجزائرية والقضاء الاستثنائي	22
1	المحاضرة الثالثة والعشرون/ حريات الذهاب والاياب - حرية المركبات - حرية السوق	23

1	المحاضرة الرابعة والعشرون/ الحريات الشخصية - الحرّة الفكرّة - حرّية الرأي والتعبير - حرّية المعتقد	24
1	المحاضرة الخامسة والعشرون/ قانون الفصل بين الدولة والكنيسة - حرّية التعليم - التعليم ف النظام القديم- التعليم تحت ضل الثورة	25
1	المحاضرة السادسة والعشرون/ حرية الصحافة - الصحافة في النظام القديم- الصحافة تحت ضل الثورة والإمبراطورية- الصحافة في عهد المؤتمر - النظام الحالي لحرية الصحافة	26
1	المحاضرة السابعة والعشرون / حرية التجمع - حرّية التجمعات - حرّية الموكب والمظاهرات - قانون مواجهة التخريب	27
1	المحاضرة الثامنة والعشرون / حرية التجمعات ذات المضمون الاقتصادي والاجتماعي ١- الحرية الفردية ٢- الحقوق الاجتماعية	28
1	المحاضرة التاسعة والعشرون/ المفهوم المزدوج للحقوق الاجتماعية المحاضرة الثلاثون/ التطور التاريخي والقانون المقارن	29

## طريقة تقييم الطلبة :

ت	الامتحان	الدرجة	نوع الأسئلة
1	الفصل الأول	15	أسئلة مقالية قصيرة و طويلة
2	الفصل الثاني	15	أسئلة مقالية قصيرة و طويلة
3	الإمتحان النهائي	70	أسئلة مقالية قصيرة و طويلة
4	الدرجة النهائية	100	

## الكتب المقررة التي يقرأها الطالب :

٤. القانون الدولي الانساني .
٥. حقوق الانسان وحياته الاساسية .
٦. حقوق يجب ان تعرف الحقوق الاسلامية .

# CHAPTER 4

## **Subjects for the annual system of the third stage**

No.	Subject
1	Pharmacology
2	Microbiology
3	Parasitology
4	Pathology
5	Community Medicine
6	Internal Medicine
7	General Surgery

**Department of Pharmacology****Subject: Pharmacology****Academic year: 3rd year****Coordinator: Dr. Yagub Salem Saleh****The teaching staff:**

1. Dr. Marwan Al-Nimer
2. Dr. Omar Salem Nammal
3. Dr. Yagub Salem Saleh

**Introduction:**

- ❖ This subject in Medical Pharmacology is designed to give the third year medical student an understanding of how:
  - (1) Drugs work to produce their therapeutic effects to ameliorate or cure diseases
  - (2) Drugs are administered, absorbed, metabolized and excreted
  - (3) Drugs produce intended and often undesirable effects.
- ❖ This subject introduces the study of the properties, effects, and therapeutic value of the primary agents in the major drug categories.
- ❖ Major topics include general principles, pharmacodynamics, pharmacokinetics, drug-drug interactions, autonomic including adrenergic and cholinergic pharmacology, antimicrobial pharmacology, central nervous system pharmacology, cardiovascular pharmacology, respiratory pharmacology, gastrointestinal pharmacology, endocrine pharmacology, blood pharmacology, autotoxins pharmacology, cancer chemotherapy pharmacology, and principles of toxicology.

**Objectives:**

The overall objectives of this subject are to provide students with:

1. A basic background in pharmacology, including the nomenclature, sources of drugs, Pharmacokinetics, pharmacodynamics, pharmacogenetics, adverse drug reactions and Interactions of drugs.
2. An understanding of how the basic principles of pharmacology are integral to effective diagnosis, prevention and treatment of different diseases.
3. Opportunities to work in teams to begin to develop an approach to evaluate clinical cases to determine the therapeutics of different diseases and to formulate an appropriate treatment

**Outcome:**

1. Communicate with the patient regarding optimal use of drug therapy, devices and storage of medicines.
2. Follow the drug treatment guidelines laid down for common diseases including those covered under the national Health Programmes and emergency medical conditions and be capable of initiating and monitoring the treatment, recording progress and assessing the outcome.
3. Appreciate the relationship between cost of treatment and patient compliance.
4. Exercise caution in prescribing drugs likely to produce dependence and recommend the line of management.
5. Understand the legal and ethical aspects of prescribing drugs.
6. Evaluate the ethics, scientific procedures, social and legal implications involved in the development and introduction of new drugs.

**Components, duration and units of the curriculum:**

No	Components	Duration in hours	Units
1	Theoretical lectures	90	6
2	Clinical course or practical sessions	60	2

**Places of a completion the curriculum:**

- A. lecture hall in the college
- B. Pharmacological lab for practical sessions

**Materials used to accomplish the curriculum:**

- A. Pharmacological drugs
- B. Clinical or practical teaching videos
- C. Theoretical cases study

**Syllabus of the theoretical lectures**

No	Name of the lecture	Term	Duration in hour/s
1.	Pharmacokinetics & Pharmacodynamics	1 <sup>st</sup>	6
2.	Autonomic Pharmacology •Cholinergic System •Adrenergic System •Ocular Pharmacology •Drugs Used in Abnormal Micturition		12

3.	Cardiovascular system •Antihypertensive Drugs •Antianginal Drugs •Drugs for Congestive Heart Failure •Antiarrhythmic Drugs •Diuretics	1 <sup>st</sup>	12
4.	Blood •Antithrombotic & antifibrinolytic Drugs •Antihyperlipidaemic Drugs •Drugs for Anaemias	1 <sup>st</sup>	7
5.	Antimicrobial Drugs •Introduction •Beta-lactam Antimicrobial Drugs •Sulphonamides, Trimethoprim, and Aminoglycosides •Tetracyclines, Macrolides, Metronidazole, Chloramphenicol, and others •Antituberculosis Drugs •Antifungal Drugs •Antiviral Drugs •Antiparasitic Drugs	1 <sup>st</sup>	12
6.	CNS-Pharmacology •General Principles •Antipsychotic Drugs •Drugs for Affective Disorders •Antianxiety Drugs •Sedative and Hypnotic Drugs •Drugs for Parkinson s Disease •Antiepileptic Drugs •Opioids and Narcotic Analgesic Drugs	2 <sup>nd</sup>	15



	<ul style="list-style-type: none"> <li>•General Anaesthetic Drugs</li> <li>•Local Anaesthetic Drugs</li> <li>•Neuromuscular Blocking Drugs</li> </ul>		
7.	Autacoids	2 <sup>nd</sup>	2
8.	Non-Steroidal Anti-Inflammatory Drugs Disease-Modifying Antirheumatic drugs Drug Therapy of Gout	2 <sup>nd</sup>	2
9.	Drugs and Gastrointestinal Tracts	2 <sup>nd</sup>	3
10.	Drugs and The Respiratory System	2 <sup>nd</sup>	2
11.	Endocrine Pharmacology <ul style="list-style-type: none"> <li>•Hypothalamic and Pituitary Hormones</li> <li>•Sex (Gonadal) Hormones and Inhibitors</li> <li>•Drugs Acting on Uterine Smooth Muscle</li> <li>•Adrenocorticosteroids</li> <li>•Thyroid and Antithyroid Drugs</li> <li>•Agents that Affect Calcium Metabolism</li> <li>•Insulin and Oral Hypoglycaemic Drugs</li> </ul>	2 <sup>nd</sup>	13
12.	Anticancer Drugs	2 <sup>nd</sup>	2
13.	Drug Interactions, Adverse Drug Reactions and Antidotes	2 <sup>nd</sup>	2

### Syllabus of the practical course

No	Name of the clinical or laboratory session	Term	Duration in hour/s
1.	General information about lab, groups & subgroups	1 <sup>st</sup>	2
2.	Introduction	1 <sup>st</sup>	2
3.	Dosage forms	1 <sup>st</sup>	4
4.	Routes of administration	1 <sup>st</sup>	2
5.	KI	1 <sup>st</sup>	2
6.	Clinical Pharmacokinetics and calculation	1 <sup>st</sup>	4

7.	Ocular pharmacology	1 <sup>st</sup>	4
8.	Drugs induced colouration of urine	1 <sup>st</sup>	4
9.	Beta blockers	1 <sup>st</sup>	4
10.	Nitrates	1 <sup>st</sup>	2
11.	Histamine	2 <sup>nd</sup>	2
12.	Myasthenia gravis	2 <sup>nd</sup>	2
13.	Local anaesthetics	2 <sup>nd</sup>	2
14.	Pancuronium	2 <sup>nd</sup>	2
15.	Morphine-naloxone antagonism	2 <sup>nd</sup>	4
16.	Dependence	2 <sup>nd</sup>	2
17.	Diazepam-flumazenil Antagonism	2 <sup>nd</sup>	4
18.	Redistribution & Cumulative effects	2 <sup>nd</sup>	2
19.	Thiopental & ketamine	2 <sup>nd</sup>	4
20.	Propofol	2 <sup>nd</sup>	2
21.	Suxamethonium	2 <sup>nd</sup>	4

### Methods of assessment

1. Group/Individual Activities
2. Critical Thinking Assignments
3. Class Attendance/Participation
4. Periodic Exams, Final Examination
  - a. True/false questions
  - b. One best answer MCQs
  - c. Short answer essays

No	Exam	Type of assessment		Marks
	First term (15 marks)	Quiz in theoretical lecture		4
		First term written exams	1 <sup>st</sup> exam	4
			2 <sup>nd</sup> exam	4
		End term practical exam		3
2	Second term (15 marks)	Quiz in theoretical lecture		4
		Second term written exams	1 <sup>st</sup> exam	4
			2 <sup>nd</sup> exam	4
			End term practical exam	
3	Final practical (15 marks)	Written exam		15
4	Final written (55 marks)	One best answer MCQs		38.5
		True/false questions		5.5
		Short answer essays		11
5	Total			100

### Recommended books

1. Lippincott's Illustrated Reviews: Pharmacology (2015) 6th edition. Mary J Mycek, Richard A Harvey, Pamela C Champe.
2. Basic and Clinical Pharmacology, (2012) 12th edition, Bertram G. Katzung. McGraw-Hill.
3. Goodman and Gillman's Pharmacological Basis of Therapeutics: (2011). 12th edition Laurence Brunton, John Lazo, Keith Parker.

**Department of Microbiology****Subject: Medical Microbiology****Third Year Of M.B.CH.B. Program**

Allocated marks	100 marks
Course duration	30 weeks ( One Academic Year )
Total hours	75 Theoretical hours 60 Practical hours
Course supervisor	Prof. Dr. Shehab Ahmed Lafi
Teaching staff	Prof. Dr. Shehab A. Lafi , Assist. Prof. Dr. Waleed I. Ahmed. Assist. Prof. Dr Muthana A. Khalil , Assist. Prof. Dr.Abbas O. Farrhan , Lecturer Dr. Muntaha M. Hassan , Lecturer Noor N. Radeef , Lecturer Dr. Huda R. Sabbar.  Practical Teaching Staff: Lecturer Omar A. Ali, Lecturer Sawsan K. Alani , Zaynab K.Al- Alwani ,Instructor Israa Mohamed saeed Under Supervision Of The Above Theory Teaching Staff.
total	One Professor,3 Assistant Professor , 5 Lecturer , Lecturer 2Assistant & one Instructor .

**Introduction :**

Microbiology is wide science includes many branches like bacteriology, virology & mycology. Medical students in medical college are involved with medical Microbiology .immunology is also included within the curriculum of microbiology to through light on immune system and immunity against each type of infections as well as medically important immune related diseases like autoimmunity, transplantation immunity etc.

So medical microbiology course is bulky course with huge subjects and informations required for medical student graduation. So teaching these topics requires skillful, bright and intelligent teaching methods to reach the outcomes of this course.

**Objectives:****To support students with:**

- 1- Basic and clinical information about microbes involved in human infections, pathogenicity of each organism and assimilation of infection in human body , complications and prognosis.
- 2- Clinical Laboratory diagnosis of infection regarding the optimal required specimens and their processing with focus on updated diagnostic methods .
- 3- The antibiogram for each organism to choose the best effective antimicrobial agent to treat infection with focus on antimicrobial resistance and resistant organisms .

- 4- Prophylaxis methods and control of infections by vaccines if available.
- 5- Updating of knowledge about studied organisms with focus on new discovered microbes.

### **Outcome of curriculum :**

- 1- Basic knowledge .
- 2- Accurate and wide information.
- 3- Updated knowledge
- 4- Clinical application of information.

### **Course expectations:**

Medical Microbiology course give student theoretical and clinical applicable knowledge about microbes and microbial human infections . Clinical laboratory diagnosis of infections and how to choose optimal antimicrobial agent/s and control infections .

### **Course Requirements :**

Comfortable Teaching class Room supplied with teaching aids like data show & white board with its accessories.

### **Evaluation :** Students Evaluation Is Performed Through :

- 1- Short exams ( quizzes ) .
- 2- Theoretical Term exam .
- 3- Practical Term exam
- 4- Final exam(theoretical final exam and practical final exam).

### **Course Grading Scale:**

First term :

Theory Exam Marks : 10

Practical Exam Marks: 5

Second Term :

Theory Exam Marks : 10

Practical Exam Marks : 5

Final Exam :

Theory Exam Marks : 50

Practical Exam Marks : 20

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Total Marks : 100

### **Places for teaching the curriculum :**

1. Class room in the college.( wide air-conditioned, with enough windows with curtains an enough illumination and supplied with teaching aids .
2. Microbiology Laboratory for undergraduate studies. ( wide with enough working benches, well areated, with enough windows with curtains and enough illumination and supplied with teaching aids) .

**Materials used to accomplish the practical curriculum:-**

1. Microscopes (compound light microscopes).
2. Sterilizing and disinfection tools and materials.
3. Bacteriology lab devices, incubator, oven , autoclave, refrigerator, water bath, gas burners with gas source, inoculating loops , Millipore filters and tube racks and hand disinfectant container.
4. Slides with Permanent stained bacterial specimens.
5. Staining kits like Gram Stain Kit, Acid Fast Staining Kit, Albert stain kit and other required stains.
6. Culture media
7. Charts , Atlases of Medical microbiology
8. Teaching Videos.
9. Elisa system.
10. Dry lab facilities for teaching practical lectures of strong pathogen or non-cultivable organisms.
11. Bacterial isolates from normal human body flora
12. Fresh specimens for clinical lab. Training as stool, urine . throat swab etc.

**Branches of Microbiology:****1-Medical Bacteriology :**

Allocated marks	<p>First Term : Theory : 7 Marks Practical : 5 Marks</p> <p>Second Term: Theory : 7 Marks Practical : 5 Marks</p> <p>Final Exam : Theory : 50% of theory exam marks .</p> <p>Practical : 14 Marks out of 20 total practical final exam scores.</p>
Hours	Theory 37 hrs. practical 48 hours
Course Supervisor	Prof. Dr. Shehab Ahmed Lafi
Teaching staff	<p>Prof. Dr. Shehab A. Lafi , Assist. Prof. Dr. Waleed I. Ahmed. Assist. Prof. Dr Muthana A. Khalil , Assist. Prof. Dr. Abbas O. Farrhan .</p> <p>Practical Teaching Staff: Lecturer Omar A. Ali, Lecturer Sawsan K. Alani, Assistant Lecturer Zaynab K. Al-Al Wany, Rukaia K. Tahaa. Instructure Israa Mohamed Saeed Under Supervision Of The Above Theory Teaching Staff.</p>
Total	<p>One Professor, 2 Assistant Professor , 2 Lecturer , 2 Lecturer Assistant &amp; one Instructor .</p>

**2-Medical Virology:**

Allocated marks	First term : theory 3 marks Second term : zero hours Final Exam : 20% Of Total Theory Exam and( 2) two marks out of 20 final practical exam.
Hours	15 Hours During The First Term, one hour weekly. 4 hours practical virology, two hours weekly
Item supervisor	Assistant Prof Dr. Muthana Ali Khalil
Teaching Staff	Theory lecture :Assistant Prof Dr. Muthana Ali Khalil, Lecturer Dr. Noor Naji Radeef Alhayani. Practical : the same above staff.
Total	One assistant professor and one lecturer. Both are imposed in theory and practical lectures.

**3-Immunology :**

Allocated Marks	First Term : Zero Hours  Second Term : Theory 3 Marks, Practical 2 Marks out of Total 5 Practical Marks.  Final Exam : 20% out of Total Theory Exam.  Practical Final Exam 2 Marks out of 20 Final Practical Marks.
Hours	15 hours during the second term , Four hours Practical Immunology, Two hrs. weekly.
Teaching Staff.	Lecturer Dr. Muntaha M. Hassan, Lecturer Huda R. Sabbar.  Practical Immunology : The same above staff.
Total	2 lecturer .

**4-Medical Mycology**

Allocated Marks	First Term : Zero Hours  Second Term : Theory two Marks out of 10  Final Exam : 10% out of Total Theory Exam.  Practical Final Exam 2 Marks out of 20 Final Practical Marks.
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Hours	First Term : Zero Hours  Second Term : Theory 8 Hours And 4 Practical Hours , two hrs. Weekly.
Teaching staff	Theory lectures : Assist. Prof. Dr. Waleed I. Ahmed and Assist. Prof. Dr. Abbas O. Farhan .  Practical mycology : the same above staff members Lecturer Omar A. Ali, Lecturer, Assistant Lecturer Zainab K. Al-Al Wany.
Total	2 assistant professor, one lecturer and one lecturer assistant.

### Syllabus Of Microbiology And Immunology Lectures:

Lec.no.	Subjects	Lecturer	Hours
1-	Introduction to microbiology and medicine. Bacterial cell structure.	Dr.Waleed	2
2-	Host- parasite relationship Bacterial growth , Normal flora	Dr.Waleed	2
3-	Metabolism Bacterial nutrition	Dr. Abbas	2
4-	Medical genetic : gene transfer , replication ,recombination genetic engineering in medicine	Dr. Abbas	2
5-	Staphylococci	Dr.Shehab	2
6-	Streptococci,Streptococcus pneumonia	Dr.Shehab	3
7-	Bacillus:aerobic and anaerobic	Dr.Waleed	3
8-	<i>Neisseria spp.</i> &Moraxella	Dr.Waleed	2
9-	Corynebacterium	Dr.Waleed	2



10-	Mycobacterium	Dr. Shehab	2
11-	Enteric Bacteria E.coli & Klebsiella & Proteus	Dr. Abbas	2
12-	Acinetobacter, Salmonella, Shigella & <i>Pseudomonas</i> , <i>Yersenia</i> , Francisella	Dr. Abbas	2
13-	Parvobacteria	Dr. Shehab	2
14-	Chlamydia & Mycoplasma	Dr. Waleed	2
15-	<i>Vibrio</i> & <i>Helicobacter</i> , <i>Compylobacter</i>	Dr. Abbas	3
16	Spirochaetes,	Dr. Shehab	2
17	Antimicrobial agents : Disinfection and antiseptic , antimicrobial resistant.	Dr. Waleed	2
18	Mycology	Dr. Abbas	8

### Schedule Laboratory Class of Medical Bacteriology

No.	Subjects	Hours	Lecturer
1	Sterilization and Disinfection	2	م. عور عبد الكزن عا
2	Culture media a- Types of culture media b- Preparation of Nutrient agar plate c- Preparation of Blood agar plate	2	م.م. رُب خوس

	d- Preparation of MacConkey's agar plate e- Preparation of Nutrient broth		
3	Pure culture techniques a- Study of colonies morphology b- Subculture techniques	2	م. عور عبد الكزن علي
4	Staining techniques a- Simple staining techniques b- Gram's stain	2	م.م. رفة قبطاي
5	Biochemical Reaction Tests	2	م. عور عبد الكزن علي
6	Staphylococci a- Inoculate and streak on blood agar plate with culture provided b- Make Gram stain of the organism c- Take a culture of your nose by running a swab around the membrane of anterior nose d- Inoculate the nasal swab on blood agar and mannitol salt agar by streaking plate method for isolation of colonies e- Description of staphylococcus colonies on blood agar and Mannitol salt agar plates f- Perform a slides coagulase and Catalase tests for microorganism	2	م. عور عبد الكزن علي
7	Streptococci a- Description of streptococci colonies on blood agar b- Inoculate and steak on blood agar with the culture provided c- Make Gram stain of the organism	2	د. هُتة هدا حسي
8	Pneumococci a- Description of the Pneumococci colonies on chocolate and blood agar b- Inoculate and steak on blood agar with the provided culture . c- Subculture the pneumococci in tube of brain heart infusion broth	2	د. هُتة هدا حسي

	d- Make Gram stain of the organism		
9	Brucella a- Rose Bengal test and 2ME test b- Blood and bone marrow aspirate and cultivation for Brucella isolation	2	م. عور عبد الكرن علّ
10	Neisseria a- Inoculation and streak on blood agar and chocolate agar with <i>N. Catarrhalis</i> b- Make gram stain for <i>N. Catrhalis</i> c- Perform the Oxidase test for <i>N. catarrhalis</i> d- Examination of instant stained positive GC urethral smear .	2	د. ولّ د اسواع العدّ
11	Corynebacteria a- Make throat swab and stain with: 1- Albert's stain 2- Gram's stain b- Incubate the throat swab on blood agar, Tellurite agar and Tinsdal agar c- Examine standard slide for <i>C. diphtheriae</i>	2	م. عور عبد الكرن علّ
12	Mycobacterium - Sputum sample examination, stain the slide of sputum with Zeil-Nelsen stain	2	د. هدي رافع
13	Bacillus a- Description of <i>B. subtilis</i> colonies on blood agar b- Make Gram stain for the organism c- Prepare heat fixed smear from the culture and stain with Spore stain	2	م. م. رفقة قبطاي
14	Clostridia a- Demonstration of Clostridia	2	م. م. زبّ خوس

	b- Film of gas gangrene		
15	<p>Enteric bacilli (<i>E. coli</i> &amp; <i>K. spp.</i>)</p> <p>a- Inoculate and streak on MacConkeys agar with the culture provided</p> <p>b- Description of <i>E. coli</i> &amp; <i>K.pneumoniae</i> colonies on MacConkeys agar plates</p> <p>c- Subculture of the microorganisms on the following media:</p> <p>1- Peptone water</p> <p>2- Glucose broth (2 tubes)</p> <p>3- Slant of Simmon citrate</p>	2	م. عور عبد الكرن علّ
16	<p>Proteus &amp; Pseudomonas</p> <p>a- Inoculate and streak on MacConkeys agar with the provided culture .</p> <p>b- Description of Proteus &amp; Pseudomonas colonies on MacConkeys agar plates</p> <p>c- Make gram stain for the organisms</p> <p>d- Performance of oxidase test for Pseudomonas</p> <p>e- Examination pseudomonas agar slant for pigment production</p> <p>f- Examination of glucose broth inoculated with Proteus</p> <p>g- Examination of urea broth inoculated with Proteus</p> <p>h- Examination the glucose sugar broth for fermentation</p>	2	م.م. زّ بّ خوّس
17	<p>Salmonella &amp; Shigella</p> <p>a- Description of Salmonella &amp; Shigella colonies on SS agar plates</p> <p>b- Widal test</p>	2	م. عور عبد الكرن علّ
18	<p>Vibrio</p> <p>Demonstration on Non- Agglutinable Vibrios (NAG strain)</p>	2	د. عباس م.م. زّ بّ
19	<p>Antibiotic Sensitivity test</p> <p>- MIC</p>	2	ا.م. د. ولد م.م. رفّة

20	Immunology (1 <sup>st</sup> Lab.) a- Precipitation (ring test, single and double immunodiffusion) b- Agglutination (slide agglutination & tube agglutination tests) c- Complement fixation	2	د. هَيْثُومُ هِدَاح د. هَدِي
21	Immunology (2 <sup>nd</sup> Lab.) - ELISA	2	د. هَيْثُومُ هِدَاح د. هَدِي
22	Virology (1 <sup>st</sup> Lab.) - Isolation of viruses a- Tissue culture b- Embryonated egg c- Animal inoculation  - Histological examination - Transformation - Slide projection	2	د. يَاسِينَ أَجِي د. هَلَالِي
23	Virology (2 <sup>nd</sup> Lab.) a- Serological tests for identification of viruses b- Haemagglutination and Haemagglutination inhibition c- Viral neutralization d- Plaque and plaque reduction e- Gel diffusion f- Complement fixation test	2	د. هَلَالِي عَلِي د. سُر
24	Mycology (1 <sup>st</sup> Lab.) a- Skin scraping b- Dermatophytosis diagnosis	2	د. وَلَد م.م. زَبَّان خُوس
25	Mycology (2 <sup>nd</sup> Lab.) - <i>Candida spp.</i>	2	د. عَبَّاس عَزُود م.م. زَبَّان

**Bacteriology:** 48 hours , Immunology: 4 hours

**Virology :** 4 hours Mycology: 4 hours

**Total Practical hours:** 60 hours.

### References :

- 1- Bacteriology illustrated by Gillies , R.R And Dodds, T.C. ,Churchill Livingstone publisher
- 2- Jawetz , Melnick& Adelbergs Medical microbiology by Geo F. Brooks, Karen C. Carroll, Janet Butel , Stephen A. Morse & Timothy A. Mietzner, 26<sup>th</sup> ed. 2013, Mc Grow Hill Lange Publishers, New York USA.
- 3- Microbiology A Photographic Atlas For The Laboratory By Steve K. Alexander And Dennis Street , Benjmin Cummings Publishers 2001, New York USA .
- 4- Internet websites .
- 5- Atlas of Pathogenic Fungi , Wolf Publishers U. k.

### Medical Immunology Subject (15 hours )

No.	Lecture title
1	Introduction:
	Innate immunity Humeral mediators; App, CRP, MBL natural antibodies, IFNs. Cells; phagocytic cells (Mφ/ monocytes pmN); ( 1hr )
2	killing mediated by those cells: extracellular killing mechanism and intracellular killing mediated by O <sub>2</sub> independent pathway & O <sub>2</sub> dependent pathways;.
	Primary Immune response and secondary immune response.
	Passive transfer immunity from mother to her infant. ( 1hr )
3	Adaptive immunity:
	Cells involved in adaptive immunity; T cells origin, differentiation, tolerance to self antigen and T cells subsets, antigen recognition activation , mechanisms of cell migration, role of T subsets in diseases, cytokines, Immune regulation by T cells. ( 1 hr. )
4	B cells, Origin, differentiation activation, plasma cells, class switching, Immunoglobulins; classes, role in Immune activity biological activities for each class, Immune regulation by Abs & B cells, B and T cells interaction. ( 1 hr. )

5	Antigens: types of antigens, T dependent antigens & T independent antigens, superantigens adjuvants & the roles of each one in immunity. Disease prevention by immune response; Active and passive immunization, vaccination: effectiveness of vaccines, current vaccines, vaccine safety. ( 1 hr. )
6	MHC: Typed, cells expressed MHC, Diseases mediated by expression of certain MHC. ( 1 hr. )
7	Complement; Activation, Biological effect, diseases mediated by any defect in complement components ( 1 hr )
8	Hypersensitivity(Type I, II): - mechanisms of damage mediated by each type Bronchial reactions, Factors involved in the development of allergy the concept of allergic breakthrough. Reactions against tissue antigens reactions against blood cells. (1 hr )
9	Hypersensitivity(Type III,IV): Types of Immune complex diseases. Contact hypersensitivity, tuberculosis hypersensitivity. ( 1hr )
10	Autoimmunity and autoimmune disease: The spectrum of auto immune disease, pathogenesis, Etiology. (1 hr )
11	Infection and immunity : Immunity to viruses = strategies for evading, immune defences immunopathology. Immunity to bacteria & fungi. Immunity to protozoa & worms. (2 hrs )
12	Tumor immunology: A. - Tumor associated antigens Tumor immune respons and Escape mechanisms. ( 1 hr )

13	Transplantation : B. Transplantation= Barriers to transplantaion, The laues of transplantation, The Role of lymphocytes in rejection prevention of rejection. ( 1hr )
14	Immunodeficiency (1hr )

**Schedule lecture of Medical Virology**  
**Assistant Prof Dr: Muthana Ali Khalil**  
**Lecturer Dr. Noor Naji Radeef**

No.	Title of Lecture	Duration
1	Introduction to Viruses	1Hour
2	Viral replication	1Hour
3	Vaccination	1Hour
4	Antiviral Drugs chemotherapy	1Hour
5	Pathogenesis of the viruses	1Hour
6	DNA Enveloped Viruses include Herpes viruses, Pox viruses	1Hour
7	DNA-Non-Enveloped Viruses include human Papilloma viruses, Adeno viruses and Parvovirus's	1Hour
8	RNA-enveloped viruses include Rhabdo viruses Family (Rabies virus)	1Hour
9	RNA non envelope viruses include Reo of Rota viruses	1Hour
10	Orthomyxoviridae	1Hour
11	Paramyxoviridae	1Hour
12	Hepatitis viruses	1Hour
13	Retroviruses including Human immunodeficiency viruses (HIV) causing of AIDS	1Hour
14	Picornaviridae	1Hour

**Schedule lectures of Medical Mycology**  
**Assistant Prof Dr. Abbas Obaied Farhan**

No.	Subjects	Duration
1-	Introduction to Medical Mycology, Classification of fungi . Superficial mycoses: Pityriasis versicolor , Classification of Tinea ,	2 Hours
2-	Cutaneous mycoses, Subcutaneous Mycoses Sporothrix schenckii, Mycetoma	1 Hour
3-	Coccidioides immitis , Histoplasma capsulatum, Blastomyces dermatitidis Paracoccidioides brasiliensis	1 Hour
4-	Opportunistic Mycoses, Candida spp., Cryptococcus neoformans, Aspergillosis	2 Hours
5-	Actinomycetes, Nocardiosis	1 Hour
6-	Mycotoxins & Antifungal Chemotherapy	1 Hour



**References:**

- 1- Jawetz , Melnick& Adelbergs Medical microbiology by Geo F. Brooks, Karen C. Carroll, Janet Butel , Stephen A. Morse & Timothy A. Mietzner, 26th ed. 2013, Mc Grow Hill Lange Publishers, New York USA.
- 2-Medical Microbiology By Cruikshank RR. et al.
- 3-Medical Microbiology By Thomas.
- 4- Medical Mycology By Emmons.
- 5- Immunology Male , D. Brostoff J. and Roitt I., 17<sup>h</sup> ed. Elsevier's pub.2012.
- 6- Clinical Immunology By Stiets.
- 7- practical medical microbiology by Davis
- 8- Baily And Scotts Diagnostic Microbiology , by Forbes A.B., Saham F.D. And Wiessfeld S.A. , 12<sup>th</sup> Ed. Mosby Pub. 2007.
- 9- Basic Laboratory Procedures In Clinical Bacteriology 2<sup>nd</sup> Ed. 2003 WHO Geneva.
- 10-Internet Websites.

**Department of Microbiology****Subject: Medical Parasitology  
Third Year Of M.B.&B.Ch Program**

Allocated marks	100 marks	
Course duration	30 weeks (one academic year)	September to May
Total teaching hours	60 hours lectures + 60 hours practical classes	
Course director	Prof. Assist. Dr. Sarab F. Al-Ani L.Dr. Huda R. Sabar ,L.Dr. Muntaha M.Hasan	Micobiology Department
Teaching staff	1 Assistant professors, 2 lecturer and 2 assistant lecturers	

**Introduction:**

Parasitology is an important component of clinical laboratory medicine. The results obtained through specimen examination for parasites, provide invaluable information regarding the diagnosis and treatment of human disease. Tracking the epidemiology of such organisms as well as establishing prevention mechanisms may be accomplished with the assistance of this information. Although numerous advances in technology have been developed during recent years, the traditional technique of manually processing and examining the samples both macroscopically and microscopically still occurs in select clinical settings. It is critical that well-educated and highly trained individuals perform these procedures as well as read and interpret the results. Thus, the goal of this year is to provide such information for students preparing for a career in laboratory medicine, for learners in related disciplines, which include parasitology, and for clinical practitioners.

**Objectives:**

1. To provide students with knowledge concerning biological, epidemiological and ecological aspects of parasites causing diseases to humans.
2. To enable students to understand the pathogenesis, clinical presentations and complications of these diseases.
3. To enable students to reach diagnosis and know the general outline of treatment, prevention and control of parasitic infections.
4. To provide students with adequate knowledge about endemic parasites and national parasitic problems.

**Intended:**

I: Knowledge and understanding :

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

- 1-Describe the world distribution of important parasitic infections and explain the factors determining such distribution and their socioeconomic impact on the community.
- 2-Describe the morphology and life cycle of parasites of medical importance.
- 3-Describe pathogenesis, clinical signs and symptoms and complications of parasitic infections.
- 4-Outline the treatment for various parasitic infections and mention the methods of prevention and control of infection on individual and community levels.
- 5-Discuss the methods of recovery of parasites from environmental samples and their culture methods.
- 6-Describe common arthropods of medical interest and explain their medical importance and methods of combat.
- 7-Outline of fundamental immunology and molecular biology applicable in parasitology to achieve better and accurate diagnosis.
- 8-Enumerate complication associated with parasitic infections and manipulation of infectious materials especially in hospitals.

II- Professional and Laboratory Skills:

By the end of the course, student should be able to

- 9-Identify microscopically different parasites as well as their different stages (eggs, cysts and larvae) or any of their body parts (segments, hooks and scolices) examination urine or stool.
- 10-Diagnose haemoparasites detectable in blood films.
- 11-Identify parasites and their different stages through examination of mounted slides.
- 12-Identify different parasites in tissue and demonstration of their reactions in such tissues by naked eye (Jars).
- 13-Identify arthropods of medical importance through examination of whole body or any part in mounted specimens.

**Components and duration:-**

No.	Components	Duration in hours	Units
1.	Medical protozoology	15 weeks (30 h.)Theoretical+(30 h.) Practical.	3
2.	Medical Helminthology	15 weeks (30 h.)Theoretical+(30 h.) Practical.	3

**Places of completion the curriculum :**

1. Studying hall in the college.
2. Parasitology laboratory.

**Materials used to accomplish the curriculum:**

1. Microscopes (light M. , Dissecting M.)
2. Permanent stained slides.
3. Stains , Fixative materials, Preservative solutions.
4. Charts , Atlases of Medical Parasitology as Life cycle , Stages, Eggs.
5. Teaching Videos.
6. Fresh specimens for lab. Training as stool, urine .

**Syllabus of the theoretical lectures :**

No.	Name of lecture	Name of Lecturer	Duration in hour
1.	I- Protozoology Introduction to parasitology (unicellular parasites)	Assist. Prof. Dr. Sarab Alani	2
2.	- Intestinal protozoa Introduction & Entamoeba histolytica (pathogenic amoebas)	Assist. Prof. Dr. Sarab Alani	2
3.	Extraintestinal amoebiasis (complications)	Assist. Prof. Dr. Sarab Alani	2
4.	Free living amoebae	L.Dr. Muntaha M.Hasan	2
5.	Non-pathogenic amoebas Commensal amoebae & <i>Balantidium coli</i>	Assist. Prof. Dr. Sarab Alani	2
6.	Flagellates, introduction Intestinal Flagellates - <i>Giardia lamblia</i>	L.Dr. Huda R. Sabar	2
7.	Urogenital protozoa- <i>Trichomonas</i> spp. & Non-pathogenic Flagellates	L.Dr. Huda R. Sabar	2
8.	-Blood & tissue protozoa <i>Leishmania</i> species	L.Dr. Huda R. Sabar	2
9.	<i>Trypanosomes</i> species	L.Dr. Muntaha M.Hasan	2
10.	Sporozoa –introduction and general characters. Malaria (- <i>Plasmodium</i> species)	Assist. Prof. Dr. Sarab Alani	2
11.	- <i>Plasmodium</i> species & Babesia	Assist. Prof. Dr. Sarab Alani	2
12.	<i>Cryptosporidium parvum</i>	L.Dr. Muntaha M.Hasan	2
13.	- <i>Toxoplasma gondii</i>	Assist. Prof. Dr. Sarab Alani	2
14.	<i>Cyclospora</i> & <i>Isospora</i> & <i>Eimeriae</i>	L.Dr. Muntaha M.Hasan	2
15.	<i>Microsporidia</i> & opportunistic protozoa	L.Dr. Muntaha M.Hasan	2

16.	II-Helminthology Introduction and general characters	Assist. Prof. Dr. Sarab Alani	2
17.	Trematoda – liver Flukes <i>Fasciola species</i> , <i>Chlonorchis sinensis</i> and less common liver <i>F.</i>	Assist. Prof. Dr. Sarab Alani	2
18.	Intestinal & Lung Flukes <i>Fasciolopsis buski</i> , <i>Heterophyes heterophyes</i> , <i>Metagonimus yokogawi</i> , - <i>Paragonimus westermani</i>	L.Dr. Muntaha M.Hasan	2
19.	Blood Flukes <i>Schistosoma species</i>	L.Dr. Muntaha M.Hasan	2
20.	Cestoda -Introduction and general characters	Assist. Prof. Dr. Sarab Alani	2
21.	Echinococcus species (hydatid cysts)	Assist. Prof. Dr. Sarab Alani	2
22.	Taenia species Human cysticercosis Multiceps multiceps	L.Dr. Huda R. Sabar	2
23.	Diphyllobothrium species -Hymenolepis species -Extraintestinal Cestodes	L.Dr. Huda R. Sabar	2
24.	Nematoda Intestinal nematodes -Introduction, <i>Trichuris trichiura</i> , <i>Trichnella spiralis</i>	Assist. Prof. Dr. Sarab Alani	2
25.	<i>Ascaris lumbricoides</i> <i>Trichostrongylus</i> & <i>Strongyloides</i>	L.Dr. Huda R. Sabar	2
26.	Hook worms	Assist. Prof. Dr. Sarab Alani	2
27.	Enterobius vermicularis Blood and Tissue nematodes -Dracunculus medinensis	L.Dr. Huda R. Sabar	2
28.	Filarial worms <i>Wuchereria bancrofti</i> & <i>Brugia malayi</i> - <i>Onchocerca volvulus</i> & <i>Loa loa</i> - Larva migrans (visceral and cutaneous).	Assist. Prof. Dr. Sarab Alani	2
29.	Medical arthropods –I -Introduction & Mosquitoes -Phlebotomus spp, Simuliidae ceratopogonidae & Tabanidae	L.Dr. Muntaha M.Hasan	2

	-Muscidae - Calliphoridae& Oestridae, Myiasis		
30.	Medical arthropods –II -Fleas –Lice –Bugs -Ticks -Mites -Scorpion –Cyclops –Control of arthropods & Insecticides	Assist. Prof. Dr. Sarab Alani	2

### Syllabus of the practical lectures:

No.	Name of lecture	Name of lecturer	Duration in hour
1.	Introduction & Entamoeba histolytica (pathogenic amoebas)	Assist. Prof. Dr. Sarab Alani Ass.L. Zainab AlAlwani	2
2.	Non pathogenic amoebas	L.Dr. Huda R. Sabar Ass.L. Ruqaya Kabtan	2
3.	Free –lining Amoebas	L.Dr. Muntaha M.Hasan Ass.L. Zainab AlAlwani	2
4.	Intestinal flagellates	Assist. Prof. Dr. Sarab Alani Ass.L. Ruqaya Kabtan	2
5.	Atrial Flagellates (pathogenic ad commensals)	L.Dr. Huda R. Sabar Ass.L. Zainab AlAlwani	2
6.	Examination of tarter or black around teeth ( <i>Trichomonas tenax</i> & <i>Entamoeba gingivalis</i> )	L.Dr. Muntaha M.Hasan Ass.L. Zainab AlAlwani	2
7.	Heamoflagellates Leishmania spp.	Assist. Prof. Dr. Sarab Alani Ass.L. Ruqaya Kabtan	2
8.	Trypanosoma spp.	L.Dr. Huda R. Sabar Ass.L. Zainab AlAlwani	2
9.	Ciliata ( <i>Balantidium coli</i> )	L.Dr. Muntaha M.Hasan Ass.L. Zainab AlAlwani	2
10.	Sporozoa Malaria ( <i>Plasmodium</i> spp.)	Assist. Prof. Dr. Sarab Alani  Ass.L. Zainab AlAlwani	2
11.	Toxoplasmosis	Assist. Prof. Dr. Sarab	2

		Alani Ass.L. Ruqaya Kabtan	
12.	Intestinal sporozoa 1	Assist. Prof. Dr. Sarab Alani Ass.L. Zainab AlAlwani	2
13.	Intestinal sporozoa 2	L.Dr. Huda R. Sabar Ass.L. Zainab AlAlwani	2
14.	opportunistic protozoa	L.Dr. Muntaha M.Hasan Ass.L. Zainab AlAlwani	2
15.	General Stool examination	L.Dr. Muntaha M.Hasan Ass.L. Zainab AlAlwani	2
16.	Simple seminars about parasites	Assist. Prof. Dr. Sarab Alani  Ass.L. Zainab AlAlwani	2
17.	liver Flukes	L.Dr. Huda R. Sabar Ass.L. Zainab AlAlwani	2
18.	Intestinal & Lung Flukes	Assist. Prof. Dr. Sarab Alani Ass.L. Ruqaya Kabtan	2
19.	Blood Flukes	L.Dr. Muntaha M.Hasan Ass.L. Zainab AlAlwani	2
20.	Hydatid cysts	Assist. Prof. Dr. Sarab Alani Ass.L. Ruqaya Kabtan	2
21.	Taenia species	L.Dr. Huda R. Sabar Ass.L. Zainab AlAlwani	2
22.	Diphyllobothrium species	L.Dr. Muntaha M.Hasan Ass.L. Ruqaya Kabtan	2
23.	-Hymenolepis species	L.Dr. Huda R. Sabar Ass.L. Zainab AlAlwani	2
24.	Intestinal nematodes, <i>Trichuris trichiura</i> , <i>Trichnella spiralis</i>	L.Dr. Muntaha M.Hasan Ass.L. Zainab AlAlwani	2
25.	<i>Ascaris lumbricoides</i> <i>Trichostrongylus</i> & <i>Strongyloides</i>	Assist. Prof. Dr. Sarab Alani Ass.L. Ruqaya Kabtan	2
26.	Hook worms	Assist. Prof. Dr. Sarab	2

		Alani Ass.L. Zainab AlAlwani	
27.	Enterobius vermicularis -Dracunculus medinensis.	L.Dr. Muntaha M.Hasan Ass.L. Ruqaya Kabtan	2
28.	Filarial worms	L.Dr. Huda R. Sabar Ass.L. Zainab AlAlwani	2
29.	Medical arthropods –I	Assist. Prof. Dr. Sarab Alani  Ass.L. Zainab AlAlwani	2
30.	Medical arthropods –II	L.Dr. Muntaha M.Hasan Ass.L. Ruqaya Kabtan	2

**Methods of assessment:**

No.	Exam	Type of assessment	Marks
1.	First term (theoretical)	Examination in the same theoretical lecture (MCQ, assay, clinical cases).	10
2.	First term (Practical)	Identification the microscopically slides and short answers about these slides .	5
3.	Second term (theoretical)	Examination in the same theoretical lecture (MCQ, assay, clinical cases).	10
4.	Second term (Practical)	Identification the microscopically slides and short answers about these slides .	5
5.	Final Exam (theoretical)	Examination in the same theoretical lecture (MCQ, assay, clinical cases).	50
6.	Final Exam(Practical)	Identification the microscopically slides and short answers about these slides.	20



**References:-**

- 1- Clinical Parasitology A PRACTICAL APPROACH Elizabeth A. Gockel-Blessing (formerly Zeibig), PhD, MLS(ASCP)CM ,Second Edition , 2013, 1997 by Saunders, an imprint of Elsevier Inc.
- 2- Textbook of MEDICAL PARASITOLOGY SIXTH EDITION CK Jayaram Paniker JAYPEE BROTHERS MEDICAL PUBLISHERS (P) LTD, New Delhi Sixth Edition: 2009, ISBN 81-8061-937-0 ,Typeset at JPBMP typesetting unit Printed at Ajanta Offset.
- 3- Foundations of parasitology, Gerald D. schmidt & Larry S. Roberts'. EIGHTH EDITION 2009.
- 4- Essential of human parasitology -2ed edition, Judith S.Heelan and Frances W. Ingersoll. 2015.
- 5- ATLAS OF MEDICAL PARASITOLOGY , Shiba Kumar Rai, Kobe University School of Medicine, Kobe,Japan. 2009.
- 6- ATLAS OF MEDICAL HELMINTHOLOGY AND PROTOZOLOGY, 2003 .Peter L.C. & Anthony H. M.

**Department of Pathology and Forensic Medicine****Subject: Pathology****Academic year: Third year****Course coordinator:** Assist. Prof. Dr. Nafea Sami Al-Esawi

Assistant Professor and Head of pathology and forensic medicine Department

**Teaching staff:**

1. Three assistant professors.
2. One lecturer.
3. Two assistant lecturers.

**Allocated marks:** 100 marks.**Course duration:** One academic year.**Introduction:**

The primary goal of the pathology course is to initiate the medical student in the study of disease. Without a clear understanding of the etiology (cause), pathogenesis (development), and pathophysiology of disease, clinical medicine would mean little more to the student than memorization of clinical syndromes and the empirical treatments applied to them.

Pathology course is taught during both the third and fourth years of this medical school. The general format is to introduce a topic with a one-hour lecture to the entire class. Following this, the class is divided into 2-3 laboratory groups, for informal, interactive sessions in which gross specimens, kodachromes, virtual microscopic images and case discussions are utilized.

Recently the methodology was designed to improve students' problem-solving and independent study skills.

Pathology is a medical specialty that is concerned with the diagnosis of disease based on the gross, microscopic, chemical, immunologic and molecular examination of organs, tissues, and whole bodies (autopsy).

An understanding of human pathology provides a fundamental framework for the accurate diagnosis and proper treatment of patients with medical problem, a significant population of any medical practice. The purpose of this curriculum is to provide a basic detailed plan for teaching systemic pathology in our college . The curriculum also describes the subjects and topics in systemic pathology given for medical student.

The pathology Department in the College of Medicine, University of Anbar hosts the medical students on training course for 105 hours/yr. Our aim is to enhance the knowledge of our students and let them be aware about the first steps in studying diseases in their clinical life.

To achieve this purpose, hard work and appropriate methods of learning were carried out by our academic staff.

**Overall Aims:**

The course is designed to introduce the student to:

1. Pathologic terms.
2. Basic alterations in cells and tissues that eventually lead to disease(s).
3. The correlation between pathologic changes and the function of affected organs.
4. Follow the course of the disease and its complications.
5. Understand the clinical presentation and the outcome of the disease.
6. Encourage the students for self-learning and how to work independently and effectively in small groups.

**General Objectives:**

At the end of the course students should be able to:

1. Recognize the basic concepts of pathology and pathogenesis and to list causes of disease.
2. Describe major concepts of reversible and irreversible cell injury and to discriminate between necrosis and apoptosis.
3. Define steatosis, hyaline changes, calcification and hemochromatosis.
4. Describe mechanism of acute inflammation, to list causes of inflammation, to define granuloma, and to list causes of granulomatous inflammation.
5. Define tissue renewal and repair, to describe scar formation and fibrosis.
6. Define edema and enumerate its causes, to describe congestion, to define shock and list its causes.
7. Define mutation, to be familiar with patterns of genetic disorders and to know the concept of molecular diagnosis.
8. Outlines types of hypersensitivity reaction, to define transplant rejection, to define autoimmune disease and describe types of Immunologic deficiency.
9. Define neoplasia, to name different tumors, to differentiate between benign and malignant neoplasms and to know basic concepts of molecular basis of cancer.
10. outline general principles of microbial infections and to be familiar with major viral, bacterial, fungal and parasitic infections.
11. Recognize relation between environmental exposures and disease, to be familiar with effects of smoking and alcoholism and to be familiar with under nutrition and obesity.
12. Describe major congenital heart disease, to be familiar with ischemic heart disease and to basic concepts of myocardial and pericardial disorders.
13. Recognize the major disorders arising on background of increased or decreased hormone production and tumor mass effect.
14. Describe major types of pneumonia, to discriminate between obstructive and restrictive pulmonary diseases and to be familiar with bronchogenic carcinoma.
15. Recognize and describe the common skin disorders

**Components, duration and units of the curriculum**

No	Components	Duration	Unit
1	Theoretical lectures	60 hours	4
2	Pactical course	45 hours	1.5
3	Total	105 hours	5.5

**Places of completion the curriculum:**

1. Lecture hall in the college
2. pathological lab in the college

**Material used for completion the curriculum:**

1. Audiovisual aids through animations and diagrams.
2. Interaction with the students through questions.
3. Power point presentation.
4. Diagrams and posters
5. Video tapes and movies.
6. Kodachromes slides (including gross, microscopic, special stain, ultrastructural, radiological, clinical ... slides).
7. Gross specimen
8. Glass slides.

**Syllabus:****Teaching Techniques:****Teaching will be conducted using the following techniques:**

1. Theoretical Sessions:
  - lectures were designed to cover most of topics in human anatomy. In addition to hints on surface anatomy, Radiology, clinical applications are given whenever appropriate.
  - The time of the lecture is 50 minutes.
  - There are 2 lecture/week and one discussion lecture/week.
2. Practical Sessions:
  - The practical sessions follow the theory lectures in the same week.
  - The students are divided into 2 groups (A, B).
  - Each group is subdivided into 6 subgroups.
  - The time of each session is 2hr.
  - There are 2 session / week.

<i>Theoretical lectures</i>		
we ek	Topic	Objective
1	Introduction: 1-Definitions of pathology, pathogenesis and etiology. 2-Morphologic changes. 3-Functional derangement and clinical manifestation	At the end of the course the student should be able to describe basic concepts of pathology and pathogenesis and to list causes of disease.
2 & 3	Cell injury, adaptation and deposits :  1. Cellular Responses to Stress and Noxious Stimuli 2. Cellular Adaptations of Growth and Differentiation 3. Cell Injury and Cell Death 4. Causes of Cell Injury 5. Mechanisms of Cell Injury 6. Reversible and Irreversible Cell Injury 7. Morphology of Cell Injury and Necrosis 8. Examples of Cell Injury and Necrosis 9. Apoptosis. 10. Intracellular Accumulations 11. Steatosis (Fatty Change) 12. hyaline change 13. pigments 14. Pathologic Calcification. 15. Hemochromatosis and hemosiderosis.	At the end of the course the student should be able to: 1-Describe major concepts of reversible and irreversible cell injury and to discriminate between necrosis and apoptosis. 2-Define steatosis, hyaline changes, calcification and hemochromatosis. 3-Recognize the major types of deposits and their significances in human body.
4 & 5	Inflammation:  1. General Features of Inflammation 2. Acute Inflammation 3. Chemical Mediators of Inflammation 4. Outcomes of Acute Inflammation 5. Morphologic Patterns of Acute Inflammation 6. Chronic Inflammation 7. Granulomatous inflammation 8. Systemic Effects of Inflammation 9. Consequences of Defective or Excessive Inflammation.	At the end of the course the student should be able to describe mechanism of acute inflammation, to list causes of inflammation, to define granuloma, and to list causes of granulomatous inflammation. Also student has to know the effect of some defect in inflammatory response.

6 & 7	<p>Healing and Repair:</p> <ol style="list-style-type: none"> <li>1. Definitions</li> <li>2. Control of Normal Cell Proliferation and Tissue Growth</li> <li>3. Mechanisms of Tissue Regeneration</li> <li>4. Extracellular Matrix (ECM) and Cell-Matrix Interactions</li> <li>5. Repair by Healing, Scar Formation, and Fibrosis</li> <li>6. Cutaneous Wound Healing</li> <li>7. Fibrosis</li> <li>8. Overview of Repair Responses After Injury and Inflammation</li> </ol>	At the end of the course the student should be able to define tissue renewal and repair, to describe scar formation and fibrosis.
8,9 & 10	<p>Hemodynamic Disorders</p> <ol style="list-style-type: none"> <li>1. Edema and heart failure</li> <li>2. Hyperemia and Congestion</li> <li>3. Hemorrhage</li> <li>4. Hemostasis and Thrombosis</li> <li>5. Shock.</li> </ol>	At the end of the course the student should be able to define edema to list causes of edema, to describe congestion, describe the types of hemorrhage and their sequences and effects, thrombosis and its effect, to define shock and to list causes of shock.
11 & 12	<p>Genetic Disorders</p> <ol style="list-style-type: none"> <li>1. Mutations</li> <li>2. Mendelian Disorders</li> <li>3. Disorders with Multifactorial Inheritance</li> <li>4. Cytogenetic Disorders</li> <li>5. Single-Gene Disorders with Nonclassic Inheritance</li> <li>6. Molecular Diagnosis</li> <li>7. Diagnosis of Genetic Diseases</li> </ol>	At the end of the course the student should be able to define mutation, to be familiar with patterns of genetic disorders and to know the concept of molecular diagnosis.
13, 14 & 15	<p>Immune pathology</p> <ol style="list-style-type: none"> <li>1. Mechanisms of hypersensitivity reactions</li> <li>2. Transplant rejection</li> <li>3. Autoimmune diseases</li> <li>4. Immunologic tolerance</li> <li>5. Immunologic deficiency syndromes.</li> </ol>	At the end of the course the student should be able to describe types of hypersensitivity reaction, to define transplant rejection, to define autoimmune disease and describe types of Immunologic deficiency.
16, 17 & 18	<p>Neoplasia</p> <ol style="list-style-type: none"> <li>1. Definitions</li> <li>2. Nomenclature</li> </ol>	At the end of the course the student should be able to define neoplasia, to name different tumors, to

	3. Biology of Tumor Growth 4. Benign neoplasm. 5. Malignant Neoplasms 6. Molecular Basis of Cancer 7. Carcinogenic Agents and Their Cellular Interactions 8. Host Defense against Tumors—Tumor Immunity 9. Clinical Features of Tumors	differentiate between benign and malignant neoplasms and to know basic concepts of molecular basis of cancer.
19	Infectious diseases  1. General Principles of Microbial Pathogenesis 2. Viral Infections 3. Bacterial Infections 4. Fungal Infections 5. Parasitic Infections.	At the end of the course the student should be able to describe general principles of microbial infections and to be familiar with major viral, bacterial, fungal and parasitic infections.
20	Environmental and Nutritional Pathology  1. Environment and Disease 2. Common Environmental and Occupational Exposures 3. Tobacco Use 4. Alcohol Abuse 5. Nutrition and disease: nutritional deficiencies, obesity.	At the end of the course the student should be able to describe relation between environmental exposures and disease, to be familiar with effects of smoking and alcoholism and to be familiar with under nutrition and obesity
21, 22 & 23	Cardiovascular system  1. Congenital Heart Disease 2. Ischemic Heart Disease 3. Hypertensive Heart Disease 4. Valvular Heart Disease 5. Cardiomyopathies 6. Pericardial Disease 7. Tumors of the Heart.	At the end of the course the student should be able to describe major congenital heart disease, to be familiar with ischemic heart disease and to basic concepts of myocardial and pericardial disorders.
24, 25 & 26	Respiratory system  1. Pulmonary Infections 2. Obstructive Pulmonary Diseases 3. Restrictive Pulmonary Diseases 4. Diffuse Interstitial (Infiltrative, Restrictive) Diseases 5. Tumors. 6. Upper respiratory tract.	At the end of the course the student should be able to describe major types of pneumonia, to discriminate between obstructive and restrictive pulmonary diseases and to be familiar with broncogenic carcinoma. Describe upper respiratory tract diseases



	7. Pleura.	and pleural diseases.
27, 28 & 29	<p>The Endocrine System</p> <ol style="list-style-type: none"> <li>1. Pituitary gland: clinical manifestations of pituitary disease, pituitary adenomas and hyperpituitarism, hypopituitarism, posterior pituitary syndromes and hypothalamic suprasellar tumors</li> <li>2. Thyroid gland: hyperthyroidism, hypothyroidism, thyroiditis, Graves disease, diffuse and multinodular goiters and neoplasms of the thyroid.</li> <li>3. Hyperparathyroidism and hypoparathyroidism</li> <li>4. Diabetes mellitus</li> <li>5. Adrenal glands: hypercortisolism (cushing syndrome) and adrenal insufficiency and pheochromocytoma.</li> </ol>	Recognize the major disorders arising on background of increased or decreased hormone production and tumor mass effect.
30	<p>Skin</p> <ol style="list-style-type: none"> <li>1. Definitions of macroscopic terms</li> <li>2. Definitions of microscopic terms</li> <li>3. Disorders of Pigmentation and Melanocytes</li> <li>4. Benign and malignant Epithelial Tumors</li> <li>5. Acute inflammatory dermatoses</li> <li>6. Chronic inflammatory dermatoses</li> <li>7. Infection and Infestation.</li> </ol>	At the end of the course the student should be familiar with common skin disorders.

Practical course		
1	<p>Introduction</p> <ol style="list-style-type: none"> <li>1. Definitions of pathology, pathogenesis and etiology.</li> <li>2. Definition of biopsy and techniques.</li> <li>3. Cytopathology technique.</li> </ol>	At the end of the course the student should be able to describe basic concepts of pathology and pathogenesis and to describe method of handling biopsy and cytology specimens
2 & 3	<p>Cell injury</p> <ol style="list-style-type: none"> <li>1- Squamous metaplasia.</li> <li>1- Hyperplasia: Endometrial and prostatic</li> <li>2- Hypertrophy : ventricular , myometrium.</li> <li>3- Atrophy : brain.</li> </ol>	At the end of this course, students have to be familiar with metaplasia, dysplasia, hyperplasia, hypertrophy and atrophy.



4	<p>Acute inflammation</p> <p>Acute appendicitis: causes, pathogenesis, gross and microscopic features and complications.</p>	At the end of the course the student should be able to describe basic vascular and cellular changes of acute inflammation.
5	<p>Chronic inflammation</p> <ol style="list-style-type: none"> <li>1. Nasal polyp: causes, pathogenesis, gross and microscopic features and complications.</li> <li>2. Chronic cystitis: causes, pathogenesis, gross and microscopic features and complications.</li> <li>3. Chronic cholecystitis: causes, pathogenesis, gross and microscopic features and complications.</li> </ol>	At the end of the course the student should be able to describe basic histologic changes of chronic inflammation.
6	<p>Chronic granulomatous inflammation</p> <ol style="list-style-type: none"> <li>1. T.B lymphadenitis: causes, pathogenesis, gross and microscopic features and complications.</li> <li>2. Foreign body granuloma: causes, pathogenesis, gross and microscopic features and complications.</li> </ol>	At the end of the course the student should be able to describe basic histologic changes of chronic granulomatous inflammation.
7 & 8	<p>Hemodynamic disorders</p> <ol style="list-style-type: none"> <li>1. Coronary artery atheroma: causes, pathogenesis, gross and microscopic features and complications.</li> <li>2. Atheroma with thrombosis: causes, pathogenesis, gross and microscopic features and complications.</li> <li>3. Pulmonary infarction: causes, pathogenesis, gross and microscopic features and complications.</li> <li>4. Net meg liver: causes, pathogenesis, gross and microscopic features and complications.</li> <li>5. Gamna-Gandy bodies in CVC-spleen.</li> <li>6. Pulmonary edema, heart failure cells</li> </ol>	At the end of the course the student should be able to describe basic histologic changes of Hemodynamic Disturbances.
9 & 10	<p>Degeneration and deposits:</p> <ol style="list-style-type: none"> <li>1. Steatosis: causes, pathogenesis, gross and microscopic features and complications.</li> <li>2. Calcification: causes, pathogenesis, gross and microscopic features and complications.</li> <li>3. Hemochromatosis: causes, pathogenesis, gross</li> </ol>	At the end of the course the student should be able to describe basic types of degeneration and deposits.

	<p>and microscopic features and complications.</p> <p>4. Hyaline liver changes: causes, pathogenesis, gross and microscopic features and complications.</p> <p>5. Melanin pigments</p> <p>6. Tattoo</p> <p>7. Lipofuscin pigment.</p>	
11 & 12	<p>. Neoplasia, benign tumors:</p> <p>1. Fibroadenoma breasts: causes, pathogenesis, gross and microscopic features and complications.</p> <p>2. Leiomyoma uterus: causes, pathogenesis, gross and microscopic features and complications.</p> <p>3. Lipoma: causes, pathogenesis, gross and microscopic features and complications.</p> <p>4. Osteochondroma.</p> <p>5. Nevus.</p> <p>6. Papilloma.</p>	At the end of the course the student should be able to describe basic histologic features of benign tumors and the nomenclature of these neoplasms.
13 & 14	<p>Neoplasia, Malignant tumors:</p> <p>1. Colorectal carcinoma: causes, pathogenesis, gross and microscopic features and complications.</p> <p>2. Breast carcinoma: causes, pathogenesis, gross and microscopic features and complications.</p> <p>3. Bronchogenic carcinoma: causes, pathogenesis, gross and microscopic features and complications.</p> <p>4. Liposarcoma.</p> <p>5. DFSP</p>	At the end of the course the student should be able to describe basic histological features of malignant tumors and the nomenclature of these neoplasms.
15	<p>Immunopathology</p> <p>A-Hashimoto's thyroiditis: causes, pathogenesis, gross and microscopic features and complications.</p> <p>B-Graves's disease: causes, pathogenesis, gross and microscopic features and complications.</p> <p>C-Thymic hyperplasia and myasthenia gravis.</p> <p>D- Sjogren Syndrome.</p>	At the end of the course the student should be able to recognize basic histological features of common autoimmune diseases
16	<p>Infectious diseases</p> <p>1-Bacterial pneumonia.</p> <p>2-Mucormycosis.</p>	At the end of the course, students should be to describe main changes in different types of infection

17	Environment and nutritional diseases: 1-Smoking , bronchus: bronchitis, metaplasia 2-Alcohol abuse : Liver cirrhosis.	At the end of the course the student should have an idea about relation between environmental exposures and disease, to be familiar with effects of smoking and alcoholism.
18	Cardiovascular system-1: 1-Myocardial infarction. 2-Ventricular hypertrophy.	Students at the end of this course have to be familiar with ischemic heart disease and ventricular hypertrophy.
19	Cardiovascular system-2: 1-Pericarditis. 2-Valvular disease.	Students have to be familiar with changes of valvular diseases and pericardial disorders.
20	Respiratory system-1  1. Bronchopneumonia: causes, pathogenesis, gross and microscopic features and complications. 2. Lobar pneumonia: causes, pathogenesis, gross and microscopic features and complications. 3. Bronchiectasis: causes, pathogenesis, gross and microscopic features and complications.	At the end of the course the student should be able to describe basic histological features of bronchopneumonia, lobar pneumonia and bronchiectasis.
21	Respiratory system 2  1-non small cell lung carcinoma-squamous type 2-Small cell carcinoma: causes, pathogenesis, gross and microscopic features and complications.	At the end of the course the student should be able to describe basic histological features of major types of bronchogenic carcinoma.
22	Upper respiratory tract 1- nasal polyp. 2-nasopharyngeal carcinoma. 3-Laryngeal nodule. 4-Laryngeal carcinoma.	At the end of the course the student should be able to describe basic histological features nasal polyp, types of nasopharyngeal carcinoma, laryngeal nodule and Ca-larynx.
23	Endocrine system  1. Thyroiditis. 2. Multinodular goiter: causes, pathogenesis, gross and microscopic features and complications	At the end of the course the student should be able to describe basic histologic features of multinodular goiter and thyroiditis.

	3. Thyroid follicular adenoma.	
24	<p>Endocrine system</p> <ol style="list-style-type: none"> <li>1. Papillary thyroid carcinoma.</li> <li>2. Follicular carcinoma: causes, pathogenesis, gross and microscopic features and complications.</li> <li>3. Pheochromocytoma: causes, pathogenesis, gross and microscopic features and complications.</li> </ol>	At the end of this course, students have to be able to recognize different types of thyroid carcinoma, pheochromocytoma
25	<p>Skin</p> <ol style="list-style-type: none"> <li>1-Nevus.</li> <li>2-squamous cell carcinoma.</li> <li>3-basal cell carcinoma.</li> </ol>	Student has to be able to describe common skin disorders.
26, 27, 28, 29 & 30	<p>Small discussion group to discuss:</p> <ol style="list-style-type: none"> <li>1-Surgical pathology, in term of:               <ol style="list-style-type: none"> <li>A-types of biopsy.</li> <li>B-principle of performing biopsy.</li> <li>C-Instruments used in biopsy technique.</li> <li>D-Handling of biopsy.</li> <li>E-histology technique, including dissection, fixation, dehydration, clearance, paraffin embedding, microtome sectioning, slide preparation, and staining.</li> </ol> </li> <li>2-Frozen section technique and its indication.</li> <li>3-Use of EM in surgical pathology.</li> <li>4-Immunohistochemistry: technique, uses, types, indication, benefits , interpretation and limitation.</li> </ol>	At the end of the course the student should be familiar with biopsy techniques, exisional and incisional types, types of fixatives, special stains, frozen section technique, applications of EM in surgical pathology and immunohistochemistry

No	Name of lecture	Name of Lecturer	Duration in hour
1.	Introduction	Dr. Alae Abduqader	2
2.	Cell injury, adaptation and deposits-1	L. Dr. Alae Abduqader	2
3.	Cell injury, adaptation and deposits-2	L. Dr. Alae Abduqader	2
4.	Inflammation-1	L. Dr. Alae Abduqader	2
5.	Inflammation-2	L. Dr. Alae Abduqader	2
6.	Healing and repair	L.Dr. Alae Abduqader	2
7.	Hemodynamic disorders-1	Assist. Prof. Dr. Arkan obaid	2
8.	Hemodynamic disorders-2	Assist. Prof. Dr. Arkan obaid	2
9.	Hemodynamic disorders-3	Assist. Prof. Dr. Arkan obaid	2
10.	Genetics-1	ASS. LECTURES WAFEA	2

		RAWI	
11.	Genetics-2	ASS. LECTURES WAFEA RAWI	2
12.	Neoplasia-1	Assist. Prof. Dr. Nafea Sami	2
13.	Neoplasia-2	Assist. Prof. Dr. Nafea Sami	2
14.	Neoplasia-3	Assist. Prof. Dr. Nafea Sami	2
15.	Immunopathology-1	Assist. Prof. Dr. Ali Al Doori	2
16.	Immunopathology-2	Assist. Prof. Dr. Ali Al Doori	2
17.	Immunopathology-3	Assist. Prof. Dr. Ali Al Doori	2
18.	Infectious diseases	Assist. Prof. Dr. Ali Al Doori	2
19.	Environmental and nutritional diseases	Assist. Prof. Dr. Ali Al Doori	2
20.	Environmental and nutritional diseases	Assist. Prof. Dr. Ali Al Doori	2
21.	Respiratory diseases-1	Assist. Prof. Dr. Arkan obaid	2
22.	Respiratory diseases-2	Assist. Prof. Dr. Arkan obaid	2
23.	Respiratory diseases-3	Assist. Prof. Dr. Arkan obaid	2
24.	CVS	Assist. Prof. Dr. Nafea Sami	2
25.	CVS-2	Assist. Prof. Dr. Nafea Sami	2
26.	CVS-3	Assist. Prof. Dr. Nafea Sami	2
27.	Endocrine diseases 1	Assist. Prof. Dr. Nafea Sami	2
28.	Endocrine diseases 2	Assist. Prof. Dr. Nafea Sami	2
29.	Endocrine diseases 3	Assist. Prof. Dr. Nafea Sami	2
30.	Skin	Assist. Prof. Dr. Ali Al Doori	2

### Syllabus of the practical lectures :-

No.	Name of lecture	Name of lecturer	Duration in hour
1.	Introduction	L.Dr. Alae Abduqader	1.5
2.	Cell injury, adaptation and deposits-1	L.Dr. Alae Abduqader	1.5
3.	Cell injury, adaptation and deposits-2	L.Dr. Alae Abduqader	1.5
4.	Acute inflammation	L.Dr. Alae Abduqader	1.5
5.	Chronic inflammation	L.Dr. Alae Abduqader	1.5
6.	Chronic granulomatous inflammation	L.Dr. Alae Abduqader	1.5
7.	Hemodynamic disorders	Assist. Prof. Dr. Arkan obaid	1.5
8.	Hemodynamic disorders	Assist. Prof. Dr. Arkan obaid	15
9.	Degenerative changes & deposits	Assist. Prof. Dr. Arkan obaid	1.5
10.	Degenerative changes & deposits	Assist. Prof. Dr. Arkan obaid	1.5
11.	Neoplasia, benign tumors	Assist. Prof. Dr. Nafea Sami	1.5
12.	Neoplasia, benign tumors	Assist. Prof. Dr. Nafea Sami	1.5

13.	Neoplasia, malignant tumors	Assist. Prof. Dr. Nafea Sami	1.5
14.	Neoplasia, malignant tumors	Assist. Prof. Dr. Nafea Sami	1.5
15.	Immune pathology	Assist. Prof. Dr. Ali Al Doori	1.5
16.	Infectious diseases	Assist. Prof. Dr. Ali Al Doori	1.5
17.	Environmental and nutritional diseases	Assist. Prof. Dr. Ali Al Doori	1.5
18.	CVS	Assist. Prof. Dr. Nafea Sami	1.5
19.	CVS	Assist. Prof. Dr. Nafea Sami	1.5
20.	Respiratory system	Assist. Prof. Dr. Arkan obaid	1.5
21.	Respiratory system	Assist. Prof. Dr. Arkan obaid	1.5
22.	Upper respiratory system	Assist. Prof. Dr. Arkan obaid	1.5
23.	Endocrine-1	Assist. Prof. Dr. Nafea Sami	1.5
24.	Endocrine-2	Assist. Prof. Dr. Nafea Sami	1.5
25.	Skin diseases		1.5
26.	Surgical pathology, in term of: A-types of biopsy. B-principle of performing biopsy. C-Instruments used in biopsy technique. D-Handling of biopsy.	Assist. Prof. Dr. Arkan obaid	1.5
27.	Histology technique, including dissection, fixation, dehydration, clearance, paraffin embedding, microtome sectioning, slide preparation, and staining.	Assist. Prof. Dr. Arkan obaid	1.5
28.	Frozen section technique and its indication.	Assist. Prof. Dr. Arkan obaid	1.5
29.	Use of EM in surgical pathology.	Assist. Prof. Dr. Arkan obaid	1.5
30.	Immunohistochemical stains	Assist. Prof. Dr. Arkan obaid	1.5

### Methods of assessment

No	Exam	Type of assessment	Marks
1	First term	Quizzes in the same theoretical lectures	2
		End term written exam (60% MCQs & 40% essay questions)	13
2	Second term	Quiz in the same theoretical lectures	2
		End term written exam (60% MCQs & 40% essay questions)	13
3	Final practical	1. Kodachromes slides (including gross, microscopic, special stain, ultrastructural, radiological, clinical ... slides). 2. Gross specimen 3. Glass slides	20
4	Final written	MCQs	30
		Essay questions	20
5	Total		100

**Suggested Reading List:**

1. Robbins & Cotran Pathologic Basis of Disease, 9th edition ... Jon C. Aster ,  
Vinay Kumar, Abul K. Abbas.
2. Robbins and Cotran Atlas of Pathology, 3e (Robbins Pathology) .
3. Curran's Atlas of Histopathology.

## Department of Community and Family Medicine

**Subject: Community Medicine**

**Academic year: third year**

**Coordinator: Ass. Prof. Dr Mahasin Altaha**

**Teaching staff**

1. Dr.Ban Nathem
2. Dr. Badeea Thamer

### Introduction

Community medicine is introduced in the third year as medical statistics (biostatistics) in the first term, and nutrition in the second term. Biostatistics is the science of summarizing, collecting, presenting and interpreting data in medical practice, and using them to estimate the magnitude of associations and test hypotheses.

Nutrition is the science that interprets the interaction of nutrients and other substances in food in relation to maintenance, growth, reproduction, health and disease of an organism.

### Objectives

- 1- To Understand the types of data and variables that are needed for any health and medical research
- 2- To know the way of analysis and presentation of data
- 3- To estimate the normal range for health parameters
- 4- To apply statistical methods for estimating the significance of association
- 5- To know nutritional needs during life cycle and dietary therapy of common diseases

### Components, duration and units of the curriculum

No	Components	Duration in hours	Units
1	Theoretical lectures	30	2
2	practical sessions	30	1
3	Total	60	3

### Places of a completion the curriculum:

1. Lecture hall in the college

### Materials used to accomplish the curriculum:

None



**Syllabus of the theoretical lectures**

No.	Name of the lecture	Name of the instructor	term	Duration in hour/s	objectives
1-	Introduction to medical statistics & definitions	Dr Ban Nathem	1st term	1 hour	To understand basis of medical statistics
2-	Summarization and presentation of data	Dr Ban Nathem	1st term	1 hour	To be able to construct frequency distribution Tables and graphs
3-	Measurements of central tendencies	Dr Ban Nathem	1st term	1 hour	To measure mean, median and mode
4-	Measurements of variability	Dr Ban Nathem	1st term	1 hour	To measure standard deviation and other measures of variation
5-	Probability	Dr Ban Nathem	1st term	1 hour	To know the relative frequency of an incidence of an event in relation to the total events
6-	Sampling methods	Dr Ban Nathem	1st term	1 hour	To know types of sampling: random, systematic, and others
7-	The normal distribution	Dr Ban Nathem	1st term	1 hour	To know how to estimate normal range
8-	Confidence intervals and limits	Dr Ban Nathem	1st term	1 hour	To calculate 95% and 99% limits
9-	Tests of significance: Z test	Dr Ban Nathem	1st term	1 hour	Significance of association for quantitative data number>40
10-	Student T test	Dr Ban Nathem	1st term	1 hour	Significance of association for quantitative data number<40
11-	Chi squared test	Dr Ban	1st	1 hour	Significance of association for qualitative

	(X2 test)	Nathem	term		data
12-	Correlation & Regression	Dr Ban Nathem	1st term	1 hour	To assess the association between two different variables.
13-	Community diagnosis: Mortality Rates	Dr Ban Nathem	1st term	1 hour	To calculate different rates of deaths
14-	Community diagnosis: Mortality Rates	Dr Ban Nathem	1st term	1 hour	To calculate rates of disease: incidence & prevalence.
15-	Morbidity Rates, Fertility Rates	Dr Ban Nathem	1st term	1 hour	To calculate birth and fertility rates
16-	Introduction to nutrition	Dr Ban Nathem	2nd term	1 hour	Definition of nutrition and nutrients
17-	Macro and micronutrients	Dr Ban Nathem	2nd term	1 hour	To know main function and deficiency of macro and micronutrients
18-	Nutritional assessment Total energy and requirement	Dr Ban Nathem	2nd term	1 hour	To assess anthropometric measurements, clinical, chemical, dietary assessment and total energy requirements
19-	Nutrition during life cycle	Dr Ban Nathem	2nd term	1 hour	To know main nutritional needs during childhood, pregnancy, lactation, adulthood and elderly
20-	Nutrition and cancer	Dr Ban Nathem	2nd term	1 hour	To know main relationship between nutrition and cancer
21-	Brest and cow milk	Dr Ban Nathem	2nd term	1 hour	To know difference between breast and cow milk
22-	Health of adult and elderly	Dr Ban Nathem	2nd term	1 hour	To know importance of screening among adulthood and elderly
23-	Diabetes Mellitus	Dr Ban Nathem	2nd term	1 hour	To know main dietary treatment of Diabetes

					Mellitus
24-	Hypertension and coronary heart diseases	Dr Ban Nathem	2nd term	1 hour	To know main dietary treatment of Hypertension and coronary heart diseases
25-	Inborn error of metabolism	Dr Ban Nathem	2nd term	1 hour	Diet Therapy of Inborn error of metabolism
26-	Liver Diseases	Dr Ban Nathem	2nd term	1 hour	Diet Therapy of Liver Diseases
27-	Renal diseases	Dr Ban Nathem	2nd term	1 hour	Diet Therapy of Renal diseases
28-	Anorexia nervosa	Dr Ban Nathem	2nd term	1 hour	Diet Therapy of Anorexia nervosa
29-	Malnutrition	Dr Ban Nathem	2nd term	1 hour	Diet Therapy of Malnutrition
30-	Obesity	Dr Ban Nathem	2nd term	1 hour	Diet Therapy of obesity

### Syllabus of the practical course

NO	Name of clinical or laboratory session	Name of instructors	term	Duration in hours	Objectives
1-	Summarizing data exercise 1	Dr Ban Nathem, Dr Badeaa Thamer	1st term	1 hour	to summarize raw data into frequency distribution tables
2-	Representing of	Dr Ban Nathem,	1st	1 hour	To know how to do

	data exercise 2	Dr Badeaa Thamer	term		Graphs as histogram, polygon, bar chart, pia char, tables
3-	Data collection exercise3	Dr Ban Nathem, Dr Badeaa Thamer	1st term	1 hour	To know methods of data collection
4-	Measurements of central tendency exercise 4	Dr Ban Nathem, Dr Badeaa Thamer	1st term	1 hour	To know methods of measurements of central tendency
5-	Measurements of variability exercise 5	Dr Ban Nathem, Dr Badeaa Thamer	1st term	1 hour	To assess how to measure variability
6-	Measurements of Probability exercise 6	Dr Ban Nathem, Dr Badeaa Thamer	1st term	1 hour	To assess how to measure the probability as continuous and discrete probability
7-	Normal distribution Sampling exercise 7	Dr Ban Nathem, Dr Badeaa Thamer	1st term	1 hour	To assess how to measure Z score
8-	Confidence intervals and limits exercise 8	Dr Ban Nathem, Dr Badeaa Thamer	1st term	1 hour	To know how to assess confidence intervals and there upper and lower limits
9-	Chi squared test exercise 9	Dr Ban Nathem, Dr Badeaa Thamer	1st term	1 hour	To know how to assess Association for qualitative data
10-	Z test exercise10	Dr Ban Nathem, Dr Badeaa Thamer	1st term	1 hour	To know how to assess association for quantitative data number>40
11-	T test exercise11	Dr Ban Nathem, Dr Badeaa Thamer	1st term	1 hour	To know how to assess association for quantitative data number<40
12-	Assessment of Correlation & Regression	Dr Ban Nathem, Dr Badeaa Thamer	1st term	1 hour	To know how to assess association and correlation between

	exercise12				different 2 variables
13-	Fertility rate exercise13	Dr Ban Nathem, Dr Badeaa Thamer	1st term	1 hour	To know how to assess fertility during reproductive age women
14-	Mortality Rates exercise14	Dr Ban Nathem, Dr Badeaa Thamer	1st term	1 hour	To know how to assess infant mortality rate, maternal mortality rate
15-	Morbidity Rates exercise15	Dr Ban Nathem, Dr Badeaa Thamer	1st term	1 hour	To know how to assess prevalence rate, incidence rate
16-	Total energy requirement exercise16	Dr Ban Nathem, Dr Badeaa Thamer	2nd term	1 hour	To know how to assess of total energy requirement
17-	anthropometric measurements exercise 17	Dr Ban Nathem, Dr Badeaa Thamer	2nd term	1 hour	To know how to assess anthropometric measurements
18-	Phenyl ketonurea exercise18	Dr Ban Nathem, Dr Badeaa Thamer	2nd term	1 hour	To know how to assess Phenyl ketonurea
19-	Questionnaire for coronary heart diseases in hospital exercise19	Dr Ban Nathem, Dr Badeaa Thamer	2nd term	1 hour	To know how to assess  Risks factors of heart disease
20-	Questionnaire for Renal disease in hospital exercise20	Dr Ban Nathem, Dr Badeaa Thamer	2nd term	1 hour	To know how to assess  Risks factors of Renal disease
21-	Questionnaire for liver disease in hospital exercise21	Dr Ban Nathem, Dr Badeaa Thamer	2nd term	1 hour	To know how to assess  Risks factors of liver disease
22-	Questionnaire for inborn error of metabolism exercise22	Dr Ban Nathem, Dr Badeaa Thamer	2nd term	1 hour	To know how to assess inborn error of metabolism
23-	Ideal body	Dr Ban Nathem,	2nd	1 hour	To know how to assess

	weight exercise23	Dr Badeaa Thamer	term		ideal body weight
24-	Assessment of anorexia nervosa exercise24	Dr Ban Nathem, Dr Badeaa Thamer	2nd term	1 hour	To know how to assess anorexia nervosa
25-	Malnutrition exercise25	Dr Ban Nathem, Dr Badeaa Thamer	2nd term	1 hour	To know how to assess Malnutrition
26-	Questionnaire for Diabetes mellitus exercise 26	Dr Ban Nathem, Dr Badeaa Thamer	2nd term	1 hour	To know how to assess risk factors of Diabetes mellitus
27-	Nutritional programs exercise 27	Dr Ban Nathem, Dr Badeaa Thamer	2nd term	1 hour	To know how to do Nutritional programs
28-	Anthropometric Measurements of exercise 28	Dr Ban Nathem, Dr Badeaa Thamer	2nd term	1 hour	To know how to assess Anthropometric Measurements of
29-	obesity exercise 29	Dr Ban Nathem, Dr Badeaa Thamer	2nd term	1 hour	To know assessment of obesity
30-	Body mass index exercise 30	Dr Ban Nathem, Dr Badeaa Thamer	2nd term	1 hour	To know how to assess Body mass index

**Methods of assessment:**

	Type	1 <sup>st</sup> term	2 <sup>nd</sup> term	final	total
1-	Written exams	12	12	70	
2-	Quiz exams	3	3	----	
	Total	15	15	70	100

**Written exams: 60% MCQs, 40% short assay****Recommended books:**

- 1- Biostatistics a foundation for analysis in health sciences (Wayne W. Daniel).
- 2- A short textbook of Medical Statistics (A. Bradford Hill).
- 3- Nutrition and Diet Therapy
- 4- Advanced Nutrition

## Department of Internal Medicine

**Subject: Internal Medicine**

**Academic year: Third year**

**Course coordinator: Assistant professor Hameed Ibraheem Head of Department of Internal medicine and consultant of internal medicine.**

**Teaching staff:**

1. Assistant professor Hameed Ibraheem head Department of Internal medicine consultant of internal medicine .
2. Assistant professor Sami M. Awad decider of the department consultant of internal medicine .
3. Assistant professor Salah Noori Ahmed Dalli ali previous dean of the college for two cycles consultant of internal medicine .
4. Assistant professor Khalid A. ALrawi previous head of the department.
5. Assistant professor Haitham Noaman consultant of internal medicine .
6. Assistant professor Yasin Hamad Majeed consultant of internal medicine & gastroentologist subspecialty gastroenterology and hepatology.
7. Assistant professor Maheer A. Jasim consultant of internal medicine.
8. Lecturer Khalid M. Rmaidh specialist of internal medicine .
9. Lecturer Hazim Ismael specialist of internal medicine .
10. Lecturer Sami Meklef specialist of internal medicine .
11. Assistant Lecturer Ahmed Abdul Salam.
12. Assistant Lecturer Ahmed Ibraheem.

The Department of internal medicine of Ramadi Teaching hospital seniors whom have Board specialty license of internal medicine and have good experience in the specialty support our department in teaching our students when we need them like Amer jehad, Saleh ALadi ,Amjed Sheet .

Allocated marks: 100 marks.

Course duration: One academic year.

### Introduction:

Internal medicine is a clinical-based study that form the skeleton of college of medicine and built of the doctor where the medical students studied it by theoretical lectures and clinically practice it in the hospital medical wards on really ill patients also we use other tools like simulators in the skill lab. An understanding of medicine provides a fundamental framework for the accurate diagnosis and proper treatment of patients with medical problem. The purpose of this curriculum is to provide a basic detailed plan for teaching medicine in our college, unnecessary details and sophisticated clinical data were avoided from the curriculum, regarding this as a first step in updating our medicine curriculum in comparison with other worldwide. The curriculum also describe the subjects and topics in clinical medicine given for medical student.

The internal medicine department in Anbar college of medicine hosts the medical students on training course for 105 hours/year for the 3<sup>rd</sup> year.

**Objectives: The course is designed to introduce the student to:**

1. To enable the students to gather the information from the patients or actors.
2. To enable the students how they perform the general examination and practice it on real patients or actors.
3. To teach the students how they respect the patients.
4. To understand the pharmacology in general medicine.
5. To teach the student how the correlation between theoretical and clinical practice is beneficial to the patients.
6. To enhance the awareness of how medical knowledge may be applied effectively in clinical and scientific context.
7. To enable the students how to pursue independent and self-learning and how to work effectively in small groups.
8. To teach the students how to work effectively under full observations by their lecturers and doctors in the 3<sup>rd</sup> year.

**Components, duration and units of the curriculum**

No	Components	Duration	Unit
1	Theoretical lectures	45 hours	3
2	Clinical course	60 hours	2
3	Total	105 hours	5

**Places of completion the curriculum:**

1. Lecture hall in the college
2. Skill lab in the college
3. Rooms for small teaching group.
4. In patient wards in Ramadi Teaching Hospital
5. Emergency unit in Ramadi Teaching Hospital
6. CCU in Ramadi Teaching Hospital
7. Dialysis unit in Ramadi Teaching Hospital
8. AL-Humait teaching hospital for infectious diseases.

**Material used for completion the curriculum:**

1. Audiovisual aids.
2. Interaction with the students through questions.
3. Power point presentation.
4. Real patients .
5. ECGs ,X-rays study .
6. Plastic specimens as simulators .
7. Videos teaching tools and movies for real emergency medical conditions .
- vii. Diagrams and posters .
8. Small group and large groups medical discussion conditions .
9. pharmacology discussion for medical drugs.



**Syllabus:****Teaching Techniques:**

**Teaching will be conducted using the following techniques:**

## 1. Theoretical Sessions:

- lectures were designed to cover most of topics in medicine. In addition to hints on practical points in medical conditions on the community, clinical physiology, clinical anatomy and pathology, Radiology, clinical statistics and community bases of disease and clinical pharmacology study.
- The time of the lecture is 60 minutes.

## 2. Practical Sessions:

- The practical sessions follow the theory lectures in the same week in the teaching hospitals .
- The students are divided into 2 groups (A, B).
- Each group is guided by consultant in medicine and assistant professors minority are expert teachers .
- The time of each session is 2 hours.
- There are 1 session/week

A) General Medicine: Theory 45 hours (30 hours in the 1 <sup>st</sup> term and 15 hours in the 2 <sup>nd</sup> term), Practical 60 hours		
week	Topic	Objective
1	Introduction to medicine	TO STUDY AND UNDERSTAND : a) Ways of history taking from the patient . b) Examination of the patients
2	Vital signs	TO STUDY & UNDERSTAND: 1. Pulse ,types and usefulness 2. Blood pressure, respiration and oxygen saturation . 3. Temperature examination and how approach a patient with fever . 4. Study hyperthermia , hypothermia and heat strok.
3	Headache	TO STUDY & UNDERSTAND: a) Headache symptoms . b) Primary and secondary headache , tension headache ,cluster headache ,migraine and trigeminal neuralgia. c) Recognize serious headache and to approaches the patient with headache .
4	Introduction to fluid and electrolytes	TO STUDY: a) Electrolytes and fluid balance among

	balance among body compartments	body compartments patient . b) Investigations of body fluid diseases . c) Managing fluid diseases of the patients .
5	Disorders of sodium in human	TO STUDY: a) Diseases of hypernatremia and hyponatremia of the patient . b) Syndrome of inappropriate (SIADH) c) Investigations and management sodium disorders of the patients
6	Disorders of potassium in human	TO STUDY: a) Diseases of hyperkalemia and hypokalemia of the patient . b) Investigations and management sodium disorders of the patients
7	Disorders of magnesium	TO STUDY: a) Diseases of hypermagnesemia and hypomagnesemia of the patient . b) Investigations and management magnesium disorders of the patients
8	Disorders of acid base balance	TO STUDY: a) Diseases of metabolic acidosis and metabolic alkalosis of the patient . b) Investigations and management acid base disorders of the patients
9	Respiratory acidosis and alkalosis	TO STUDY: a) Diseases of respiratory alkalosis and acidosis of the patient . b) Investigations and management respiratory acidosis and alkalosis disorders of the patients
		Revision and examination
10	Cardinal symptoms and signs in clinical medicine	To guide students how to approach clinically various presenting symptoms and signs in clinical medicine
11	Chest pain and Dyspnea	To study the causes of chest pain and dyspnea and how to reach a diagnosis of a specific disease and guide the treatment
12	Cough and Haemoptysis	To study the causes of Cough and Haemoptysis and how to reach a diagnosis of a specific disease and guide the treatment
13	Cyanosis and Edema	To understand the causes of these clinical signs and to reach a clinical diagnosis
14	Dysphagia, Dyspepsia, Vomiting and Weight loss	To understand the causes and clinical approach in these presenting symptoms and how to do diagnosis and management
15	Gastrointestinal bleeding	To understand the various causes of acute and chronic upper and lower gastrointestinal bleeding

		and how to do management in this emergency condition
16	Abdominal pain, Diarrhea and Constipation	To study the causes and clinical approach in these presenting problems and how to do diagnosis and management
		Revision and examination
17	Amoebiasis and Giardiasis	TO STUDY: a) To understand life cycle of the two diseases . b) Management of the infected patients
18	Leishmaniasis	TO STUDY: a) To understand life cycle of the leishmaniasis . b) Management of the infected patients
19	Malaria	TO STUDY: a) To understand life cycle of the diseases . b) Management of the infected patients
20	Toxoplasmosis	TO STUDY: a) To understand life cycle of the diseases . b) Management of the infected patients
21	Taeniasis	TO STUDY: a) To understand life cycle of the diseases . b) Management of the infected patients
22	Cysticercosis	TO STUDY: a) To understand life cycle of the diseases . b) Management of the infected patients
23	Hydatid cyst	TO STUDY: a) To understand life cycle of the diseases . b) Management of the infected patients
24	Schistomiasis	TO STUDY: a. To understand life cycle of the diseases . B) Management of the infected patients
25	Physiology of nutrition	TO STUDY: a) Energy balance, Regulation of energy balance, response to under and over nutrition b) Macronutrient energy yielding nutrition [carbohydrate, fats, proteins]
	investigations of nutritional status	TO STUDY: Anthropometric measurements

26	Disease of altered energy balance	TO STUDY: a) Obesity, definitions ,complications, body fat distribution, etiology of obesity,clinical assessment , investigations and management b) Undernutrition in hospital c) Nutritional support
27	dietary supplement	TO STUDY: a) Normal diet enteral tube feeding ,parenteral nutrition b) Refeeding syndrome
28	Micronutrients Vitamins	TO STUDY: a) minerals and their disease b) fat soluble, water soluble c) Inorganic micronutrient
29	The innate immune system	TO STUDY: a) Constitutive barriers to infection b) Phagocytes( Neutrophils Monocytes and macrophages) Dendritic cells Cytokines Complement Mast cells and basophils Natural killer cells
	The adaptive immune system	TO STUDY: a) Primary Lymphoid organs b) Secondary Lymphoid organs (The thymus ,The spleen ,Lymph nodes and mucosa-associated lymphoid tissue) Lymphatics c) Humoral immunity B lymphocytes Immunoglobulins d) Cellular immunity T lymphocytes
30	IMMUNE DEFICIENCY	TO STUDY: a) Presenting problems in immune deficiency Primary phagocyte deficiencies Leucocyte adhesion deficiencies Chronic granulomatous disease Defects in cytokines and cytokine receptors Complement pathway deficiencies b) Investigations and management c) Primary deficiencies of the adaptive immune system Primary antibody deficiencies Secondary immune deficiencies THE INFLAMMATORY RESPONSE Acute phase proteins

**Clinical course: 60 hours, 2 hours/week**

No	Item	Duration
1	General information about history taking- identification of patient	2 hours
2	General information about history taking- chief complaints and duration	2 hours
3	General information about history taking- history of present illness	2 hours
4	General information about history taking- systemic review	2 hours
5	General information about history taking- past history	2 hours
6	General information about history taking- family, drug and social histories	2 hours
7	Practice of communication skills and presentation in history taking from patients or actors with various complaints in the field of internal medicine	18 hours
8	General information about general physical examination	4 hours
9	Way of eliciting conscious level and practice it from all students	2 hours
10	Ways of eliciting dyspnea and practice it from all students	2 hours
11	Ways of eliciting cyanosis and clubbing and practice it from all students	2 hours
12	Ways of eliciting pallor and practice it from all students	2 hours
13	Way of eliciting color changes of patients and practice it from all students	2 hours
14	Way of eliciting jaundice and practice it from all students	2 hours
15	Ways of eliciting muscle wasting and cachaxia and practice it from all students	2 hours
16	Way of eliciting mouth physical signs and practice it from all students	4 hours
17	Way of eliciting hand physical signs and practice it from all students	4 hours
18	Way of eliciting pitting oedema and practice it from all students	2 hours
19	Way of eliciting the breathing and practice it from all students	2 hours
20	Total	60 hours

**Methods of assessment**

No	Exam	Type of assessment	Marks
1	First term	Quizzes in the same theoretical lectures	2
		End term written exam (60% MCQs & 40% essay questions)	13
2	Second term	Quiz in the same theoretical lectures	2
		End term written exam (60% MCQs & 40% essay questions)	13
3	Final clinical	History taking and presentation	10
		General physical exam	10
4	Final written	MCQs	30
		Essay questions	20
5	Total		100

**Suggested Reading List:**

1. Davidson principles and practise, 22<sup>nd</sup> Edition, By: Stanley Davidson MD.
2. Macleod 's clinical examination : S. Macleod

## Department of Surgery

**Subject: General Surgery**

**Academic year: Third year**

**Coordinator: Assistant Professor Dr. Waleed Nassar Jaffal.**

**Teaching staff:**

1. Assist. Prof. Waleed Nassar
2. Assist. Prof. Ziad Hammad
3. Assist. Prof. Aamr Fakhry
4. Assist. Prof. Saad Mikhlef
5. Assist. Prof. Mohammad Tufash
6. Assist. Prof. Yahya Hameed
7. Instructor Dr. Mohammad Jasim
8. Instructor Dr. Tarik Mahdi
9. Instructor Dr. Haider Abbas
10. Instructor Dr. Omar Tarik
11. Instructor Dr. Bassam Maddah.

**Introduction:**

The Curriculum in Surgery should provide students with a clear and concise overview of the surgical teaching in the clinical phase of their studies. The major advances in medicine, the need to reasonably limit the number of years of formal education, the increasing number and complexity of special fields, and the diversity of interests and talents among students all demand continual examination and evaluation of our educational aims and process.

**Objectives:**

1. To educate students in surgery and to enable them to practice surgery safely.
2. To provide medical students with an understanding and appreciation of the art and science of surgery.
3. To provide excellence in teaching the students the basic surgical principles.
4. To direct and guide students to focus on the prime importance of patient care.

**Components, duration and credits of the curriculum**

Components	Duration	Credit
Theoretical lectures	30 hours	2

**Places of completion the curriculum:**

1. Studying hall in the college.

**Syllabus of the theoretical lectures:**

No	Name of the lecture	Name of the instructor	Term	Duration in hour/s
1	Body response to injury	Assist. Prof. Ziad Hammad	1st	1
2	Body response to injury	Assist. Prof. Ziad Hammad	1st	1
3	Shock	Assist. Prof. Ziad Hammad	1st	1
4	Shock	Assist. Prof. Ziad Hammad	1st	1
5	Hemorrhage	Assist. Prof. Waleed Nassar	1st	1
6	blood transfusion	Assist. Prof. Waleed Nassar	1st	1
7	Wound healing and scars	Dr. Mohammad Jasim	1st	1
8	Wound management	Dr. Mohammad Jasim	1st	1
9	Fluids & electrolytes	Instructor Dr. Tarik Mahdi	1st	1
10	Fluids & electrolytes	Instructor Dr. Tarik Mahdi	1st	1
11	Deep vein thrombosis	Assist. Prof. Saad Mikhlef	1st	1
12	Varicose veins	Assist. Prof. Saad Mikhlef	1st	1
13	Acute arterial disease	Assist. Prof. Mohammad Tufash	1st	1
14	Chronic arterial disease	Assist. Prof. Mohammad Tufash	1st	1
15	Chronic arterial disease	Assist. Prof. Mohammad Tufash	1st	1
16	Lymphatic disease	Instructor Dr. Bassam Maddah	2 <sup>nd</sup>	1
17	Gangrene and ulcer	Assist. Prof. Aamr Fakhry	2 <sup>nd</sup>	1
18	Surgical infections	Assist. Prof. Ziad Hammad	2 <sup>nd</sup>	1
19	Surgical infections	Assist. Prof. Ziad Hammad	2 <sup>nd</sup>	1
20	Serialization and disinfection	Instructor Dr. Omar Tarik	2 <sup>nd</sup>	1
21	Fistula and sinus	Instructor Dr. Omar Tarik	2 <sup>nd</sup>	1
22	Tumors and tumor markers	Assist. Prof. Yahya Hameed	2 <sup>nd</sup>	1



23	Tumors and tumor markers	Assist. Prof. Yahya Hameed	2 <sup>nd</sup>	1
24	Skin tumors	Dr. Mohammad Jasim	2 <sup>nd</sup>	1
25	Skin tumors	Dr. Mohammad Jasim	2 <sup>nd</sup>	1
26	Surgical drains and sutures	Instructor Dr. Omar Tarik	2 <sup>nd</sup>	1
27	Burn	Dr. Mohammad Jasim	2 <sup>nd</sup>	1
28	Burn	Dr. Mohammad Jasim	2 <sup>nd</sup>	1
29	Total parenteral nutrition	Instructor Dr. Haider Abbas	2 <sup>nd</sup>	1
30	Total parenteral nutrition	Instructor Dr. Haider Abbas	2 <sup>nd</sup>	1

### Methods of assessment

No	Exam	Type of assessment	Marks
1	During the 1 <sup>st</sup> term(5 marks)	Short quizzes during lectures	5
2	1 <sup>st</sup> term exam (10 marks)	MCQs	6
		essay questions	4
3	During the 2 <sup>nd</sup> term(5 marks)	Short quizzes during lectures	5
4	2 <sup>nd</sup> term exam (10 marks)	MCQs	6
		essay questions	4
		MCQs	42
		essay questions	28
6	Total mark		100

### Recommended books:

Baily and Love – Short Practice of Surgery - Russell

# CHAPTER 5

## **Subjects for the annual system of the fourth stage**

No.	Subject
1	Pathology
2	Community Medicine
3	Medical ethics
4	Obstetrics
5	Forensic Medicine
6	Internal Medicine
7	General Surgery

## Department of Pathology and Forensic Medicine

**Subject:** Pathology

**Academic year:** Fourth year

**Course coordinator:** Assist. Prof. Dr. Nafea Sami Al-Esawi, Assistant Professor and Head of pathology and forensic medicine Department

**Teaching staff:**

1. Three assistant professors.
2. One lecturer.
3. Two assistant lecturers.

**Allocated marks:** 100 marks.

**Course duration:** One academic year.

### Introduction:

The primary goal of the pathology course is to initiate the medical student in the study of disease. Without a clear understanding of the etiology (cause), pathogenesis (development), and pathophysiology of disease, clinical medicine would mean little more to the student than memorization of clinical syndromes and the empirical treatments applied to them.

Pathology course is taught during both the third and fourth years of this medical school. The general format is to introduce a topic with a one-hour lecture to the entire class. Following this, the class is divided into 2-3 laboratory groups, for informal, interactive sessions in which gross specimens, kodachromes, virtual microscopic images and case discussions are utilized.

Recently the methodology was designed to improve students' problem-solving and independent study skills.

Pathology is a medical specialty that is concerned with the diagnosis of disease based on the gross, microscopic, chemical, immunologic and molecular examination of organs, tissues, and whole bodies (autopsy).

An understanding of human pathology provides a fundamental framework for the accurate diagnosis and proper treatment of patients with medical problem, a significant population of any medical practice. The purpose of this curriculum is to provide a basic detailed plan for teaching systemic pathology in our college . The curriculum also describes the subjects and topics in systemic pathology given for medical student.

The pathology Department in the College of Medicine, University of Anbar hosts the medical students on training course for 105 hours/yr. Our aim is to enhance the knowledge of our students and let them be aware about the first steps in studying diseases in their clinical life.

To achieve this purpose, hard work and appropriate methods of learning were carried out by our academic staff.

### Overall Aims:

**The course is designed to introduce the student to:**

1. Pathologic terms.
2. Basic alterations in cells and tissues that eventually lead to disease(s).
3. The correlation between pathologic changes and the function of affected organs.
4. Follow the course of the disease and its complications.
5. Understand the clinical presentation and the outcome of the disease.

6. Encourage the students for self-learning and how to work independently and effectively in small groups.

### General Objectives:

**At the end of the course students should be able to:**

1. Recognize the basic concepts of pathology and pathogenesis and to list causes of disease.
2. Describe major pathological changes of gastrointestinal disease.
3. Define setiosis, cholestasis and other pathological manifestation of liver disease .
4. Describe mechanism of various hematological disorders and lymphoid pathology.
5. Define the major gynaecological pathology and their influence on female genital system organs and clinical manifestations including fertility.
6. At the end of the course the student should be able to describe major congenital abnormalities, to describe tumors of external genitalia and to be familiar with various types of testicular tumors and prostatic carcinoma.
7. Define the benign and malignant breast diseases .
8. At the end of the course the student should be able to describe CVA, demyelinating diseases and degenerative diseases and to be familiar with CNS tumors..
9. At the end of the course the student should be able to describe major congenital and acquired renal disorders.
10. At the end of the course the student should be able to describe bone infection and tumors, to describe arthritis and joint tumors and to be familiar with the concept of soft tissue tumors.
11. At the end of the course the student should be able to define exfoliative and FNA cytology and to describe advantages, disadvantages, indications and contraindications of FNA.
12. At the end of the course the student should be familiar with various hematologic lab

### Components, duration and units of the curriculum

No	Components	Duration	Unit
1	Theoretical lectures	60 hours	4
2	Pactical course	45 hours	1.5
3	Total	105 hours	5.5

### Places of completion the curriculum:

1. Lecture hall in the college
2. pathological lab in the college

### Material used for completion the curriculum:

1. Audiovisual aids through animations and diagrams.
2. Interaction with the students through questions.
3. Power point presentation.

4. Diagrams and posters
5. Video tapes and movies.
6. Kodachromes slides (including gross, microscopic, special stain, ultrastructural, radiological, clinical ... slides).
7. Gross specimen
8. Glass slides.

**Syllabus:****Teaching Techniques:**

Teaching will be conducted using the following techniques:

1. Theoretical Sessions:
  - lectures were designed to cover most of topics in human anatomy. In addition to hints on surface anatomy, Radiology, clinical applications are given whenever appropriate.
  - The time of the lecture is 50 minutes.
  - There are 2 lecture/week and one discussion lecture/week.
2. Practical Sessions:
  - The practical sessions follow the theory lectures in the same week.
  - The students are divided into 2 groups (A, B).
  - Each group is subdivided into 6 subgroups.
  - The time of each session is 2hr.
  - There are 2 session / week.

**Syllabus:**

week	Topic	Objective
1-4	<ol style="list-style-type: none"> <li>1. Diseases of Esophagus: Congenital Anomalies, Lesions Associated with Motor Dysfunction, Esophageal Varices, Esophagitis and tumors.</li> <li>2. Diseases of Stomach: Congenital Anomalies, Gastritis, Peptic Ulcer Disease and tumors.</li> <li>3. Diseases of Small and Large Intestines: Congenital anomalies, Enterocolitis, Malabsorption Syndromes, Idiopathic Inflammatory Bowel Disease, Diverticular Disease and Tumors.</li> <li>4. Diseases of Appendix</li> </ol>	<b>TO STUDY:</b> At the end of the course the student should be able to describe major congenital and acquired disorders of esophagus, stomach, intestine, appendix .
5-6	<ol style="list-style-type: none"> <li>1. Patterns of hepatic injury</li> <li>2. Viral hepatitis</li> <li>3. Autoimmune hepatitis</li> <li>4. Drug- and toxin-induced liver disease</li> <li>5. Intrahepatic biliary tract disease</li> <li>6. Circulatory disorders</li> <li>7. Nodules and tumors</li> </ol>	<b>TO STUDY:</b> At the end of the course the student should be able to describe major hepatic and biliary tract disorders.

	<ul style="list-style-type: none"> <li>8. Disorders of the gallbladder</li> <li>9. Disorders of the extrahepatic bile ducts</li> <li>10. Tumors of biliary tract</li> </ul>	
7-9	<ul style="list-style-type: none"> <li>1. Anemia</li> <li>2. Acute leukemia</li> <li>3. Chronic leukemia</li> <li>4. Multiple myeloma</li> <li>5. Coagulation disorders</li> <li>6. Blood Transfusion</li> </ul>	At the end of the course the student should be able to be familiar with diseases originating from RBC, WBC and platelet disorders, to describe basic concepts of coagulation disorders and to list indications and complications of blood transfusion
10-12	<ul style="list-style-type: none"> <li>1. Reactive (Inflammatory) Proliferations of White Cells and Lymph Nodes</li> <li>2. Neoplastic Proliferations of White Cells</li> <li>3. Hodgkin's lymphoma</li> <li>4. Non Hodgkin's Lymphoma.</li> </ul>	1 At the end of the course the student should be able to describe reactive lymphoid disorders, Hodgkin's lymphoma and Non Hodgkin's Lymphoma
13-14	<ul style="list-style-type: none"> <li>1. Infections of the Female Genital Tract</li> <li>2. Acute and chronic cervicitis</li> <li>3. Intraepithelial and Invasive Squamous Neoplasia of cervix</li> <li>4. Functional endometrial disorders (dysfunctional uterine bleeding)</li> <li>5. Endometriosis and Adenomyosis</li> <li>6. Endometrial hyperplasia (endometrial intraepithelial neoplasia)</li> <li>7. Malignant Tumors of the Endometrium</li> </ul>	At the end of the course the student should be able to describe major disorders of female uterus and cervix
15-16	<ul style="list-style-type: none"> <li>1. Congenital anomalies</li> <li>2. Inflammations</li> <li>3. Tumors of external genitalia</li> <li>4. Cryptorchidism</li> <li>5. Testicular tumors</li> <li>6. Nodular hyperplasia (benign prostatic hyperplasia)</li> <li>7. Prostatic carcinoma</li> </ul>	At the end of the course the student should be able to describe major congenital abnormalities, to describe tumors of external genitalia and to be familiar with various types of testicular tumors and prostatic carcinoma
17-19	<ul style="list-style-type: none"> <li>1. Clinical Manifestations of Renal Diseases</li> <li>2. Congenital Anomalies</li> <li>3. Urinary tract infection</li> <li>4. Cystic Diseases of the Kidney</li> <li>5. Glomerular Diseases</li> </ul>	At the end of the course the student should be able to describe major congenital and acquired renal disorders

	6. Diseases Affecting Tubules and Interstitium 7. Urinary Tract Obstruction 8. Tumors of the Kidney.	
20-21	1. Cerebrovascular diseases 2. Infections: acute meningitis, acute focal suppurative infections and chronic bacterial meningoencephalitis 3. Demyelinating diseases 4. Degenerative diseases 5. Tumors: Astrocytoma and Meningioma	Course objectives At the end of the course the student should be able to describe CVA, demyelinating diseases and degenerative diseases and to be familiar with CNS tumors.
22-24	1. Bones: Infections—Osteomyelitis and Bone Tumors and Tumor-Like Lesion 2. Joints: Arthritis and Tumors and Tumor-Like Lesions 3. Soft Tissue Tumors and Tumor-Like Lesions	At the end of the course the student should be able to describe bone infection and tumors, to describe arthritis and joint tumors and to be familiar with the concept of soft tissue tumors.
25-26	Cytopathology	Course objectives At the end of the course the student should be familiar with pathological changes at the level of cell and diagnostic features in various diseases.
27-28	Benign and proliferative breast disorders Malignant breast tumors	
29-30	Ear and eye pathology	

**Practical Pathology : 45 hours**

1	1. Chronic gastritis: causes, pathogenesis, gross and microscopic features and complications. 2. Peptic ulcer: causes, pathogenesis, gross and microscopic features and complications. 3. Gastric carcinoma: causes, pathogenesis, gross and microscopic features and complications.	Course objectives At the end of the course the student should be able to describe basic histologic changes of chronic gastritis, peptic ulcer and gastric carcinoma.
14	1. Crohn's disease: causes, pathogenesis, gross and microscopic features and complications. 2. Ulcerative colitis: causes, pathogenesis, gross and microscopic features and	Course objectives At the end of the course the student should be able to describe basic histologic changes of crohn's disease,



	<p>complications.</p> <p>3. Colorectal carcinoma: causes, pathogenesis, gross and microscopic features and complications</p>	Ulcerative colitis and colorectal carcinoma.
15	<p>1. Liver cirrhosis: causes, pathogenesis, gross and microscopic features and complications.</p> <p>2. Hepatocellular carcinoma: causes, pathogenesis, gross and microscopic features and complications.</p> <p>3. Steatosis: causes, pathogenesis, gross and microscopic features and complications.</p>	<p>Course objectives</p> <p>At the end of the course the student should be able to describe basic histologic changes of liver cirrhosis and hepatocellular carcinoma .</p>
16	<p>1. Iron deficiency anemia: causes, pathogenesis, gross and microscopic features .</p> <p>2. Thalassemia: causes, pathogenesis, gross and microscopic features and complications</p> <p>3. Acute myeloid leukemia: causes, pathogenesis, gross and microscopic features and complications.</p> <p>4. Acute lymphoblastic leukemia: causes, pathogenesis, gross and microscopic features and complications .</p>	<p>Course objectives</p> <p>At the end of the course the student should be able to describe basic histological features of iron deficiency anemia and thalassemia and features of acute myeloid leukemia and acute lymphoblastic leukemia .</p>
17	<p>1. Hodgkin's lymphoma: causes, pathogenesis, gross and microscopic features and complications.</p> <p>2. Non-Hodgkin's lymphoma: causes, pathogenesis, gross and microscopic features and complications.</p>	<p>Course objectives</p> <p>At the end of the course the student should be able to describe basic histologic features of Hodgkin's and Non-Hodgkin's lymphoma.</p>
18	<p>1. Ovarian cysts: causes, pathogenesis, gross and microscopic features and complications.</p> <p>2. Leiomyoma uterus: causes, pathogenesis, gross and microscopic features and complications.</p>	<p>Course objectives</p> <p>At the end of the course the student should be able to describe basic types of ovarian cysts and leiomyoma.</p>
19	<p>1. Fibroadenoma breast: causes, pathogenesis, gross and microscopic features and complications.</p> <p>2. Carcinoma breast: causes, pathogenesis, gross and microscopic features and complications.</p>	<p>Course objectives</p> <p>At the end of the course the student should be able to describe basic histological features of fibroadenoma breast and breast carcinoma.</p>
21	<p>1. Benign prostatic hyperplasia: causes, pathogenesis, gross and microscopic features and complications.</p> <p>2. Carcinoma prostate: causes, pathogenesis, gross and microscopic features and complications</p>	<p>Course objectives</p> <p>At the end of the course the student should be able to describe basic histologic features of benign prostatic hyperplasia and carcinoma</p>



		prostate.
22	<ol style="list-style-type: none"> <li>1. Chronic pyelonephritis: causes, pathogenesis, gross and microscopic features and complications.</li> <li>2. Chronic cystitis: causes, pathogenesis, gross and microscopic features and complications.</li> <li>3. Renal cell carcinoma: causes, pathogenesis, gross and microscopic features and complications.</li> </ol>	<p>Course objectives</p> <p>At the end of the course the student should be able to describe basic histological features of chronic pyelonephritis, chronic cystitis and renal cell carcinoma</p>
23	<ol style="list-style-type: none"> <li>1. CVA: causes, pathogenesis, gross and microscopic features and complications.</li> <li>2. Meningioma: causes, pathogenesis, gross and microscopic features and complications.</li> <li>3. Astrocytoma: causes, pathogenesis, gross and microscopic features and complications.</li> </ol>	<p>Course objectives</p> <p>At the end of the course the student should be able to describe basic histologic features of CVA and brain tumors</p>
24	<ol style="list-style-type: none"> <li>1. Osteomyelitis: causes, pathogenesis, gross and microscopic features and complications.</li> <li>2. Osteogenic sarcoma: causes, pathogenesis, gross and microscopic features and complications.</li> <li>3. Carcinoma skin: causes, pathogenesis, gross and microscopic features and complications..</li> </ol>	<p>Course objectives</p> <p>At the end of the course the student should be able to describe basic histologic features of osteomyelitis, osteogenic sarcoma and carcinoma skin.</p>
25-27	<ol style="list-style-type: none"> <li>1. Definition</li> <li>2. Exfoliative cytology: techniques and examples</li> <li>3. Fine Needle Aspiration cytology (FNAC) technique.</li> <li>4. Indications of FNAC</li> <li>5. Limitations of FNAC</li> <li>6. Advantages of FNAC</li> <li>7. Contraindications of FNAC</li> <li>8. Comparison between cytology and histopathology</li> <li>9. Immunocytochemistry .</li> </ol>	<p>Course objectives</p> <p>At the end of the course the student should be able to define exfoliative and FNA cytology and to describe advantages, disadvantages, indications and contraindications of FNA.</p>
28	<ol style="list-style-type: none"> <li>1. Disorders of WBC: leucopenia, leukocytosis and leukemia</li> <li>2. Disorders of RBC: anemia</li> <li>3. Disorders of platelet: thrombocytopenia</li> <li>4. Interpretation of CBP and Blood film</li> </ol>	<p>Course objectives</p> <p>At the end of the course the student should be familiar with various hematologic lab. Tests that are mention bellow.</p>
29-30	<ol style="list-style-type: none"> <li>5. Coagulation disorders: PT, PTT, and bleeding time</li> <li>6. Osmotic fragility test</li> <li>7. Hemoglobinopathies and hemoglobin</li> </ol>	<p>Course objectives</p> <p>At the end of the course the student should be familiar with various hematologic</p>

	electrophoresis 8. Cytogenetic and eukemias	lab. Tests that are mention bellow.
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**Syllabus of the theoretical lectures :-**

No.	Name of lecture	Name of Lecturer	Duration in hour
1.	Oral cavity and salivary glands	Assist. Prof. Dr. Nafea Sami	2
2.	Esophagus and stomach pathology	Assist. Prof. Dr. Nafea Sami	2
3.	Congenital anomalies and malabsorption	Assist. Prof. Dr. Nafea Sami	2
4.	Intestinal obstruction Inflammatory bowel disease Colonic malignancy	Assist. Prof. Dr. Nafea Sami	2
5.	Liver injury and hepatitis and tumor	Assist. Prof. Dr. Nafea Sami	2
6.	Gall bladder and pancreas pathology	Assist. Prof. Dr. Nafea Sami	2
7.	Anemia	Assist. Prof. Dr. Ali Aldori	2
8.	Acute leukemia	Assist. Prof. Dr. Ali Aldori	2
9.	Chronic leukemia	Assist. Prof. Dr. Ali Aldori	2
10.	Coagulation disorders Blood Transfusion	Assist. Prof. Dr. Ali Aldori	2
11.	Reactive (Inflammatory) Proliferations of White Cells and Lymph Nodes	Assist. Prof. Dr. Ali Aldori	2
12.	Neoplastic Proliferations of White Cells )Hodgkin's lymphoma & Non Hodgkin's Lymphoma(	Assist. Prof. Dr. Ali Aldori	2
13.	Infections of the Female Genital Tract Acute and chronic cervicitis Intraepithelial and Invasive Squamous Neoplasia of cervix Functional endometrial disorders (dysfunctional uterine bleeding)	L.Dr. Alae abduqader	2
14.	Endometriosis and Adenomyosis Endometrial hyperplasia (endometrial intraepithelial neoplasia Malignant Tumors of the Endometrium	L.Dr. Alae abduqader	2

15.	Congenital anomalies Inflammations Tumors of external genitalia Cryptorchidism	L.Dr. Alae abduqader	2
16.	Testicular tumors Nodular hyperplasia Prostatic carcinoma	L.Dr. Alae abduqader	2
17.	Cerebrovascular diseases Infections: acute meningitis, acute focal suppurative infections and chronic bacterial meningoencephalitis	L.Dr. Alae abduqader	2
18.	Demyelinating diseases Degenerative diseases	L.Dr. Alae abduqader	2
19.	Tumors: Astrocytoma and Meningioma	L.Dr. Alae abduqader	2
20.	Benign and proliferative breast disorders Malignant breast tumors	Assist. Prof. Dr. Arkan obaïd	2
21.	Bones: Infections—Osteomyelitis and Bone Tumors and Tumor-Like Lesion	Assist. Prof. Dr. Arkan obaïd	2
22.	Joints: Arthritis and Tumors and Tumor- Like Lesions	Assist. Prof. Dr. Arkan obaïd	2
23.	Soft Tissue Tumors and Tumor-Like Lesions	Assist. Prof. Dr. Arkan obaïd	2
24.	Congenital Anomalies Urinary tract infection Cystic Diseases of the Kidney	Assist. Prof. Dr. Arkan obaïd	2
25.	Glomerular Diseases Diseases of Tubules and Interstitium Urinary Tract Obstruction	Assist. Prof. Dr. Arkan obaïd	2
26.	Tumors of the Kidney	Assist. Prof. Dr. Arkan obaïd	2
27.	Breast pathology	Assist. Prof. Dr. Arkan obaïd	2
28.	Cytopathology	Assist. Prof. Dr. Nafea Sami	2
29.	Eye pathology	Assist. Prof. Dr. Arkan obaïd	2
30.	Ear pathology	Assist. Prof. Dr. Arkan obaïd	2

**Syllabus of the practical lectures :-**

No.	Name of practical session	Name of lecturer	Duration in hour
1.	Oral cavity and salivary glands	Assist. Prof. Dr. Nafea Sami	1.5
2.	Esophagus and stomach pathology	Assist. Prof. Dr. Nafea Sami	1.5
3.	Congenital anomalies and malabsorption	Assist. Prof. Dr. Nafea Sami	1.5
4.	Intestinal obstruction Inflammatory bowel disease Colonic malignancy	Assist. Prof. Dr. Nafea Sami	1.5
5.	Liver injury and hepatitis and tumor	Assist. Prof. Dr. Nafea Sami	1.5
6.	Gall bladder and pancreas pathology	Assist. Prof. Dr. Nafea Sami	1.5
7.	Anemia	Assist. Prof. Dr. Ali Aldori	1.5
8.	Acute leukemia	Assist. Prof. Dr. Ali Aldori	1.5
9.	Chronic leukemia	Assist. Prof. Dr. Ali Aldori	1.5
10.	Coagulation disorders Blood Transfusion	Assist. Prof. Dr. Ali Aldori	1.5
11.	Reactive (Inflammatory) Proliferations of White Cells and Lymph Nodes	Assist. Prof. Dr. Ali Aldori	1.5
12.	Neoplastic Proliferations of White Cells) Hodgkin's lymphoma & Non Hodgkin's Lymphoma(	Assist. Prof. Dr. Ali Aldori	1.5
13.	Infections of the Female Genital Tract Acute and chronic cervicitis Intraepithelial and Invasive Squamous Neoplasia of cervix Functional endometrial disorders (dysfunctional uterine bleeding)	L.Dr. Alae abduqader	1.5
14.	Endometriosis and Adenomyosis Endometrial hyperplasia (endometrial intraepithelial neoplasia Malignant Tumors of the Endometrium	L.Dr. Alae abduqader	1.5
15.	Congenital anomalies Inflammations Tumors of external genitalia Cryptorchidism	L.Dr. Alae abduqader	1.5
16.	Testicular tumors	L.Dr. Alae abduqader	1.5

	Nodular hyperplasia Prostatic carcinoma		
17.	Cerebrovascular diseases Infections: acute meningitis, acute focal suppurative infections and chronic bacterial meningoencephalitis	L.Dr. Alae abduqader	1.5
18.	Demyelinating diseases Degenerative diseases	L.Dr. Alae abduqader	1.5
19.	Tumors: Astrocytoma and Meningioma	L.Dr. Alae abduqader	1.5
20.	Benign and proliferative breast disorders Malignant breast tumors	Assist. Prof. Dr. Arkan obaid	1.5
21.	Bones: Infections—Osteomyelitis and Bone Tumors and Tumor-Like Lesion	Assist. Prof. Dr. Arkan obaid	1.5
22.	Joints: Arthritis and Tumors and Tumor-Like Lesions	Assist. Prof. Dr. Arkan obaid	1.5
23.	Soft Tissue Tumors and Tumor-Like Lesions	Assist. Prof. Dr. Arkan obaid	1.5
24.	Congenital Anomalies Urinary tract infection Cystic Diseases of the Kidney	Assist. Prof. Dr. Arkan obaid	1.5
25.	Glomerular Diseases Diseases of Tubules and Interstitium Urinary Tract Obstruction	Assist. Prof. Dr. Arkan obaid	1.5
26.	Tumors of the Kidney	Assist. Prof. Dr. Arkan obaid	1.5
27.	Breast pathology	Assist. Prof. Dr. Arkan baid	1.5
28.	Cytopathology	Assist. Prof. Dr. Nafea Sami	1.5
29.	Eye & ear pathology	Assist. Prof. Dr. Arkan obaid	1.5
30.	Hematology laboratory pathology	Assist. Prof. Dr. Ali Aldori	1.5

**Methods of assessment**

No	Exam	Type of assessment	Marks
1	First term	Quizzes in the same theoretical lectures	2
		End term written exam (60% MCQs & 40% essay questions)	13
2	Second term	Quiz in the same theoretical lectures	2
		End term written exam (60% MCQs & 40% essay questions)	13
3	Final practical	1. Kodachromes slides (including gross, microscopic, special stain, ultrastructural, radiological, clinical ... slides). 2. Gross specimen 3. Glass slides	20
4	Final written	MCQs	30
		Essay questions	20
5	Total		100

**Suggested Reading List:**

1. Robbins & Cotran Pathologic Basis of Disease, 9th edition ... Jon C. Aster , Vinay Kumar, Abul K. Abbas.
2. Robbins and Cotran Atlas of Pathology, 3e (Robbins Pathology) .
3. Curran's Atlas of Histopathology.

**Department of Community and Family Medicine****Subject: Community Medicine****Academic year: Fourth year****Coordinator: Ass. Prof. Dr Mahasin Altaha****Teaching staff**

1. Ass. Prof. Dr. Mahasin Altaha
2. Instructor Dr. Yaseen Taha,
1. Instructor Dr. Ahmed Soofi,
2. Instructor Dr. Ban Nathem
3. Dr. Badeea Thamer
4. Dr. Mustafa Ali

**Introduction**

Community medicine is a branch of medicine that is concerned with the health of the members of a community. It is the science of preventing diseases, promoting health and prolonging life through the organized efforts of society, it deals with the health of the whole population and looks at the community (population) itself as a patient.

The scope of Community Medicine includes the following fields:

1. Medical statistics (Biostatistics)
2. Nutritional health and Nutritional disorders
3. General epidemiology
4. Primary Health Care: Includes:
  - Maternal and child health care including family planning.
  - Health education.
  - Mental health.
  - Geriatric Health
5. Epidemiology of communicable diseases
6. Epidemiology of non-communicable diseases (chronic diseases),
7. Occupational Health,
8. Environmental Health, and
9. Health Care Administration

**Objectives**

The Department of Community Medicine carries a fundamental message which encompasses efforts to cultivate the concepts, principles and practices of Community Medicine practical and academic domains. Specifically the department works to achieve the following objectives:

1. To teach the students the spectrum of problems that occurs in primary care and to understand how to provide, continuous comprehensive care to patients and their families.
2. To actively contribute in qualifying doctors who are able to serve the interests of population in promoting health, protecting health, and restoring health.
3. To teach students the principles of general epidemiology in addition to epidemiology of communicable and non- communicable diseases.

4. To strengthen research capacity both at the level of the department work, the level of College of Medicine and at the level of the health care system.
5. To enhance, support and evaluate the adoption of family health model.

### Components, duration and units of the curriculum

No	Components	Duration hours	in	Units
1	Theoretical lectures	90		6
2	practical sessions	120		4
3	Total	210		10

### Places of a completion the curriculum:

1. Lecture hall in the college
2. Community survey (2nd term)

### Materials used to accomplish the curriculum:

None

### Syllabus of the theoretical lectures

No.	Name of the lecture	Name of the instructor	term	Duration in hour/s	objectives
1-	Introduction to general epidemiology	Yaseen taha	First term	1 hour	Definition of epidemiology, uses , collection of data , sources of data
2-	Epidemiological measurement, rates , ratios , proportion .	Yaseen taha	First term	1 hour	Definition and uses , applications
3	Morbidity and mortality and types of them.	Yaseen taha	First term	2 hours	Definition and advantage of incidence and prevalence, and mortality ,
4	Descriptive epidemiology , relation to person , place , time ,	Yaseen taha	First term	1 hour	Describe of diseases according to person , place , time
5	Epidemiological design , descriptive and analytic , type , cross section study and longitudinal .	Yaseen taha	First term	1 hour	Classification of descriptive study ,and advantage and disadvantage
6	Analytic study , case control , cohort study	Yaseen taha	First term	2 hours	Advantage and disadvantage of each study design .



7	Intervention study (clinical trial )	Yaseen taha	First term	1 hour	Advantage and disadvantage of clinical trial and uses
8	Concept of cause and causal association	Yaseen taha	First term	1 hour	Criteria of causal association and , definition of bias , confounder .type of causal association
9	Measures of association , risk , 2x2 table	Yaseen taha	First term	1 hour	Definition of risk , relative risk , risk difference , and uses
10	Screening test	Yaseen taha	First term	2 hours	Definition . criteria of screening test , application
11	Investigation of epidemic	Yaseen taha	First term	1 hour	Criteria of investigation of epidemic of diseases ,and report of frequency of diseases for control and management
12	Bias and confounder	Yaseen taha	First term	1 hour	Definition , and type and management of bias and confounder
13	Introduction of community medicine	Mahasin Ali Altaha	First term	1 hour	Definition of preventive and community medicine, history of community medicine
14	Primary health care (PHC)	Mahasin Ali Altaha	First term	1 hour	Basic definitions, health care and medical care
15	Characteristics of PHC	Mahasin Ali Altaha	First term	1 hour	Basic requirements, elements of PHC, five star doctors
16	PHC in Iraq	Mahasin Ali Altaha	First term	2 hours	Sources of health care, essential and supportive Programs, and their objectives
17	Family Health	Mahasin Ali Altaha	First term	1 hour	Implementing family health model, referral system
18	Maternal Health Care (MCH)	Mahasin Ali Altaha	First term	1 hour	Definition, objectives, premarital care
19	Maternal health care	Mahasin Ali Altaha	First term	2 hours	Antenatal care, natal and postnatal care
20	Maternal nutrition	Mahasin	First	1 hour	Effect of pregnancy

	during pregnancy	Ali Altaha	term		on maternal body, outcomes of under nutrition
21	Low birth weight and prematurity	Mahasin Ali Altaha	First term	1 hour	Definition, etiology, effect on fetus
22	Child Health Care	Mahasin Ali Altaha	First term	4hours	Definition, growth monitoring Program, CDD Program, ARI Program, EPI Program
23	Definition of common terms	Ahmed soofi	First term	1 hour	Terms related to communicable diseases
24	Infections acquired through gastrointestinal tract: Diarrhoeal diseases: extent of the problem, causes, risk factors and control	Ahmed soofi	First term	1 hour	Epidemiology, risk factors, and preventive measures
25	Comparative epidemiology of rotavirus, salmonella, cholera and shigellosis	Ahmed soofi	First term	1 hour	extent of the problem, causes, risk factors and control measures
26	Amoebiasis	Ahmed soofi	First term	1 hour	Epidemiology, risk factors, and preventive measures
	Typhoid and paratyphoid	Ahmed soofi	First term	1 hour	extent of the problem, causes, risk factors and control measures
27	Diphtheria,	Ahmed soofi	First term	1 hour	Epidemiology, risk factors, and preventive measures
28	Tuberculosis	Ahmed soofi	First term	1 hour	extent of the problem, causes, risk factors and control measures
29	Bacterial Meningitis	Ahmed soofi	First term	1 hour	Epidemiology, risk factors, and preventive measures
30	Brucellosis	Ahmed soofi	First term	1 hour	Epidemiology, risk factors, and preventive measures
31	Leishmeniasis	Ahmed soofi	First term	1 hour	extent of the problem, causes, risk

					factors and control measures
32	Schistosomiasis	Ahmed soofi	First term	1 hour	Epidemiology, risk factors, and preventive measures
33	Soil Transmitted Disease	Ahmed soofi	First term	1 hour	Epidemiology, risk factors, and preventive measures
34	Malaria	Ahmed soofi	First term	1 hour	Epidemiology, risk factors, and preventive measures
35	Health Education	Ahmed soofi	First term	1 hour	Healthy life style
36	Nasocomial Infection	Ahmed soofi	First term	1 hour	Epidemiology, risk factors, and preventive measures

No. Name of the lecture	Name of instructor	term	Duration in hour/s	Objectives
1. Introduction to epidemiology of non-communicable diseases	Yaseen taha	Second term	1 hour	To know .primary prevention is the best treatment on non-communicable diseases .epidemiological transition and causes
2. Epidemiology of hypertension	yaseen taha	second term	1 hour	To know the risk factors and prevention
3. Epidemiology of ischemic heart diseases	Yaseen taha	Second term	1 hour	Type of ischemic heart diseases ,risk factors and prevention
4. Epidemiology of D.M	Yaseen taha	Second term	1 hour	Type of D.M , risk factors , prevention
5.Epidemiology of cancer	Yaseen taha	Second term	1 hour	Type of cancer , risk factors and prevention
6.Epidemiology of stroke	Yaseen taha	Second term	1 hour	Type of stroke , risk factors , and prevention
7.Epidemiology of accidents	Yaseen taha	Second term	1 hour	Cases of accidents and prevention
8.Epidemiology of mental health	Yaseen taha	Second term	1 hour	Prevalence of mental diseases and prevention
9.Geriatrics	Yaseen taha	Second term	1 hour	common diseases and risk factors , and prevention

10.Smoking	Yaseen taha	Second term	1 hour	Effect of smoking , and study the common diseases , and prevention .
11.Environmental health	Yaseen taha	Second term	1 hour	Definition of health and disease within context of environmental ,basic activities of environmental .
12.Air pollution	Yaseen taha	Second term	1 hour	Sources of air pollution , effect of pollution on health , control of pollution
13.Water pollution , food contamination , food poisoning .	Yaseen taha	Second term	2 hour	Sources of water and food pollution , effect on health and diseases related to pollution .
14.Global warming , depletion of ozone layer , acid rain	Yaseen taha	Second term	1 hour	Effect of global warming on health and increase of diseases related to warming and ozone depletion
15.How to conduct a scientific research	Dr Mahasin Ali Altaha	Second term	1 hour	Steps of conducting a scientific research
16.MCH indicators	Dr Mahasin Ali Altaha	Second term	2 hours	Causes and prevention of Infant MR, perinatal MR, maternal MR
17. School Health	Dr Mahasin Ali Altaha	Second term	1 hour	Components of School health services and Program
18. Occupational Health	Dr Mahasin Ali Altaha	Second term	1 hour	Definition, function of occupational health services
19. Occupational diseases and Occupational Health Program	Dr Mahasin Ali Altaha	Second term	1 hour	Definition, classification, occupational hazards. Aims o program, preventing and controlling hazards
20.Lead Poisoning	Dr Mahasin Ali Altaha	Second term	1 hour	Sources, routs of exposure, management
21. Occupational lung diseases	Dr Mahasin Ali Altaha	Second term	1 hour	Definitions, causes, types, prevention

22. Occupational skin diseases	Dr Mahasin Ali Altaha	Second term	1 hour	Definitions, causes, types, prevention
23. Occupational health hazards of health workers	Dr Mahasin Ali Altaha	Second term	1 hour	Types and risk of hazards, diseases, prevention
24. Health Care Administration	Dr Mahasin Ali Altaha	Second term	1 hour	Basic definitions, concept of systems
25. Health care system in Iraq	Dr Mahasin Ali Altaha	Second term	1 hour	Current structure of health care system in Iraq
26. Planning function	Dr Mahasin Ali Altaha	Second term	1 hour	Purpose, stages and types of planning
27. Management and evaluation functions	Dr Mahasin Ali Altaha	Second term	2 hours	Definitions, approaches to evaluation.
28. Bacterial food poisoning	Ahmed soofi	Second term	1 hour	Epidemiology, risk factors, and preventive measures.
29. Poliomyelitis	Ahmed soofi	Second term	1 hour	Epidemiology, risk factors, causes and preventive measures
30. Infectious hepatitis A	Ahmed soofi	Second term	1 hour	Epidemiology, and preventive measures
31. Infectious hepatitis B	Ahmed soofi	Second term	1 hour	Epidemiology, risk factors, and preventive measures
32. Mumps, whooping cough	Ahmed soofi	Second term	1 hour	Epidemiology, age distribution, and preventive measures
33. Measles & German Measles	Ahmed soofi	Second term	1 hour	Epidemiology, risk factors, and preventive measures
34. Hgic fever 1	Ahmed soofi	Second term	1 hour	Epidemiology, risk factors, and preventive measures
35. AIDS	Ahmed soofi	Second term	1 hour	Epidemiology, risk factors, and preventive measures
36. Glandular Fever	Ahmed soofi	Second term	1 hour	Epidemiology, risk factors, and preventive measures
37. Rabies	Ahmed soofi	Second term	1 hour	Epidemiology, causes, and preventive measures
38. Influenza	Ahmed soofi	Second term	1 hour	Risk factors, Epidemiology, and preventive measures
39. Hydiatd Cyst	Ahmed soofi	Second	1 hour	Epidemiology, risk

		term		factors, and preventive measures
40.Tetanus	Ahmed soofi	Second term	1 hour	Epidemiology, risk factors, and preventive measures
41.Hgic fever 2	Ahmed soofi	Second term	1 hour	Epidemiology, risk factors, and preventive measures
42.Entroboius Vermcularis	Ahmed soofi	Second term	1 hour	Epidemiology, risk factors, and preventive measures

### Syllabus of the practical course

NO	Name of clinical or laboratory session	Name of instructors	term	Duration in hours	Objectives
1	Practical in general epidemiology	Yaseen taha, mahasin ali	First term	4 hours	Frequency and distribution of disease according to age and sex .
2	Practical in general epidemiology	Yaseen taha, mahasin ali	First term	4 hours	Calculation of incidence and prevalence
3	Practical in general epidemiology	Yaseen taha, mahasin ali	First term	4 hours	Calculation and study of morbidity , mortality . rate , ratio .proportion
4	Practical in general epidemiology	Yaseen taha , mahasin ali	First term	4 hours	Study association between risk factors and exposure by2x2 table ,by relative risk , risk difference
5	Practical in general epidemiology	Yaseen taha , mahasin ali	First term	4 hours	How conduct study design and association between risk factors and exposure in case control , cohort .cross section.
6	Practical in general epidemiology	Yaseen taha , mahasin ali	First term	4 hours	Study design and association between risk

					factors and exposure in case control cohort , intervention study .
7	Practical in general epidemiology	Yaseen taha , mahasin ali	First term	4 hours	calculation of screening test,
8	Practical in general epidemiology	Yaseen taha , mahasin ali	First term	4 hours	Calculation of screening test , sensitivity , specificity , predictive value .
9	Practical in general epidemiology	Yaseen taha , mahasin ali	First term	4 hours	Investigation of epidemic .calculation of incubation period and trend of infectious diseases .
10	Practical in general epidemiology	Yaseen taha , mahasin ali	First term	4 hours	Study type of epidemic , common sources, propagated epidemic
11	Revision	Yaseen taha , mahasin ali	First term	4 hours	Practicing more exercises on epidemiology
12	Utilization exercise	Mahasin ali Badeaa thamer	First term	4 hours	Antenatal care coverage
13	Coverage exercise	Mahasin ali Badeaa thamer	First term	4 hours	vaccination coverage
14	Community diagnosis	Mahasin ali, yaseen taha Badeaa thamer	First term	4 hours	Calculating mortality rates
15	Community diagnosis	Mahasin ali, yaseen taha Badeaa thamer	First term	4 hours	Calculating morbidity and fertility rates
16	Conducting research (group1): (Perinatal and neonatal mortality in Alfaluja General hospital)	yaseen taha	Second term	4 hours	To teach students how to conduct a scientific research
17	Conducting	Mahasin ali,	Second	4 hours	To teach students

	research (goup2): (Prevalence and perception of women about consanguineous marriage in Al-Ramadi City)	badeaa thamer,	term		how to conduct a scientific research
18	Conducting research (group 3): (Assessment of graduate's medical practice from patient's perspective)	Mahasin ali,	Second term	4 hours	To teach students how to conduct a scientific research
19	Conducting research (group 4): (Intention of Migration among Medical Students in Anbar)	Mustafa ali	Second term	4 hours	To teach students how to conduct a scientific research
20	Conducting research (group 5): (assessment of obesity and life style among students of secondary schools in Ramadi City)	Ban nathem,	Second term	4 hours	To teach students how to conduct a scientific research
21	Conducting research (group 6): (knowledge and perception to cigarrate smoking among group of male people in Ramadi City)	Ahmed soofi,	Second term	4 hours	To teach students how to conduct a scientific research
22	Follow up for tabulation and writing reports	Mahasin ali, yaseen taha, ahmed soofi, ban nathem, badeaa thamer, Mustafa ali	Second term	4 hours	Presentation and analysis of data
23	Follow up for	Mahasin ali,	Second	4 hours	Presentation and



	tabulation and writing reports	yaseen taha, ahmed soofi, ban nathem, badeaa thamer, Mustafa ali	term		analysis of data
24	Follow up for tabulation and writing reports	Mahasin ali, yaseen taha, ahmed soofi, ban nathem, badeaa thamer, Mustafa ali	Second term	4 hours	Presentation and analysis of data
25	Presentation of research 1	Mahasin ali, yaseen taha, ahmed soofi, ban nathem, badeaa thamer, Mustafa ali	Second term	4 hours	To provide experience and support for students in research presentation
26	Presentation of research 2	Mahasin ali, yaseen taha, ahmed soofi, ban nathem, badeaa thamer, Mustafa ali	Second term	4 hours	To provide experience and support for students in research presentation
27	Presentation of research 3	Mahasin ali, yaseen taha, ahmed soofi, ban nathem, badeaa thamer, Mustafa ali	Second term	4 hours	To provide experience and support for students in research presentation
28	Presentation of research 4	Mahasin ali, yaseen taha, ahmed soofi, ban nathem, badeaa thamer, Mustafa ali	Second term	4 hours	To provide experience and support for students in research presentation
29	Presentation of research 5	Mahasin ali, yaseen taha, ahmed soofi, ban nathem, badeaa thamer, Mustafa ali	Second term	4 hours	To provide experience and support for students in research presentation
30	Presentation of	Mahasin ali,	Second	4 hours	To provide

	research 6	yaseen taha, ahmed soofi, ban nathem, badeaa thamer, Mustafa ali	term		experience and support for students in research presentation
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**Note:**

- 1- Each group consist of 5-6 students will conduct a research supervised by a member of teaching staff from the department of community and family medicine in the second term.
- 2- A health survey to a rural area or a camp for the displaced is conducted with all fourth year students for one day during the second term.

**Methods of assessment:**

	Type	1 <sup>st</sup> term	2 <sup>nd</sup> term	final	total
1-	Written exams	12	10	70	
2-	Quiz exams	3	2	----	
3-	Surveys and researches	----	2	----	
4-	Seminars	----	1	----	
	Total	15	15	70	100

Written exams: 60% MCQs, 40% short assay

Research: conducting researches and writing reports

**Recommended books:**

- 1- Short textbook of public health medicine for the tropics (Lucas & Gillis)
- 2- Introduction to general epidemiology
- 3- Principles of epidemiology. A self-teaching guide
- 4- Textbook of Preventive and Social Medicine (JE Park)
- 5- Control of communicable diseases manual.

## Department of Community and Family Medicine

**Subject:** Medical Ethics

**Year of the study:** Fourth year

**Coordinator:** Dr. Ahmed Khalaf Soofi

**Teaching staff:** Dr. Ahmed Khalaf Soofi

### Introduction

Behavior and ethics of the medical profession an important and vital material for the medical students at Faculty of Medicine and the doctor ,it gives highlight to Medical student as a first stage for the basic rules of respect and proper behavior within the university and college campus and with colleagues and with professors and administrative staff as well as with patients in the hospital as a preliminary stage and before graduating and then in health and educational institutions After graduation as a mature stage conscious of the burden of the stage and responsibility towards all parties that works with him to serve the patient.

### Objectives

- 1-Enlightenment of the ethics, ethics and behavior of the doctor starting from being - a student at a university that has its sanctity and character and ended up being a resident doctor, practitioner or specialist.
- 2-Examining and studying the most important subjects taught internationally concerning the ethics of the profession, starting with the medical department, dealing with the patient through human and animal cloning, and completing the ethics of .scientific research.
- 3-We hope that this curriculum to learn the students and graduate from this article and they know the limits and duties of students and professional and be as responsible to bear the heavy and important play in their medical profession towards humans and be their ethics and their behavior with the law and with patients and with their colleagues .on the basis of scientific educational correct until They are role models for others.

### Components, duration and units of the curriculum:

No	Components	Duration in hours	Units
1	Theoretical lectures	30	2
2	Clinical course or practical sessions	-----	-----

### Places of a completion the curriculum:

- A. Lecture hall in the college

**Syllabus of the theoretical lectures**

No	Name of the lecture	Name of the instructor	Term	Duration in hour/s	Objectives
1	Introduction	Dr. Ahmed K. Soofi	1 <sup>st</sup> term	1 hour	Definition and introducing the subject to students
2	History of principles of ethics	Dr. Ahmed K. Soofi	1 <sup>st</sup> term	1	Knowing the history of the subject items
3	Addiction in medical staff 1	Dr. Ahmed K. Soofi	1 <sup>st</sup> term	1	To prevent students from taking his bad attitude
4	Addiction in medical and health staff 2	Dr. Ahmed K. Soofi	1 <sup>st</sup> term	1	To prevent students from taking this bad attitude
5	Smoking in health and education institutes	Dr. Ahmed K. Soofi	1 <sup>st</sup> term	1	To prevent students from taking this bad attitude
6	Principles of morals towards patients	Dr. Ahmed K. Soofi	1 <sup>st</sup> term	1	To know how to deal with patients
7	Principles of morals towards patients	Dr. Ahmed K. Soofi	1 <sup>st</sup> term	1	To know how to deal with patients
8	Theories of ethics	Dr. Ahmed K. Soofi	1 <sup>st</sup> term	1	To know how to deal with patients
9	Doctor –Patient relationship 1	Dr. Ahmed K. Soofi	1 <sup>st</sup> term	1	Doctor patient relationship is the main key for healing and following instructions
10	Doctor- patient relationship 2	Dr. Ahmed K. Soofi	1 <sup>st</sup> term	1	Doctor patient relationship is the main key for healing and following instructions
11	Doctor Medical Interview 1	Dr. Ahmed K. Soofi	1 <sup>st</sup> term	1	Responsibility of doctors
12	- Doctor Medical Interview 2	Dr. Ahmed K. Soofi	1 <sup>st</sup> term	1	Responsibility of doctors
13	Professional behavior of physicians 1	Dr. Ahmed K. Soofi	1 <sup>st</sup> term	1	Doctors' best attitude
14	Professional	Dr. Ahmed K. Soofi	1 <sup>st</sup> term	1	Doctors' best attitude

	behavior of physicians 2	Soofi	term		
15	Cloning 1	Dr. Ahmed K. Soofi	2 <sup>nd</sup> term	1	Ethics in cloning
16	Cloning 2	Dr. Ahmed K. Soofi	2 <sup>nd</sup> term	1	Ethics in cloning
17	Euthanasia	Dr. Ahmed K. Soofi	2 <sup>nd</sup> term	1	Ethics in ending people's life
18	Research Ethics 1	Dr. Ahmed K. Soofi	2 <sup>nd</sup> term	1	Ethics in research
19	Research ethics 2	Dr. Ahmed K. Soofi	2 <sup>nd</sup> term	1	Ethics in research
20	Private doctor work 1	Dr. Ahmed K. Soofi	2 <sup>nd</sup> term	1	Ethics in private doctor work
21	Private doctor work 2	Dr. Ahmed K. Soofi	2 <sup>nd</sup> term	1	Ethics in private doctor work
22	Medical responsibilities	Dr. Ahmed K. Soofi	2 <sup>nd</sup> term	1	Responsibility in treatment and diagnosis and admission
23	Private clinic	Dr. Ahmed K. Soofi	2 <sup>nd</sup> term	1	Medical Ethics in private clinic
24	oath of hippocrates	Dr. Ahmed K. Soofi	2 <sup>nd</sup> term	1	Introducing the Medical Oath and Oath of Hippocrates
25	Plagiarism	Dr. Ahmed K. Soofi	2 <sup>nd</sup> term	1	Plagiarism; a non-scientific approach to researchers
26	Breaking Bad News for patient with chronic illness1	Dr. Ahmed K. Soofi	2 <sup>nd</sup> term	1	Ethics towards terminal illness (BBN)
27	Breaking Bad News for patient with chronic illness 2	Dr. Ahmed K. Soofi	2 <sup>nd</sup> term	1	Ethics towards terminal illness 2
28	Illegal abortion	Dr. Ahmed K. Soofi	2 <sup>nd</sup> term	1	Illegal Abortion and Its legal consideration, religion and application in our society and country!
29	Medical Report	Dr. Ahmed K.	2 <sup>nd</sup>	1	Doctor responsibility

		Soofi	term		and right in application of such report
30	Death Report	Dr. Ahmed K. Soofi	2 <sup>nd</sup> term	1	Doctor responsibility in diagnosing death and involving investigators authorities

### Methods of assessment:

	Type	1 <sup>st</sup> term	2 <sup>nd</sup> term	final	total
1-	Written exams	12	12	70	
2-	Quiz exams	3	3	----	
	Total	15	15	70	100

**Written exams: 60% MCQs, 40% short essay**

### Recommended books

- 1- Internet and websites (different English and Arabic medical ethics articles)
- 2- السليبي الطيبي واداب مهنة الطبعة 2202 – العراق نالاعاون مع منظمة الصحة العالمية
- 3- 0891 دليل الخلقيات المهنية \نؤانة الطباء العراقية
- 4- دليل الخلقيات الطبية \جمعية الطباء العراقية

## Department of Obstetrics & Gynecology

**Subject:** Obstetrics

**Academic year:** Fourth Year

**Coordinator:** Instructor Dr. Susan Abed Zaidan

**Teaching staff:**

1. Instructor Dr. Susan Abed Zaidan
2. Instructor Dr. Dhah Abdul Aziz
3. Instructor Dr. Reshed Zaki
4. Instructor Dr. Refel Mustafa
5. Instructor Dr. Nour Hazim
6. Instructor Dr. Alaa Shelal

**Introduction**

Obstetrics is a vital subject concerned about woman's health throughout her pregnancy and postnatal period aiming to improve pregnancy outcome and decrease maternal & perinatal mortality. Our goals are enabling medical students of basic knowledge of obstetrics, using the best options in managing patients & improving their skills to have a highly qualified doctor with concentration on ideal patient-doctor relationship.

To achieve these goals, curriculum includes 90 hours clinical sessions over 10 weeks course and 75 hours obstetric lectures. Our objective is to have the following practical & theoretical skills.

**Theoretical skills:**

1. To understand commonly used terms in obstetrics.
2. To have knowledge of normal pregnancy, labour & puerperium, their abnormalities and how to manage them.
3. To be familiar with the definitions & concepts of obstetric diseases & complications and their managements.
4. To have knowledge of medical diseases complicating pregnancy and their managements.

**Practical skills:**

1. To be able of taking comprehensive obstetric history.
2. To be able to communicate with patients of different educational levels.
3. To have practical skills of obstetric examination.
4. To conduct appropriate investigations and proper interpretation of the results.

**Components, duration and units of the curriculum:**

No	Components	Duration	Units
1	Theoretical lectures	75 hours	5
2	Clinical course	90 hours	3
3	Total	165	8

**Places of completion of the curriculum:**

1. Studying hall in the college.
2. Rooms for small teaching groups.
3. Obstetric ward at maternity and pediatric teaching hospital at Al-Ramadi city.
4. Labour room at maternity and pediatric teaching hospital at Al-Ramadi city.
5. Skill lab.

**Material used for completion the curriculum:**

1. Real patients.
2. Actors.
3. Plastic models.
4. Clinical Images and videos.
5. Different investigations of the patients with concentration on normal and abnormal partograms and cardiotocography strips.
6. Instruments and devices used for examination, fetal monitoring, assisted vaginal delivery and surgical interference.

**Syllabus of the theoretical lectures and its objectives:**

Topic	Duration	Objectives
Physiology of menstruation	1 hour	To understand: 1.Ovulation. 2.Fertilization and implantation.
Female reproductive anatomy	1 hour	To revise : 1.Upper genital tract. 2.lower genital tract.
Placenta & membranes	1 hour	To know: 1. Anatomy of the placenta. 2. Function of the placenta. 3.Placental barrier. 4.Abnormal placentation)
Physiological changes in pregnancy	2 hours	To know: 1.Haematological respiratory, cardiovascular, gastrointestinal, renal, endocrine , metabolism and skin changes. 2.Normal parameters in pregnancy.
Anatomy of fetal head & maternal pelvis	1 hour	To know: 1.Bony pelvis. 2.The pelvic floor. 3. The fetal skull.
Antenatal care	1 hour	To know: 1.Booking visit:history &risk assessment. 2.Screening investigations. 3. Supplements & medications. 4.High risk pregnancy. Supplements & medications.



		5.Frequency of antenatal care visits.
Antepartum haemorrhage : Placenta previa	1 hour	To know: 1. Definition&grades. 2. Risk factors. 3.Maternal and fetal complications. 4.Placenta accrete. 5.Management of asymptomatic and symptomatic placenta previa.
Antepartum haemorrhage: Placental abruption	1 hour	To know: 1. Definition. 2. Risk factors. 3.Maternal and fetal complications. 4.Management.
Hypertensive disorders in pregnancy	4 hours	To know: 1.Classification&incidence. 2. Pre-eclampsia ,aetiology, screening for pre-eclampsia, maternal & fetal assessment, 3.Management remote from term. 4. Labour management of pre-eclampsia. 5.Imminent eclampsia & eclampsia and its management.
Diabetes in pregnancy	4 hours	To know: 1.physiological changes in pregnancy. 2.Pre-existing diabetes: pathogenesis, preconception counseling, glycemic control, complications of diabetes, fetal monitoring, mode & timing of delivery. 3.Gestational diabetes: risk factors, screening, diagnosis, antenatal care, glycemic control, timing & mode of delivery, future risk.
Anaemia & other blood disorders in pregnancy	3 hours	To know: 1. physiological changes of blood. 2.Iron deficiency anaemia, diagnosis,prevention and treatment. 3.Folate deficiency, consequences, aetiology, treatment. 4. Vitamin B12 deficiency, management. 5.Haemoglobinopathies, thrombocytopenia, thalassaemia, inherited coagulation disorders.
Medical diseases in pregnancy	3 hours	To know outlines of management of

		epilepsy, cardiac diseases, thyroid diseases, liver& gastrointestinal diseases, asthma, renal diseases and dermatological conditions during pregnancy.
Hyperemesis gravidarum	1 hour	To know: 1. Diagnosis. 2. Maternal & fetal complications. 3. Lines of treatment.
Thrombo-embolic disorders in pregnancy	2 hours	To know: 1. Physiological changes and risk factors. 2. Diagnosis of acute venous thrombo-embolism: deep venous thrombosis, pulmonary embolus, and their treatment. 3. Prevention in pregnancy & postpartum period.
Amniotic fluid & it's abnormalities	2 hours	To know: 1. Function of amniotic fluid. 2. Assessment of amount of amniotic fluid, 3. Oligohydramnios: causes, fetal& maternal adverse effect&treatment. 4. Polyhydramnios: causes, fetal & maternal complications, treatment.
Intrauterine growth restriction	2 hours	To know: 1. definition and types. 2. Causes. 3. Clinical and ultrasound assessment. 4. Monitoring of growth restricted fetus& possible treatment.
Normal labour & it's management	4 hours	To know: 1. Definition. 2. mechanism of labour, 3. stages of labour. 4. fetal monitoring during labour 4. Normal progress of labour: partogram. 5. management of labour.
Obstetric analgesia & anesthesia	2 hours	To know: 1. Non-pharmacological methods. 2. Pharmacological methods. 3. Inhalational analgesia, 4. Epidural analgesia, indications, complications of regional analgesia, technique. 5. Spinal anaesthesia.

Dystocia	4 hours	To know: 1.Poor progress in the first stage of labour:causes and 2.Cephalopelvic disproportion. 3. Poor progress in the second stage of labour:causes and management.
Fetal malpresentation & malposition	3 hours	To Know: 1.Breech presentation: aetiology, incidence, external cephalic version, elective C section versus planned vaginal breech delivery at term, management of first stage of breech delivery, management of breech. 2. Face presentation. 3.Brow presentation. 4.Occipitoposterior position.
Fetal wellbeing during pregnancy & labour & managements of its abnormalities	4 hours	To know: 1.Perinatal mortality. 2.Biophysical profile, 3.Doppler ultrasound. 4.Types of fetal monitoring. 5.Fetal blood sampling.
Preterm labour	2 hours	To know: 1. Definition. 2.Causes and risk factors. 3.Management of high risk asymptomatic women. 4.Treatment.
Prelabour rupture of membranes (PROM)	1 hour	To know: 1. Definition and incidence. 2.Aetiology. 3. Term PROM. 4.Preterm PROM. 5.Clinical assessment& basic bedside tests. 6. Management.
Prolonged pregnancy	1 hour	To know: 1.Definition & incidence. 2.Fetal&maternal risks. 3.Management.
Fetal hydrops	1 hour	To know: 1. Incidence & diagnosis. 2.Pathophysiology. 3.Causes. 4.Immune hydrops. 5.Fetal therapy: in-utero blood transfusion.
Obstetric emergencies:	4 hours	To know: 1.Obstetric haemorrhage.

		2.Umbilical cord accident. 3.Shoulder dystocia. 4.Postpartum collapse. 5.Amniotic fluid embolis. 6.Uterine inversion. 7.Rupture of uterus.
Peuperium & its complications	2 hours	To know: 1.Uterine involution. 2.Lochia. 3.puerperal pyrexia: definition, incidence, aetiology, genital tract infection, breast engorgement, mastitis, prophylaxis, general management&specific management.
Postpartum haemorrhage	2 hours	To know: 1. Definitions and classification. 2. Aetiology. 3.Resuscitation. 4.Specific management strategies.
Twin & higher multiple gestation	3 hours	To know: 1. Prevalence&classification. 2.Aetiology, maternal & fetal complication. 3.Dichorionic/monochorionic differences,. 4.Perinatal mortality in twins, death of one fetus in a twin pregnancy, fetal growth restriction, fetal abnormalities. 5.Complications of monochorionic twinning. 6.Intrapartum management, vaginal delivery of vertex-vertex, delivery of vertex-non- vertex, non-vertex first twin. 7.Higher multiples.
Caesarean section	1 hour	To know: 1. Indications. 2. Types according to time of taking decision. 3.Types of skin incision. 4.Ttypes of uterine incision. 5.Trial of vaginal delivery after C section. 6.Complications of C section.
Instrumental delivery	2 hours	To know: 1.Indications of assisted vaginal delivery. 2.Forceps vaginal delivery,types of forceps,technique.

		3. Vacuum or ventouse vaginal delivery, technique. 4. Choice of instrument. 5. Prerequisite of instrumental delivery. 6. Contraindications. 7. Analgesia. 8. Complications.
Episiotomy	1 hour	To know: 1. Indications. 2. Types of episiotomy. 3. Advantages & disadvantages of each type.
Perineal trauma	1 hour	To know: 1. Grading. 2. Risk factors. 3. Management.
Maternal & perinatal mortality	1 hour	To know: 1. Definition & Incidence worldwide. 2. Aetiology: direct causes, indirect causes. 3. General risk factors and prevention.
Prenatal diagnosis	2 hours	To know: 1. Biochemical screening. 2. First trimester screening, 3. Second trimester screening. 4. National recommendation for Down's syndrome screening. 5. ultrasound screening. 6. Invasive prenatal diagnosis: amniocentesis, indications, complications, chorionic villus sampling & placental biopsy, types, complications, fetal blood sampling.
Drugs in pregnancy	1 hour	To know: 1. Preconception counseling. 2. Effect of pregnancy on pharmacokinetic. 3. Drug transfer across the placenta & teratogenicity. 4. Specific drug consideration in pregnancy.
Infection in pregnancy	2 hours	To know: 1. Viral infection: herpes simplex viral infection, cytomegalovirus, parvovirus, rubella, measles, HIV, hepatitis viruses.

		2. Bacterial infection, gonorrhea, listeria, syphilis, tuberculosis. 3. Toxoplasmosis, chlamydia, trichomoniasis & fungal infection, candida)
Resuscitation of newborn	1 hour	To know: 1. Apgar score. 2. Infant of diabetic mother.

### Syllabus of the clinical course and its objectives:

No.	Item	Objectives
1st week	Obstetric history	1. To be able to communicate with patients of different educational level with respect and flexibility. 2. To take a proper comprehensive obstetric history. 3. To evaluate risk factors present in the history.
2nd week	Examination	1. To be able to undertake general examination. 2. To be able to examine vital signs with understanding their physiological changes during pregnancy. 3. To be able to undertake abdominal examination of pregnant woman. 4. To be able to undertake pelvic examination.
3rd week	Antenatal care	1. To understand the concept of high risk pregnancy. 2. To know the frequency of antenatal visits in low risk and high risk pregnancy. 3. To know the investigations of the booking visit and when to repeat them 4. To understand the concept of dating ultrasound scan, its timing and its other benefits. 4. To understand the concept of congenital anomalies ultrasound scan, its timing and its other benefits.
4th week	Normal labour	1. To understand how to diagnose labour by history and clinical examination. 2. To know the stages of labour. 3. To be able to assess uterine contractions by abdominal examination. 4. To understand normal and abnormal partogram. 5. To know active management of third stage of labour.
5th week	Intrapartum Fetal monitoring	1. To know the types of fetal monitoring during labour. 2. To have the skill of fetal heart assessment by sonic aid. 3. To be able to interpret cardiotocograph results.
6th week	Antepartum haemorrhage	1. To know major causes of antepartum haemorrhage. 2. To know important risk factors by history taking. 3. To be able to differentiate between major causes by clinical examination. 4. To be able to do first lines of management of obstetric haemorrhage.
7th week	Hypertensive disorders in	1. To be able to do proper blood pressure estimation. 2. To be able to diagnose hypertension in pregnancy.

	pregnancy	3.To undertake physical examination in hypertensive women with ability to identify physical signs of sever pre-eclampsia. 4.To be able to conduct proper investigation and interpretation of the results.
8th week	Caesarean section	1.To know the types of Caesarean section and its indications. 2.To know possible complications. 3.To undertake proper postoperative examination .
9th week	Postpartum haemorrhage	1.To know possible risk factors. 2.To be able to do first line management of this emergency situation. 3.To be able to do maneuvers to treat uterine atony.
10th week	Puerperium	1.To be able perform proper abdominal examination to assess uterine involution. 2.To be able to perform proper breast examination and differentiate clinically between breast engorgement and mastitis. 3.To undertake proper examination for leg deep vein thrombosis.

### Methods of assessment

No	Exam	Type of assessment	Marks
1	First term	Quiz in the same theoretical lecture for each lecture	5
		End term written exam (60% MCQs & 40% essay questions)	10
2	Second term	Quiz in the same theoretical lecture for each lecture	5
		End term written exam (60% MCQs & 40% essay questions)	10
3	Final clinical	Seniors evaluation)	
		Student behavior	2
		Student attendance	1
		Student interaction	2
		Long case presentation and examination	15
4	Final written	MCQs	30
		Short essay, problem solving questions	20
5		Total	100

### Recommended references:

1. Obstetrics by Ten Teachers.
2. Dewhurst's textbook of obstetrics and gynecology.
3. Obstetrics & Gynaecology An Evidence-based Text for the MRCOG.







2. سِدْرُ الشَّجَرَةِ نَبَاتٌ يَغْرِثُ الشَّجَرَةَ الْفَرْدِيَّةَ
3. لَطَاحِلُ الْكَلْبِ نَبَاتٌ يَغْرِثُ الشَّجَرَةَ الْفَرْدِيَّةَ

### انَوَاد اُسْتخْذِيح نَا نَطْطِيك اَنَن هاج

1. عَجَم
2. نُكْشَض 2. نُكْشَض نَطْطِيك نُكْشَض نُكْشَض
3. نُكْشَض 3. نُكْشَض نُكْشَض نُكْشَض نُكْشَض
- انفصم ان ذراسه الول :

#### 1. ان طة انكنا، يق ذيح، نطج نارخ

1. طي لطخ نطنا نة نُكْشَض نُكْشَض
2. نطخ نُكْشَض نُكْشَض نُكْشَض نُكْشَض
3. نطخ نُكْشَض نُكْشَض نُكْشَض نُكْشَض
4. نطخ نُكْشَض نُكْشَض نُكْشَض نُكْشَض

#### 2. انغزاخ انكنا انا نطزا كهي انجح.

1. نُكْشَض نُكْشَض نُكْشَض نُكْشَض
2. نُكْشَض نُكْشَض نُكْشَض نُكْشَض

#### 3. انكنا انغزاخ انكنا انجح.

1. نال صرخه نُكْشَض نُكْشَض، نُكْشَض نُكْشَض، نُكْشَض نُكْشَض.

#### 4. انجروح

1. يمديز، أوتع نال صرخه نُكْشَض نُكْشَض
2. نُكْشَض نُكْشَض نُكْشَض نُكْشَض
3. نال نُكْشَض نُكْشَض نُكْشَض نُكْشَض
4. خنثذ نال نُكْشَض نُكْشَض نُكْشَض نُكْشَض
5. خنثذ نال نُكْشَض نُكْشَض نُكْشَض نُكْشَض

#### 5. جزوح ال صرخه انارح

1. يمديز، أوتع نال صرخه نُكْشَض نُكْشَض
2. نُكْشَض نُكْشَض نُكْشَض نُكْشَض
3. يمديز، أوتع نال صرخه نُكْشَض نُكْشَض
4. نُكْشَض نُكْشَض نُكْشَض نُكْشَض
5. نُكْشَض نُكْشَض نُكْشَض نُكْشَض

#### 6. جزوح حبات النقم

1. نُكْشَض نُكْشَض نُكْشَض نُكْشَض
2. نُكْشَض نُكْشَض نُكْشَض نُكْشَض
3. نُكْشَض نُكْشَض نُكْشَض نُكْشَض
4. نُكْشَض نُكْشَض نُكْشَض نُكْشَض
5. نُكْشَض نُكْشَض نُكْشَض نُكْشَض

7. اِلصّات اخ انّ شج نث پط انّ اطاك ان جسّ ح

1. إصجد جس نُنشْأط، نُشَلِّز، نُهْصِزس ۚ نُزْطُۚ.

## 8. إصا تاخ ان ح زار ج و ان ش زود ج و ان كه زتا ع

1. يَمْدِيزُ ۞ هُفْ ۞ فِئَالِ ص ج د ج س.
2. سُورِ مَیْعَ ۞ ثَ ۞ خَفْجُص ز ش ر س ن ت ن د.
3. هُفْ ص ك ك ث ن د.

## 9. إصاات اخ انجزارج

1. نُنْشِقُ نُجْزَ ۖ شَنْغَمَز .
2. اِصْجِدْ جِسْرُكَ ۚ شَدْءٌ ۙ شَنْشَقُ لُكْ ۝ حَرْز .

## 16. الختاق

1. يَمْدِيزُ ۞ بِصُفِّ  
نَالْ خَبَقِ 2. عَذْلُ ۞ فَرُّ ۞ نَغَزِ  
يِلْ لَنْخَصَجِ  
3. صَهْگَ ظَغْ خَجْسَخْ گَهْ ۞ لُشَلْدَزِ.  
4. صَهْگَ ظَغْ خَجْسَخْ گَهْ ۞ لُرْصَدَسِ ۞ لُنْدُطِ

## 11. انغرق

1. اَلْعَاقِبَةُ دِيَا۟لُ تَشْكُرُوۡنَ ۝ اَللّٰهُنَّ سَزٰیۡہُ یٰۤاٰیُّہُج دٰلِدِہِیۡنَ.
2. گالیجس نال ۝ عَجَس دِہِیۡہُج ۝ نَزٰیۡہُ اَلِیۡج سِ اَلِیۡہُ شَخ ۝ ص ۝ ز.
3. اَعۡجِج تَشۡجِر.

12. اَنْخَ اَنْفَاجِي

1. يَمْدِيْز، بِصُفٍّ، نَالُودَنْف.
2. اَعْدَجَجُ لُؤْسُ زَغْخ نَالُخْضَر شَنْغُؤَز.
3. لُؤْسُ لُؤْدَجَج بِهَش لُؤْخْش لُؤْجِي ۞ لُؤْكِ هُجْس لُؤْدَشْزُز.

### 13. طة گزنی الٰطفال

1. ُفَجَسَّ الْخُزَّاءُ زَيْنَةَ الدَّر.

14. يتالسيح يرخ ان هذ

**15- يتالسيح انطفم ان ڀڄڻ**



3. انڀڙاڻي اڃا ان ڏٺاڻي خزانج نه ڏسي ٿا

#### 4. انجـزوح

4. خَشَدُ السُّنْسُ جَرْدٌ تُنْخَضِرُ.

5. جزوح السهح انذار َح

1. نُصْ فِجْسِ لُكْجِزِ نْ هَدَشْدْ.

2. يغجف جس نال غالق ٲٲ الصءج

[illegible]

4. اِصْجَدْ جَسَّ ثُفَّ شَثْشْ.

## 6. جزو حیات انانق

1. إصجد جس تنغذہز

2. إصجد جس ثنفةك 3.

إِصْرًا جَدِيسًا لُّزْ شَكْ ذَجِسَ لُّزْ نَمَ 4.

اصجد جس لزم جغتس ۛ لزم جغتس

7. اِلصَّاتَاخ اَنِّ شَج نَتَّيْط اَنِّ نَاطَك اَن جَسَّ ح

1. (إِصْجَدْ جَسْ نُنْشْ أَطْ، نُنْشْ لَنْزْ، نُنْصْ نَسْ ۖ نُنْظْ ۖ).

8. إصا تاخ ان ح زار ج وان ش زود ج وان كه زتا ع

1. یَمْدِيزُ مَصْصُفٌ فَاِلٰ صَدَجِدَس.

2. ئس مرفج ع ُتْ خفجض ز شئس ئند.

3. لُصْ كُكْ شِنْذُ.

9. إصا تاخ ان جزا رج (تَكَهه).

1. نُسْشَقُّ لِّلْجُزِّ ۖ تُنْغَمُّ ۚ

2. إصْجَدْ جَسْ لُوكَ شَدْجَاءُ تُنْشَسْ قُ لُوكَ ٲُؤْمَرَةٌ.

## 16. الختاق

1. يَمْدِيزُ ۞ بَصُّفُ  
 نَالَخَبَقْ 2. عَذْلُ ۞ بَزْ ۞ فَغَزْ  
 ۞ لَنْجَسْ ج  
 3. نَالَخَبَقْ (بَكْزْ).  
 4. صَنَهْكَ ظَعَكَ خَجْسْ خَ كَهْ ۞ لَشَلْذَرْ.  
 5. صَنَهْكَ ظَعَكَ خَجْسْ خَ كَهْ ۞ لَصْنَسْ ۞ لَنْظْ

## 11. انغرق

1. لَعَشَقَ دِمْنٌ نَّهْمٌ شَكْرَدَزْ ۞ لَنْدِهِنْ سَرْ ۞ يَهْجُ شُدَّ جِسَن.
2. گَالِیْس نَالَ اَعْجَسَ دِمْنِ هَمْء ۞ لَنْدَا لِاَلِ یَجِیْسْ لَنْصَخْ صَ ۞ ز.
3. اَعْزَحْ تَنْفَحِرْ.

12. اَنْ سَخَّ اَنْ نَاجِي

1. يَمْدِيْز، بِصُفٍّ، لَأَلْ ذَنْف.
2. لُؤْسُ لُؤْفَجْب (بُكْز).
3. أَعْجَح لُؤْسُ زَغْخ لَأَلْ خُؤْمَر تُنْدَغُؤَز.

13. اَنْخَ اَنْفَاجِيْ) تَكَهَّحَ)

1. لُؤَّسٌ لُّؤَّاجُ خُبٍّ لُّؤَّسْ لُّؤَّضْ خُذْشْ لُّؤَّيْ جَو ۖ لُّؤَّيْ هُجْسٌ لُّؤَّشْ نَزْزَ.

## 14. طة تڏنى آل طفل

1. ۞فَجَسَّ الْخُزَّۃُ زَيْدُ الدَّرِ.

15. يتالسي ح ي بخ ان هذ

1. یضالصیز نطنم نّ پزح

انفصم ان ذراساً انساناً — ان يهَّه :

## 1. ان جزائی انجنس ح

1. يَمْدِيزْ، نَسْجِالسْ بَلْشَخْ أَرْجَنْجْ نَهْقِصْ.
2. فَمْدَرْ مَشْشَرْ نَالْكَعْجْ لُتْجُجْهْ ز.
3. لُصْجِسْ لُرْكَيْزْ أَلْغَشْ ز لُرْدْكَجِسْ.
4. لُرْكَالْجِسْ لُرْغَشْشْ ز نَالْفْ عَجْضْ

## 2. الغتصاب انجنس.

1. شُرْزُرُ ثُدُعْ. 2. نُسَمُّ ثُثِخَ جُض ٲُظْغ

3. ان پڻ ح وان پڻ قى وان شاخ ان شى ج  
4. تصّح ان ح اي ط ان شوي  
5. استڀزاف ان هى ح

1. استیکزاف هیّح ألحّاء و آلای یاخ.

6. نَقِذْزَ الْكَارَ

7. انْثِقْغَ انْذِيْجَ وانْئَرْجَ وانْشَبْزَ

8. انسُو انْجَنْجَ

1. يَمْذِيْز، غَشِقْ لُخْز لُجَرْج.
2. لُكْجِيْم لُؤْشَرْ، بَصُفْ شَنْجُو.

9. انسُو اَكْجَ

1. لُئْجِيْطَ شُجْكَذ.

16. انسُو انْجَ وانْجَنْجَ

11. انسُو انْجَنْجَ

12. انْجَحْلَ وانْغَاسَاخَ وانْجَنْجَ

13. انْجَذْرَاخَ وانْجَادَ غَزَ

انْجَذْرَجَ

14. انسُو انْجَانْجَ (انسُو انْجَانْجَ وانْجَانْجَ)

انْجَانْجَ

س	نَالْ يَمْجَ	نَالْ يَمْجَ	نَالْ يَمْجَ
1	نَالْ يَمْجَ	نَالْ يَمْجَ	نَالْ يَمْجَ
	نَالْ يَمْجَ	نَالْ يَمْجَ	نَالْ يَمْجَ
2	نَالْ يَمْجَ	نَالْ يَمْجَ	نَالْ يَمْجَ
	نَالْ يَمْجَ	نَالْ يَمْجَ	نَالْ يَمْجَ
3	نَالْ يَمْجَ	نَالْ يَمْجَ	نَالْ يَمْجَ
	نَالْ يَمْجَ	نَالْ يَمْجَ	نَالْ يَمْجَ
4	نَالْ يَمْجَ	نَالْ يَمْجَ	نَالْ يَمْجَ
	نَالْ يَمْجَ	نَالْ يَمْجَ	نَالْ يَمْجَ
5	نَالْ يَمْجَ	نَالْ يَمْجَ	نَالْ يَمْجَ

انْجَانْجَ

1. نَالْ يَمْجَ

## Department of Internal Medicine

**Subject:** Internal Medicine

**Academic year:** Four year

**Course coordinator:** Assistant professor Hameed Ibraheem Head of Department of Internal medicine and consultant of internal medicine.

**Teaching staff:**

1. Assistant professor Hameed Ibraheem head Department of Internal medicine consultant of internal medicine .
2. Assistant professor Sami M. Awad decider of the department consultant of internal medicine .
3. Assistant professor Salah Noori Ahmed Dalli ali previous dean of the college for two cycles consultant of internal medicine .
4. Assistant professor Khalid A. ALrawi previous head of the department.
5. Assistant professor Haitham Noaman consultant of internal medicine .
6. Assistant professor Yasin Hamad Majeed consultant of internal medicine & gastroentrologist subspecialty gastroenterology and hepatology.
7. Assistant professor Maheer A. Jasim consultant of internal medicine.
8. Lecturer Khalid M. Rmaidh specialist of internal medicine .
9. Lecturer Hazim Ismael specialist of internal medicine .
10. Lecturer Sami Meklef specialist of internal medicine .
11. Assistant Lecturer Ahmed Abdul Salam.
12. Assistant Lecturer Ahmed Ibraheem.

The Department of internal medicine of Ramadi Teaching hospital seniors whom have Board specialty license of internal medicine and have good experience in the specialty support our department in teaching our students when we need them like Amer jehad, Saleh ALadi ,Amjed Sheet .

**Allocated marks:** 100 marks.

**Course duration:** One academic year.

**Introduction:**

Internal medicine is a clinical-based study that form the skeleton of college of medicine and built of the doctor where the medical students studied it by theoretical lectures and clinically practice it in the hospital medical wards on really ill patients also we use other tools like simulators in the skill lab. An understanding of medicine provides a fundamental framework for the accurate diagnosis and proper treatment of patients with medical problem. The purpose of this curriculum is to provide a basic detailed plan for teaching medicine in our college, unnecessary details and sophisticated clinical data were avoided from the curriculum, regarding this as a first step in updating our medicine curriculum in comparison with other worldwide. The curriculum also describe the subjects and topics in clinical medicine given for medical student.

The internal medicine department in Anbar college of medicine hosts the medical students on training course for 225 hours/year for the 4<sup>th</sup> year.



**Objectives:****The course is designed to introduce the student to:**

1. To enable the students to gather the information from the patients or actors.
2. To enable the students how they perform the general examination and practice it on real patients or actors.
3. To enable the students to perform the proper examination of the respiratory, cardiovascular, gastrointestinal, renal and nervous systems
4. To teach the students how they respect the patients.
5. To understand the pharmacology in general medicine.
6. To teach the student how the correlation between theoretical and clinical practice is beneficial to the patients.
7. To enhance the awareness of how medical knowledge may be applied effectively in clinical and scientific context.
8. To enable the students how to pursue independent and self-learning and how to work effectively in small groups.
9. To teach the students how to work effectively under full observations by their lecturers and doctors in the 4<sup>th</sup> year.

**Components, duration and units of the curriculum**

No	Components	Duration	Unit
1	Theoretical lectures	135 hours	9
2	Clinical course	90 hours	3
3	Total	225 hours	12

**Places of completion the curriculum:**

1. Lecture hall in the college
2. Skill lab in the college
3. Rooms for small teaching group.
4. In patient wards in Ramadi Teaching Hospital
5. Emergency unit in Ramadi Teaching Hospital
6. CCU in Ramadi Teaching Hospital
7. Dialysis unit in Ramadi Teaching Hospital
8. GIT center
9. AL-Humait teaching hospital for infectious diseases.

**Material used for completion the curriculum:**

1. Audiovisual aids.
2. Interaction with the students through questions.

3. Power point presentation.
4. Real patients .
5. ECGs ,X-rays study .
6. Plastic specimens as simulators .
7. Videos teaching tools and movies for real emergency medical conditions.
8. Diagrams and posters .
9. Small group and large groups medical discussion conditions .
10. pharmacology discussion for medical drugs.

## Syllabus:

### Teaching Techniques:

**Teaching will be conducted using the following techniques:**

#### 1. Theoretical Sessions:

- lectures were designed to cover most of topics in medicine. In addition to hints on practical points in medical conditions on the community, clinical physiology, clinical anatomy and pathology, Radiology, clinical statistics and community bases of disease and clinical pharmacology study.
- The time of the lecture is 60 minutes.

#### 2. Practical Sessions:

- The practical sessions follow the theory lectures in the same week in the teaching hospitals .
- The students are divided into 2 groups (A, B).
- Each group is guided by consultant in medicine and assistant professors minority are expert teachers .
- The time of each session is 3 hours.
- There are 3 session/week for 10 weeks.

**Theoretical lectures:** 75 hours for the 1<sup>st</sup> term and 60 hours for the 2<sup>nd</sup> term.

No	Topic	Objectives	Time
1	Basic anatomy and physiology of the kidney	To understand the structure and function of the nephron	2 hours
2	Investigation of the kidney and renal system	To study the defect in the function and structure of the kidney	2 hours
3	Glomerular diseases	To study the diseases of glomerular manifestation pathology Diagnosis and treatment.	4 hours
4	TubuloInterstitiadiisease	Understand the disease affecting tubular function and their consequence sign and symptom and treatment	3 hours
5	UTIs and Pyelonephritis	To study the causes of UTI, Microbiology	4 hours

		symptoms and signs Diagnosis and treatment	
6	Drugs and the kidney	To study the mechanism of drugs that injure the kidney Analgesic nephropathy and other drug related renal diseases And drug prescription in patient with renal diseases	2 hours
7	Vascular kidney disease	To understand the effect of systemic disease on the kidney Their manifestation diagnosis treatment and prevention	2 hours
8	Acute renal injury (ARF)	To study the causes, manifestation diagnosis, treatment and prevention	4 hours
9	Chronic kidney disease	To study the common causes of CRF manifestation and the altered renal function in CRF, prevention and management	4 hours
10	Renal replacement therapy	TO understand the basic mechanism and type of dialysis Renal transplantation, immunosuppressive drugs and their complication	4 hours
11	Hypertension	Definition, Risk factors, Classification, Epidemiology Clinical features, investigation and management and group of drugs for treatment of hypertension complication of HT Hypertension in elderly, pregnancy, diabetes renal failure	2 hours
12	DVT and pulmonary thromboembolism	Anatomy of venous system of lower limb Risk factors of DVT, Clinical feature , investigations complications and treatment Pulmonary Thromboembolism , Path physiology Clinical features, investigations and treatment Thrombolytic drugs and anti-coagulant	2 hours
13	Introduction to cardiovascular system	To study and understand the a) Functional anatomy ,physiology and investigations . b) Management of patients with gastroenterology diseases .	2 hours
14	Presenting problems in	To study and understand the	3 hours

	cardiovascular disease(CVD.)	a) Functional anatomy ,physiology and investigations . b)Management of patients with CVD. diseases .	
15	Heart failure	To study and understand the a) Definition , pathophysiology and etiology . b) types of heart failure, clinical features and investigations . c) diagnosis of heart failure . d) management of heart failure .	3 hours
16	Pericardial diseases	To study and understand the a) Acute pericarditis and pericardial effusion . b) pericardial tamponade and constrictive pericarditis .	3 hours
17	Myocardial disease	To study and understand the a) cardiomyopathy . b) acute myocarditis and specific heart muscle disease >	4 hours
18	Rheumatic fever	To study and understand the a) causes ,clinical features and investigations of rheumatic fever . b) Management of patients with rheumatic fever diseases	2 hours
19	Infective endocarditis	To study and understand the a) causes ,clinical features and investigations of disease > b) Management of patients with the diseases .	2 hours
20	Peripheral vascular diseases	To study and understand the a) causes ,clinical features and investigations of disease. b) Management of patients with the diseases .	2 hours
21	Congenital heart disease	To study and understand the a) causes ,clinical features and investigations of disease . b) Management of patients with the diseases .	6 hours
22	Electrocardiography (ECG)	To study and understand a) the electrophysiology of the heart, electric waves, how it form and how it propagate, the conducting system in the heart, b) the ECG machine and how to use, the limb leads and the chest leads. C) The ECG deflections and intervals, physiology and terminology of it.	2 hours

		d) Analysis of an ECG, how to measure pulse rate and electrical axis from ECG.	
23	Chamber enlargement Bundle branch block	To study and understand a) How to diagnose atrial and ventricular enlargement by ECG. b) How to diagnose a left or right bundle branch block by ECG and its clinical significance.	4 hours
24	Myocardial ischemia and Heart block	To study and understand a) coronary artery anatomy. ischemic changes appear on ECG. ECG changes in angina and acute or old myocardial infarction in details the time effect on changes. B) How to diagnose these diseases by ECG with ECG examples. To understand how to diagnose first, second and third degree heart block with ECG examples.	7 hours
Total hours in first semester			75 hours
25	Arrhythmias	To study and understand a) by ECG normal sinus rhythm and sinus arrhythmias and its causes. b) study premature ventricular, junctional or atrial premature beats, how to diagnose clinically and by ECG and how to treat. To study and understand paroxysmal supraventricular tachycardia's (SVT) and reentry mechanism, causes of it, clinical findings, how to diagnose by ECG and how to treat. To study and understand atrial fibrillation, causes, clinical findings c) ECG diagnosis and treatment. To study and understand ventricular tachycardia, ventricular fibrillation, how diagnose clinically and by ECG and how to treat	1 hour
26	Valvular heart disease	To understand and study a) review cardiac valves anatomy. b) mitral valve stenosis and regurgitation, etiology, pathological progress, clinical features, how to diagnose and how to treat.	1 hour

27	Valvular heart disease	To study and understand a) aortic, pulmonary and tricuspid valve stenosis and regurgitation . b) causes, pathological progress, clinical features, how to diagnose and how to treat.	1 hour
28	Ischemic heart disease	To study and understand a) atherosclerosis, its etiology and predisposing factors. To review coronary artery anatomy. b) b) angina pectoris, its definition, types, predisposing factors, clinical features of each types, how to diagnose and how to treat.	1 hour
29	Ischemic heart disease	To study and understand a) acute and old myocardial infarction, predisposing factors, clinical features, types of it, location of infarction. b) diagnosis of it clinically, by investigation and by ECG, how to manage acute case and chronic cases, its complication and prognosis.	1 hour
30	Pregnancy and heart disease	To study and understand a) physiological hemodynamic changes in pregnant woman and its burden in the heart, to study the effect of pregnancy on hypertension, congenital heart disease. b) Valvular heart disease, ischemic heart disease, and arrhythmias.	1 hour
31	Respiratory system- introduction	To understand and study a) Functional anatomy ,physiology and investigations b) Presenting problems in respiratory system [cough ,dyspnea ,hemoptesis ,respiratory failure , peripheral chest pain and solitary pulmonary nodule )	1 hour
32	Chronic obstructive pulmonary diseases (COPD)	To understand and study a) pathophysiology ,clinical features and investigation . b) management and prevention of the disease .	2 hours
33	Asthma and bronchiactesis	To understand and study a) pathophysiology ,clinical features and investigation . b) management and prevention of the disease .	1 hour

34	Upper respiratory system infection and pneumonias	To understand and study a) pathophysiology ,clinical features and investigation . b) management and prevention of the disease .	2 hours
35	Pulmonary tuberculosis	To understand and study a) pathophysiology ,clinical features and investigation . b) management and prevention of the disease .	2 hours
36	Tumors of the respiratory system	To understand and study a) pathophysiology ,clinical features and investigation . b) management and prevention of the disease .	2 hours
37	Interstitial pulmonary diseases	To understand and study a) pathophysiology ,clinical features and investigation . b) management and prevention of the disease .	1 hour
38	Respiratory failure and lung transplantation	To understand and study a) pathophysiology ,clinical features and investigation . b) management and prevention of the disease .	2 hours
39	Pleural effusion and pleural with mediastinal diseases	To understand and study a) pathophysiology ,clinical features and investigation . b) management and prevention of the disease .	1 hour
40	Gastrointestinal system introduction	To understand and study a) Functional anatomy ,physiology and investigations b) Presenting problems in GIT disease[dyspepsia,dysphagia,GIT bleeding] c) Malabsorption ,pathophysiology ,clinical features and investigations.	2 hours
41	Disease of the esophagus.	To study and understand a) Gastroesophageal reflux disease [pathophysiology ,clinical features, treatment and complications . b) esophagitis c) motility disorders[achalasia and other causes]pathophysiology, clinical features, investigations and treatment.	1 hour

		d) secondary causes of esophageal dysmotility. e) benign esophageal strictures . f) Tumours of the esophagus [clinical features, investigations and management.	
42	Disease of the stomach and duodenum.	To study and understand  a) gastritis[acute, chronic gastritis due to H pylori infection, autoimmune chronic gastritis, menetriers disease . b) peptic ulcer disease.pathophysiology,clinical features ,investigations,complications and treatment. c) Zollinger –Ellison syndrome[pathophysiology, clinical features, investigations and management. d) functional disorders[functional dyspepsia, Gastroparesis] pathophysiology clinical features, investigations and management. e) Tumours of stomach[carcinoma, lymphoma, other tumors] pathophysiology ,clinical features, investigations ,complications and management.	2 hours
43	Disease of small intestine	To study and understand a)Disorders causing malabsorption. Coeliac disease –pathophysiology, clinical features, investigations ,complications and treatment, Tropical sprue pathophysiology, clinical features, investigations and treatment Small bowel bacterial overgrowth (blind loop syndrome) b) whipple disease, short bowel syndrome Radiation enteritis c) motility disorders of small intestine [chronic intestinal pseudo obstruction]clinical features investigations and management . e)Protein losing Enteropathy ,intestinal lymphangectasia, d)ulceration of smallintestine f)Meckel's diverticulum . g)Adverse food reactions [lactose intolerance, food allergy].	2 hours



		h) Abdominal T B .	
44	Tumors of small intestine	To study and understand a) [benign, adenocarcinoma, lymphoma, b) b) neuroendocrine tumours, Immunoproliferative small intestinal disease.	2 hours
45	Disease of pancreas	[acute, chronic pancreatitis] pathophysiology, clinical features, investigations and treatment Tumours of pancreas. Clinical features, investigations and management	2 hours
46	Disorders of the colon and rectum	To study and understand a) PATHOPHYSIOLOGY, CLINICAL FEATURES, INVESTIGATIONS, TREATMENT AND COMPLICATIONS b) Microscopic colitis c) Irritable bowel syndrome – pathophysiology, clinical features, diagnosis and management d) Ischemic gut injury. Acute small bowel ischemia, acute colonic e) ischemia, chronic mesenteric ischemia f) Tumors of colon and rectum. Polyps and polyposis syndrome Familial adenomatous polyposis Peutz- jegheres syndrome Juvenile polyposis g) Colorectal cancer .pathophysiology, clinical feature, investigations and management h) Prevention and screening of diverticulosis, pathophysiology ,clinical features and management .	2 hours
47	Introduction to liver	To study and understand a) Functional anatomy, physiology and blood supply b) investigations of liver disease and hepatobiliary disease	1 hour
48	Presenting problems in liver disease	To study and understand a) acute liver failure, abnormal liver function, jaundice, hepatomegaly] b) infections and liver-viral hepatitis [A,B,C,D,E] clinical features ,investigations and management	1 hour

49	Alcoholic liver disease	To study and understand a) pathophysiology ,clinical features, investigations and management b) Non-alcoholic fatty liver disease- pathophysiology ,clinical features investigations and management .	2 hours
50	Autoimmune liver and biliary disease	To study and understand a) Autoimmune hepatitis ,primary biliary cirrhosis ,overlap syndrome,PSC,IgG4 associated cholangitis] b) Pathophysiology ,clinical features, investigations and management	2 hours
51	Inherited liver disease	To study and understand a) hemochromatosis, Wilsons disease, alpha 1 antitrypsin deficiency ] c) Pathophysiology clinical features, investigations and management c)drugs and the liver-types of liver injuries	1 hour
52	Vascular liver disease	To study and understand a) hepatic artery disease,portal vein thrombosis . b) Budd-Chiari syndrome,veno-occlusive disease .	1 hour
53	Liver cirrhosis	To study and understand a) pathophysiology,clinical features, management and prognosis ,portal hypertension . b) pathophysiology, clinical features, investigations, management and complications c) hepatic encephalopathy ,ascites - pathophysiology, clinical features, investigations, management and complications, variceal bleeding-clinical features, prevention and management, congestive gastropathy.	2 hours
54	liver tumours and focal lesions	To study and understand a) types of liver neoplasm benign and malignant types . b) clinical features and management	2 hours

		c)Pregnancy associated liver disease d) Liver transplantation-indications, contraindications and complications.	
55	Streptococcal and staphylococcal infection	To study and understand a) pathobiology ,clinical features investigations . b) treatment and prevention of disease .	2 hours
56	Enteric fever and brucellosis	To study and understand a) pathobiology ,clinical features investigations . b) treatment and prevention of disease .	2 hours
57	Sepsis syndrome and pyrexia of unknown origin	To study and understand a) pathobiology ,clinical features investigations. b) treatment and prevention of disease.	2 hours
58	Acute gastroenteritis	To study and understand a) pathobiology ,clinical features investigations . b) treatment and prevention of disease .	2 hours
59	AIDS AND HIV	To study and understand a) pathobiology ,clinical features investigations . b) treatment and prevention of disease .	2 hours
60	Influenza and epidemic viruses with influenza like viruses	To study and understand a) pathobiology ,clinical features investigations . b) treatment and prevention of disease .	1 hour
61	Hemorrhagic fever and rickettsial infection	To study and understand a) pathobiology ,clinical features investigations . b) treatment and prevention of disease .	2 hours
62	Fungal infection and antibiotics	To study and understand a) pathobiology ,clinical features investigations . b) treatment and prevention of disease . c)All about drug antibiotic related to mode	2 hours

		of action doses ,indication, contraindication and side effects with drug interaction	
63	Total hours In second semester		60 hours

**Clinical course:** 90 hours, 3 hours/day for 3 days/week for 10 weeks

No	System	week	Objectives
1	Respiratory	2	1. To enable the students the proper communication skills and presentation for taking history. 2. To learn and practice the proper physical examination of these systems
2	Cardiovascular	2	
3	Gastrointestinal	2	
4	Renal	2	
5	Nervous	2	
6	Total	10	

### Methods of assessment

No	Exam	Type of assessment	Marks
1	First term	Quizzes in the same theoretical lectures	2
		End term written exam (60% MCQs & 40% essay questions)	13
2	Second term	Quiz in the same theoretical lectures	2
		End term written exam (60% MCQs & 40% essay questions)	13
3	Final clinical	History taking and presentation	10
		Physical exam	10
4	Final written	MCQs	30
		Essay questions	20
5	Total		100

### Suggested Reading List:

1. Davidson principles and practise, 22<sup>nd</sup> Edition, By: **Stanley Davidson MD.**
2. Macleod 's clinical examination : **S. Macleod**

**Department of Surgery****Subject: General Surgery****Academic year: Fourth year****Coordinator: Instructor Dr. Duraid Taha****Teaching staff:**

1. Assistant Professor Dr. Aamr Fakhri
2. Assistant Professor Dr. Naama Hamad
3. Assistant Professor Dr. Ziad hammad
4. Assistant Professor Dr. Qais Abdulrahman
5. Assistant Professor Dr. Waleed Nassar
6. Assistant Professor Dr. Yahya Hameed
7. Assistant Professor Dr. Saad mikhilif
8. Assistant Professor Dr. Mohammed tafash
9. Assistant Professor Dr. Mohammed khudir
10. Instructor Dr. Tariq Mahdi
11. Instructor Dr. Bassam Maddah
12. Instructor Dr. Duraid Taha
13. Instructor Dr. Omar Tariq

**Introduction**

According to the Guide for Accreditation of Medical Colleges, Iraq which was prepared by the National Council for Accreditation of Medical Colleges that the curriculum must be annually revised. We are happy to update our curriculum for general surgery for the 4th year medical students in this year. Our surgical department was teaching the 4th year medical students for the past 25 year. We are updating the curriculum to improve the educational program for our students.

**Objectives**

1. To inculcate the spirit of dedication, concern and empathy among students, by building thoughtful and skillful professional clinicians upon the sound foundation of the basic medical sciences.
2. To develop doctors who will have the background, skills, knowledge, understanding and appropriate attitudes to specialize in whatever area of medical science suits their talents.
3. To provide excellence in undergraduate teaching.
4. To direct and guide students to focus on the prime importance of patient care
5. To teach students to become proficient in clinical history taking and physical examination.
6. To teach the students to be a provisional in the presentation of a surgical case.
7. To instruct the students to use a scheme in dealing with surgical emergencies.
8. To instruct the students to formulate a differential diagnosis for common clinical presentations.
9. To inform students about the indications for and interpretation of basic laboratory, radiological and other investigations.

10. To educate the students about the management of common surgical diseases.
11. To inform the students to adopt learning and practice common surgical skills.
12. To know the ways of protection of students themselves and accompanying sub-staff.
13. To teach the students how they become a strong decision makers.

### Components, duration and units of the curriculum:

No	Components	Duration	Units
1	Theoretical lectures	90 hours	6
2	Clinical course	90 hours	3
3	Total	180 hours	9

### Places of a completion the curriculum:

1. Lecture hall in the college
2. Rooms for small teaching group.
3. Skill lab.
4. Inpatient surgical ward in AL-Ramadi teaching hospital.
5. Surgical operative room in AL-Ramadi teaching hospital.

### Materials used to accomplish the curriculum:

1. Real patients
2. Actors
3. Anatomical specimens
4. Examination and surgical instruments
5. Static clinical images
6. Teaching Videos
7. Investigations of patients including laboratory and radiological investigations.

### Theoretical lectures: 90 hours

No	Name of the lecture	Name of the instructor	Term	Hour/s
1	Introduction to Urology, Definition and clinical symptoms	Assistant Professor Dr. Ziad hammad	1st	1
2	Urological Investigation: Urinalysis, Biochemical test, Radiology ,Ultrasound, CT-scan ,MRI, Isotope study	Assistant Professor Dr. Ziad hammad	1st	1
3	Embryology of GUT, Renal Anomalies, Cystic disease of the Kidney	Assistant Professor Dr. Waleed Nassar	1st	1
4	PUJ obstruction,	Assistant Professor Dr. Waleed	1st	1

	Anomalies of the Ureter, Uretrocele, VUR	Nassar		
5	Definitions of Urinary tract infection	Instructor Dr. Duraid Taha	1st	1
6	Acute and Chronic Pylonephritis, Renal carbuncle, Pyonephrosis, TB of GUT	Instructor Dr. Duraid Taha	1st	2
7	Renal and Ureteric Trauma	Assistant Professor Dr. Naama Hamad	1st	1
8	Urinary Fistulae And Urinary Diversions	Assistant Professor Dr. Naama Hamad	1st	1
9	Introduction To Urolithiasis	Ass. Prof. Dr. Qais Abdulrahman	1st	1
10	Renal Stone Diseases	Ass. Prof. Dr. Qais Abdulrahman	1st	1
11	Ureteric and Vesical Stone	Ass. Prof. Dr. Qais Abdulrahman	1st	1
12	Renal Tumors	Ass. Prof. Dr. Qais Abdulrahman	1st	2
13	Hydronephrosis and Obstructive Uropathy	Ass. Prof. Dr. Ziad hammad	1st	1
14	Diseases of the bladder ( Ectopia vesicae and Interstitial cystitis )	Assistant Professor Dr. Waleed Nassar	1st	1
15	Bladder diseases (Bilharezial and Neurogenic Diseases) and urinary retention	Assistant Professor Dr. Waleed Nassar	1st	1
16	Bladder tumours and bladder injury	Assistant Professor Dr. Waleed Nassar	2 <sup>nd</sup>	2
17	Diseases of the Prostate ( BPH)	Assistant Professor Dr. Ziad hammad	2 <sup>nd</sup>	1
18	Prostatic Carcinoma and Prostatitis	Assistant Professor Dr. Ziad hammad	2 <sup>nd</sup>	1
19	Imperfectly descended Testis, Torsion and acute scrotum	Assistant Professor Dr. Naama Hamad	2 <sup>nd</sup>	1
20	Epididymo-orchitis (acute ,Chronic and TB ),Hydrocele, Varicocele	Assistant Professor Dr. Naama Hamad	2 <sup>nd</sup>	1
21	Testicular Tumor, Scrotal Gangrene	Assistant Professor Dr. Naama Hamad	2 <sup>nd</sup>	1
22	Hypospadias, Epispadias, PUV ,Phimosis, Meatal stenosis	Instructor Dr. Duraid Taha	2 <sup>nd</sup>	1
23	Urethral injury, Stricture, Peyronie's Disease	Instructor Dr. Duraid Taha	2 <sup>nd</sup>	1
24	Renal failure	Instructor Dr. Duraid Taha	2 <sup>nd</sup>	1
25	Renal Transplant	Instructor Dr. Duraid Taha	2 <sup>nd</sup>	1
26	Male infertility	Assistant Professor Dr. Waleed	2 <sup>nd</sup>	2

		Nassar		
27	Esophagus	Assistant Professor Dr. Saad mikhlif	1 <sup>st</sup>	3
28	Stomach and duodenum	Assistant Professor Dr. Yahya Hameed	1 <sup>st</sup>	5
29	Hernia	Assistant Professor Dr. Yahya Hameed	1 <sup>st</sup>	3
30	Thyroid gland	Instructor Dr. Omar Tariq	1 <sup>st</sup>	3
31	Breast diseases	Assistant Professor Dr. Aamr Fakhri	1 <sup>st</sup>	4
32	Hydatid disease	Instructor Dr. Omar Tariq	1 <sup>st</sup>	3
33	Small and large bowel diseases+ appendix	Instructor Dr. Tariq Mahdi	1 <sup>st</sup>	7
34	Intestinal obstruction	Instructor Dr. Omar Tariq	1 <sup>st</sup>	2
35	Liver & biliary system	Instructor Dr. Omar Tariq	2 <sup>nd</sup>	4
36	Colostomy & ileostomy	Instructor Dr. Tariq Mahdi	2 <sup>nd</sup>	2
37	Anorectal surgery	Instructor Dr. Tariq Mahdi	2 <sup>nd</sup>	3
38	Portal hypertension&UGI bleeding	Dr. Aala Ahmed	2 <sup>nd</sup>	2
39	Pancreas	Assistant Professor Dr. Yahya Hameed	2 <sup>nd</sup>	1
40	Principles of laprascopic surgery and MIS	Dr. Majid Hameed	2 <sup>nd</sup>	2
41	Peritoneum & intra-abdominal sepsis	Assistant Professor Dr. Aamr Fakhri	2 <sup>nd</sup>	2
42	spleen	Assistant Professor Dr. Yahya Hameed	2 <sup>nd</sup>	1
43	Cervical lymphadenopathy & swellings in the neck	Ass. Prof. Dr. Mohammed Khether	2 <sup>nd</sup>	1
44	Salivary glands & oral cavity	Assistant Professor Dr.	2 <sup>nd</sup>	1
45	Diabetic foot	Ass. Prof. Dr. Aamr Fakhri	2 <sup>nd</sup>	2
46	Adrenal gland	Ass. Prof. Dr. Aamr Fakhri	2 <sup>nd</sup>	2
47	Parathyroid glands	Ass. Prof. Dr. Aamr Fakhri	2 <sup>nd</sup>	2
48	Principles of bariatric surgery	Dr. Majid Hameed	2 <sup>nd</sup>	2
49	Principles of oncology	Dr. Ayman Delan, Dr. Nabeel Mutheher, Dr. Mohammed Abdulkhader	2 <sup>nd</sup>	3



**Syllabus of the clinical course:** 10 weeks, 3 days per week and 3 hours per day

No.	Subject	Time
1	History taking	2 weeks
2	General physical exam	1 week
3	Examination of the Neck and Thyroid gland	1 week
4	Examination of the Abdomen and hernia	2 weeks
5	Examination of the Breast	1 week
6	Exam of lump, ulcer and other specific lesions	1 week
7	Revision and exam of variable cases in the ward	2 weeks

### Methods of assessment

No	Exam	Type of assessment	Marks
1	First term (15marks)	Quiz in the same theoretical lecture for each lecture	5
		End term written exam (60% MCQs & 40% essay questions)	10
2	Second term (15marks)	Quiz in the same theoretical lecture for each lecture	5
		End term written exam (60% MCQs & 40% essay questions)	10
3	During the clinical course (20 marks)	Senior evaluation	
		1. Student behavior	2
		2. Student attendance	1
		3. Student interaction	1
		Log book	2
		History taking and presentation	7
		Physical exam	7
4	Final written (50 mark)	MCQs	30
		Essay questions	20
5	Total		100

### Recommended books:

1. Baily and Love – Short Practice of Surgery - Russell
2. An Introduction to the Symptoms and Sign of Surgical Disease - Norman L. Browse

# CHAPTER 6

## **Subjects for the annual system of the fifth stage**

No.	Subject
1	Psychiatry
2	Dermatology
3	ENT
4	Ophthalmology
5	Internal Medicine
6	General Surgery
7	Radiology
8	Gynecology
9	Pediatrics

**Department of Internal Medicine****Subject:** Psychiatry**Academic year:** Fifth year**Coordinator:** Dr. Yousif Abdullah**Teaching staff:**

1. Dr. Yousif Abdullah Instructor

**Introduction**

All doctors must have an adequate level of psychiatric knowledge, skills and attitudes to be able to comprehensively assess and treat their patients. In particular, newly-qualified doctors should be able to competently manage psychiatric emergencies and recognize obvious mental illnesses in their patients; and know when to refer to their seniors/psychiatric specialists. Through a collaborative process, the Department of Internal Medicine has developed this core curriculum, which is relevant for all doctors. It specifies areas that we think should be covered at some stage of the undergraduate medical course. Many areas will be covered on a specific psychiatric clinical placement. The curriculum describes in detail the basic requirements in psychiatry for undergraduate students. Tomorrow's Doctors presents three overarching outcomes for newly qualified doctors: The doctor as a scholar and a scientist; The doctor as a practitioner; The doctor as a professional. This curriculum maps onto these overarching outcomes and specific outcomes relevant to psychiatry.

**Objectives**

1. To provide students with knowledge and understanding of the main psychiatric disorders, the principles underlying modern psychiatric theory and commonly used treatments (The doctor as a scholar and a scientist)
2. To assist students to develop the necessary skills to apply this knowledge in clinical situations (The doctor as a practitioner)
3. To encourage students to develop the appropriate attitudes necessary to respond empathically to mental illness and psychological distress in all medical and broader settings (The doctor as a professional)

It is essential that psychiatric teaching explicitly covers all age groups (children, adolescents, working age adults and older adults), the perinatal period and people with a learning disability. Students should learn about different presentations and treatments of mental illness in primary care, secondary psychiatric services, and medical/surgical patients.

**The Learning Outcomes are:**

- A. The **Doctor as a Scholar And a Scientist** On completion of undergraduate training the successful student should be able to:
  1. Describe the prevalence and clinical presentation of common psychiatric conditions and how these may differ between patients, particularly with age, developmental stage and culture.

2. Explain the biological, psychological and socio-cultural factors which may predispose to, precipitate or maintain psychiatric illness; and describe multi-factorial aetiology.
3. Understand normal life adjustments and transitions (include between age groups). Recognise the differences between mental illness and the range of normal responses to stress and life events (including bereavement). Recognise the danger of inappropriately medicalising normal distress and grief.
4. Describe the current, common psychological, physical and social treatments for psychiatric conditions, including the indications for their use, their method of action and any unwanted effects. Treatment includes lifestyle measures. Treatment includes ECT. Understand that stepped care is often appropriate. Understand that good treatment should lead to improved well-being and growth for an individual, not just reduced symptoms.
5. State the doctor's duties and the patient's rights under the appropriate mental health legislation and mental capacity legislation. Understand the importance of confidentiality and when the patient's wish for confidentiality should be over-ridden, including in young people.
6. Describe what may constitute risk to self (suicide, self harm and/or neglect, engaging in high risk behaviour) and risk to and from others (including child abuse, domestic violence between adults and protection of vulnerable adults). Understand how such abuse (of adults and children) increases the risk of psychiatric and personality disorders.
7. Summarise the major categories of psychiatric disorders, for example using ICD-10.
8. Describe the basic range of services and professionals involved in the care of people with mental illness and the role of self help, service user and carer groups in providing support to them. Describe the varied roles of psychiatrists and other mental health professionals. Students should be aware that services differ from each other and change over time (so future services may be different). Students should understand the recovery model.
9. Describe the principles and application of the primary, secondary and tertiary prevention of mental illness.

**B. The Doctor as a Practitioner** On completion of the course the successful student will be able to:

1. Take a full psychiatric history, carry out a mental state examination (including a cognitive assessment) and write up a case (as would be found in medical records). This includes being able to describe symptoms and mental state features, aetiological factors, differential diagnoses, a plan of management and assessment of prognosis.
2. Prescribe psychotropic medication (if appropriate) safely, effectively and economically.
3. Provide immediate care in psychiatric emergencies, which may occur in psychiatric, general medical or other settings. In particular be able to conduct a

risk assessment (risk to self and others, including from abuse), act appropriately based on this risk assessment; and to be competent in the management of acute behavioural disturbance.

4. Screen empathically for common mental illnesses in non-psychiatric settings and recognise where medically unexplained physical symptoms may have psychological origins.

5. Communicate effectively with patients and multi-disciplinary colleagues. Discuss with patients and relatives the nature of their illness, management options and prognosis. Be able to communicate well and empathically with children and with patients who might be frightened, aggressive, unable to communicate or challenging in other ways. Summarise and present a psychiatric case in an organised and coherent way to another professional. Be able to make appropriate referrals to psychiatric services.

6. Plan which physical and psychosocial investigations should be carried out when patients present with psychiatric symptoms and when starting psychotropic medication.

7. Evaluate information about family relationships and other relevant social factors (including work, education and finances) and their impact on an individual patient. This may involve gaining information from other sources.

8. Evaluate the impact of mental illness on the individual, their family and those around them.

9. Assess a patient's capacity to make a particular decision in accordance with legal requirements and the GMC's guidance.

C. The **Doctor as a Professional** On completion of the course the successful student will:

1. Behave according to good ethical and legal principles, including, but not limited to, those laid down by the General Medical Council.

2. Recognize the importance of the development of a therapeutic relationship with patients, enabling the patient to be actively involved in decisions about their care.

3. Act in a safe way towards patients. Understand the potential to do psychological harm to patients, including by providing untrained/unsupervised psychotherapeutic interventions and fostering inappropriate doctor-patient attachments. Recognize the limits of their own competence and know when to ask for help from a more senior/specialist colleague.

4. Accept that illnesses of the brain/mind are of equal importance as illnesses of other parts of the body. View psychiatric patients as being as deserving of the same high standard of medical care as patients with purely physical illness. Demonstrate understanding of how patients' opportunities may be affected by stigmatization of mental illness and show sensitivity to the concerns of patients and their families about such stigmatization.

5. Recognize the importance of multidisciplinary teamwork in the field of mental illness in psychiatric, community, general medical, primary care and non-medical settings.

6. Reflect on how working in health settings may impact upon their own health (including mental health) and that of colleagues. Understand the importance of seeking professional help if they themselves develop mental health problems. Know how/where to access this help.

### Components, duration and units of the curriculum

No	Components	Duration	Units
1	Theoretical lectures	45 hours	3
2	Clinical course	30 hours	1
3	Total	75 hours	4

### Places of completion the curriculum:

1. Lecture hall in the college
2. Rooms for small teaching group
3. Outpatient Psychiatric clinic in AL-Ramadi teaching hospital
4. Emergency unit in AL-Ramadi teaching hospital
5. Inpatient ward in AL-Ramadi teaching hospital

### Material used for completion the curriculum:

1. Real patient
2. Actors
3. ECT
4. EEG
5. Static clinical images
6. Teaching clinical Videos
7. Investigations of patients

### Theoretical lectures 45 in numbers

No	item	Term	Hour/s
1	Introduction to psychiatry and psychology	1 <sup>st</sup>	1
2	History of psychiatry , psychopathology , classification of psychiatric illnesses	1 <sup>st</sup>	6
3	Patient- doctor relationship	1 <sup>st</sup>	1
4	Personality disorders and psychopathy	1 <sup>st</sup>	3
5	Neuroses	1 <sup>st</sup>	1

6	Anxiety state, depression , anorexia nervosa , hypochondriasis, obsessive-compulsive neurosis, psychometric disorders ,post-traumatic stress disorder	1 <sup>st</sup>	7
7	Drug abuse, drug dependence, and alcoholism	1 <sup>st</sup>	2
8	Suicide and deliberated self-harm	1 <sup>st</sup>	1
9	Psychoses: Functional psychosis: affective disorders, schizophrenia, and other psychotic disorders Organic psychosis : acute/sub- acute and chronic syndromes	1 <sup>st</sup>	6
10	Treatment of psychiatric illnesses: physical therapy, non-physical therapy . psychotherapy , behavior therapy	1 <sup>st</sup>	2
11	Child psychiatry	2 <sup>nd</sup>	2
12	Geriatric psychiatry	2 <sup>nd</sup>	2
13	Mental sub-normality	2 <sup>nd</sup>	2
14	Eating disorders	2 <sup>nd</sup>	1
15	Forensic psychiatry	2 <sup>nd</sup>	2
16	Psychiatry aspects of epilepsy and of general medical problems	2 <sup>nd</sup>	1
17	Psychology and behavioral sciences lectures ( thinking , learning , memory , motives, intelligence, social psychology.....)	2 <sup>nd</sup>	5

### Clinical course: 2 weeks, 5 days/week and 3 hours/day

No	Item	Duration
1	General information about history taking	3 hours
2	Mental state examination	2 hours
3	Neurological examination	2 hours
4	Images for normal brain and nerves tissues	2 hours
5	Approach for history taking and mental state examination and medical ethics	4 hours
6	Emergency psychiatric conditions	4 hours
7	Interpretation of brain radiological films	2 hours
8	Approach for ECT doing	1 hour
9	Approach for EEG examination	1 hour
10	Common psychiatric conditions	9 hour

**Methods of assessment**

No	Exam	Type of assessment	Marks
1	First term	Quiz in the same theoretical lectures	5
		End term written exam (60% MCQs & 40% essay questions)	10
2	Second term	Quiz in the same theoretical lectures	5
		End term written exam (60% MCQs & 40% essay questions)	10
3	Final clinical	Oral exam	10
		Data show slides exam	10
4	Final written	MCQs	30
		Essay questions	20
5		Total	100

**Recommended references**

1. Clinical psychiatric strategies 2010.
2. Synopsis of psychiatry. Kaplan and sadock s. Eleven edition.



**Department of Internal Medicine****Subject:** Dermatology**Academic year:** Fifth year**Coordinator:** Assistant Professor Dr. Thamir A. Hameed Kubaisi**Teaching staff:**

1. Assistant Professor Dr. Abdulla S. Hassan
2. Assistant Professor Dr. Thamir A. Hameed Kubaisi
3. Instructor Dr. Asmaa I. Ageel

**Introduction**

A scientific curriculum is a guide line for both university teacher and student in order to accomplish the study in most appropriate manner. Owing to the change of science, a dermatology curriculum is also changed in order to enable the undergraduate students to get update knowledge in the field of Dermatology.

**Objectives**

1. To enhance the ability of the student in understanding the skin anatomical layers and skin appendix.
2. To enable the student to familiarize himself with the dermatology common problems.
3. To enable the student to be competent to evaluate the symptoms, analyze the findings, diagnose the malady and suggest and implement the treatment modalities to treat the common skin diseases.
4. To make the student aware of emergency lifesaving procedures commonly seen in dermatology practice.
5. To make the student aware of the minor surgical procedures and have knowledge of methods for it.
6. To make learning of the subject of dermatology through evoking the curiosity and generate a habit of self-learning which may be utilized to make the learning habit a dynamic one.
7. To enhance the attitude, communication skills, adapt to changing trends in education, learning method and evolve new diagnostic and therapeutic technique in the subject of dermatology.
8. To make the student understand the rational use of drugs used in treating skin diseases and have the knowledge of the common side effects and interactions of commonly used therapeutic agents.
9. To enable the student the measures of prevention of infectious diseases in daily dermatology clinical practice.

**Components, duration and units of the curriculum**

No	Components	Duration	Units
1	Theoretical lectures	30 hours	2
2	Clinical course	30 hours	1
3	total	60 hours	3

**Places of completion the curriculum:**

1. Lecture hall in the college
2. Rooms for small teaching group
3. Outpatient Dermatology room (UV cabin) in the collage
4. Outpatient Dermatology Clinic in AL-Ramadi Teaching Hospital
5. Minor surgery unit in AL-Ramadi teaching hospital
6. Inpatient ward in AL-Ramadi teaching hospital

**Material used for completion the curriculum:**

1. Real patients
2. Actors
3. Anatomical specimens
4. Examination and surgical instruments
5. Static clinical images
6. Teaching clinical Videos
7. Investigations of patients

**Theoretical lectures: 30 in number**

No	Name of the lecture	No	Name of the lecture
1	Structures and functions of the skin	16	Skin manifestations of systemic diseases
2	Terminology and dermatology signs	17	Cutaneous laser surgery
3	Parasitic skin infections	18	Bacterial skin infections
4	Acne and rosacea	19	Viral skin infections(partI)
5	Papulosequamous diseases (Psoriasis)	20	Sexual transmitted disease(infections)
6	Papulosequamous diseases (LP, PR)	21	Hair loss and hirsutism
7	Disorders of pigmentation (vitiligo and albinism)	22	Bullous diseases (part1)
8	Parasitic skin infections	23	Bullous diseases (part2)
9	Acne and rosacea	24	Viral skin infections(partII)
10	Disorders of pigmentation ( melasma and hperpigmentations)	25	Drug eruptions
11	Connective tissue diseases	26	Skin tumors(benign)
12	Urticaria and angioedema	27	Skin tumors (malignant)
13	Physical factors effects on the skin	28	Reactive erythemas and vasculitis
14	Dermatitis & Eczema)- part 1	29	Disorders of keratinizations
15	Dermatitis & Eczema) part 2	30	The skin and the psyche

## Clinical Course

No	Item	Duration
1	General information about history taking	2 hours
2	Anatomical specimens	1 hour
3	Instruments the way of skin examination	1 hours
4	The way of hair examination	1 hours
5	Instruments and the way of mouth and genital examination	2 hours
6	Injections of pentostam in Baghdad Boil	1 hour
7	Wood's light tests	1 hour
8	Injections of Botox in wrinkles and hyperhidrosis	6 hours
9	Common Dermatological conditions	6 hours
10	Interpretation of laboratory tests	3 hours
11	Minor surgical skills	4 hours
12	Common laser skin operations	2 hours

### Examples of common Dermatological conditions

1. Wart
2. Tenia
3. Eczema
4. Baghdad Boil
5. Psoriasis and Lichen planus
6. Impetigo
7. Acne vulgaris
8. Alopecia
9. Acute urticaria
10. Melasma
11. Vitiligo

### Examples of surgical skills

1. Wart cauterizations
2. Removal of foreign body
3. Abscess opening and drainage
4. Nail avulsion
5. Cauterization of bleeding point and pyogenic granuloma

**Methods of assessment**

No	Exam	Type of assessment	Marks
1	First term	Quiz in the same theoretical lecture for each lecture	5
		End term written exam (case study & essay questions)	10
2	Second term	Quiz in the same theoretical lecture for each lecture	5
		End term written exam (case study & essay questions)	10
3	Final clinical	Clinical cases + Oral exam	10
		Data show slides exam	10
4	Final written	MCQs	30
		Essay questions	20
5	Total		100

**References**

1. ANDREWS DISEASES OF THE SKIN, Clinical Dermatology, 12th edition (2015) by William D James, Dirk M Elston and Timothy G Berger.
2. Atlas and Synopsis of Lever's Histopathology of the skin, second edition(2007), by David E. Elder, Rosalie Elenitsas and Berneet Johnson.
3. Theoretical lectures by Thamir A Hameed, Abdula S. Hassan and Asmaa I Ageel.

## Department of Surgery

**Subject:** Otolaryngology

**Academic year:** Fifth year

**Coordinator:** Assistant Professor Dr. Raid M. Suhil

**Teaching staff:**

1. Assistant Professor Dr. Raid M. Suhil
2. Instructor Dr. Ameer Abduellah Ismail
3. Instructor Dr. Omar Malik Berjis

### Introduction

The otolaryngology deals with a wide varieties of diseases affects the ear, nose, and throat which are treated both medically and/or by surgical intervention. The curriculum of otolaryngology for undergraduate students is mainly designed to teach the students the basic of otolaryngology, communication skills, physical examination and interpretation of the investigations to reach the diagnosis and learn the best option of treatment of emergency and common otolaryngological problems. Our surgical department give 60 hours to achieve these goals. We are annually revise and update our curriculum in order to give the medical students the best and updating knowledge in the field of otolaryngology.

### Objectives

1. To enhance the ability of the student in understanding the ENT anatomical regions.
2. To enable the student to familiarize himself with the ENT common problems.
3. To enable the student to be competent to evaluate the symptoms, analyze the findings, diagnose the malady and suggest and implement the treatment modalities to treat the common ENT conditions.
4. To make the student aware of emergency lifesaving procedures commonly seen in ENT practice.
5. To make the student aware of the program on prevention of deafness and have knowledge of methods for screening for early detection of hearing loss.
6. To make learning of the subject of ENT through evoking the curiosity and generate a habit of self-learning which may be utilized to make the learning habit a dynamic one.
7. To enhance the attitude, communication skills, adapt to changing trends in education, learning method and evolve new diagnostic and therapeutic technique in the subject of ENT.
8. To make the student understand the rational use of drugs used in treating ENT diseases and have the knowledge of the common side effects and interactions of commonly used therapeutic agents.
9. To enable the student the measures of prevention of infectious diseases in daily ENT clinical practice.

**Components, duration and units of the curriculum**

No	Components	Duration	Unit
1	Theoretical lectures	30 hours	2
2	Clinical course	30 hours	1
3	Total	60 hours	3

**Places of completion the curriculum:**

1. Lecture hall in the college
2. Rooms for small teaching group
3. Skill lab
4. Outpatient ENT clinic in AL-Ramadi teaching hospital
5. Emergency unit in AL-Ramadi teaching hospital
6. Inpatient ward in AL-Ramadi teaching hospital

**Material used for completion the curriculum:**

1. Real patients
2. Actors
3. Anatomical specimens
4. Examination and surgical instruments
5. Static clinical images
6. Teaching clinical Videos
7. Investigations of patients

**Theoretical lectures: 30 in number, 1 hour/week**

No	Name of the lecture	No	Name of the lecture
1	Anatomy and physiology of the nose and paranasal sinuses	16	Complications of otitis media
2	Acute inflammations of the nose and paranasal sinuses	17	Common causes and management of hearing loss
3	Chronic inflammations of the nose and paranasal sinuses	18	Management of tinnitus and vertigo
4	Nasal polyposis	19	Anatomy and physiology of the larynx
5	Allergic rhinitis and intrinsic rhinitis	20	Anatomy and physiology of the pharynx
6	Nasal trauma	21	Acute and chronic inflammations of the larynx
7	Epistaxis	22	Acute and chronic inflammations of the pharynx
8	Sinonasal tumors	23	Diseases of tonsils and adenoids
9	Anatomy of the ear	24	Management of upper airway obstructions
10	Physiology of the hearing and the equilibrium	25	Tracheostomy
11	Investigations of ear diseases	26	Common causes and management of Hoarseness
12	Diseases of the external ear	27	Tumors of nasopharynx
13	Acute suppurative otitis media (ASOM)	28	Tumors of oropharynx
14	Secretory otitis media (SOM)	29	Tumors of hypopharynx
15	Chronic suppurative otitis media	30	Tumors of larynx

**Clinical Course: 2 weeks, 5 days/week and 3 hours/day**

No	Item	Duration
1	General information about history taking	2 hours
2	Anatomical specimens	1 hour
3	Instruments and the way of ear examination	1 hours
4	Instruments and the way of nose examination	1 hours
5	Instruments and the way of mouth, pharynx and larynx examination	2 hours
6	Neck examination	1 hour
7	Audiological and vestibular tests	1 hour
8	Emergency otolaryngological conditions	6 hours
9	Common otolaryngological conditions	6 hours
10	Interpretation of radiological films	3 hours
11	Surgical skills	4 hours
12	Common ENT operations	2 hours

**Examples of emergency otolaryngological conditions**

1. Auricular haematomas
2. Foreign body
3. Traumatic ear drum perforation
4. Acute mastoiditis
5. Epistaxis
6. Bilateral choanal atresia
7. Boil
8. Fracture nasal bone
9. Quinsy
10. Acute epiglottitis
11. Diphtheria
12. Post-tonsillectomy bleeding

**Examples of common otolaryngological conditions**

1. Otitis externa
2. Acute suppurative otitis media
3. Presbycusis
4. Secretory otitis media
5. Septal deviation
6. Allergic rhinitis
7. Nasal polyposis
8. Sinusitis
9. Acute tonsillitis
10. Adenoids
11. Singer's nodule
12. Laryngeal tumours



**Examples of interpretation of radiological film in otolaryngology**

1. CT scan of the nose and paranasal sinuses
2. Plain X-ray of the nasal bone
3. Plain X-ray of the nasopharynx
4. Plain X-ray of the neck
5. CT scan of the temporal bone
6. CT scan of the neck

**Examples of surgical skills**

1. Ear syringe
2. Removal of foreign body
3. Anterior packing
4. Ear wick
5. Cauterization of bleeding point
6. Care of tracheostomy

**Examples of common operations**

1. Tracheostomy
2. Tonsillectomy
3. Adenoidectomy
4. Aspiration or incision and drainage of quinsy

**Methods of assessment**

No	Exam	Type of assessment	Marks
1	First term	Quizzes in the same theoretical lectures	5
		End term written exam (60% MCQs & 40% essay questions)	10
2	Second term	Quiz in the same theoretical lectures	5
		End term written exam (60% MCQs & 40% essay questions)	10
3	Final clinical	Oral exam	10
		Data show slides exam	10
4	Final written	MCQs	30
		Essay questions	20
5		Total	100

**Recommended books**

1. DISEASES OF THE EAR, NOSE AND THROAT, Lecture Notes, 11th edition (2014) by Ray Clarke.
2. Theoretical lectures by Raid M. Suhil and Ameer Abdueh Ismael.
3. Practical notes for students to learn Otolaryngology by Raid M. Suhil.
4. 150 MCQs in Otolaryngology With Explanatory Answers by Raid M. Suhil.

## Department of Surgery

**Subject:** Ophthalmology

**Academic year:** Fifth year

**Coordinator:** Instructor Dr. Yousif Farhan Dawood.

**Teaching staff:**

1. Assistant Professor Dr. Thakir M. Mohsin.
2. Assistant Professor Dr. Zeina Mohammad
3. Assistant Professor Dr. Younis Ismail Khalaf.
4. Instructor Dr. Yousif Farhan Dawood.
5. Instructor Dr. Mohammed Abdullah Hassan.

### Introduction

A scientific curriculum is a guide line for both university teacher and student in order to accomplish the study in most appropriate manner. Owing to the change of science, an ophthalmology curriculum is also changed in order to enable the undergraduate students to get update knowledge in the field of ophthalmology.

### Objectives

1. To enhance the ability of the student in understanding the eye anatomical regions.
2. To enable the student to familiarize himself with the common problems in ophthalmology.
3. To enable the student to be competent to evaluate the symptoms, analyze the findings, diagnose the malady and suggest and implement the treatment modalities to treat the common eye conditions.
4. To make the student aware of emergency lifesaving procedures commonly seen in ophthalmic practice.
5. To make the student aware of the program on prevention of blindness and have knowledge of methods for screening for early detection of the diseases that lead to blindness.
6. To make learning of the subject of ophthalmology through evoking the curiosity and generate a habit of self-learning which may be utilized to make the learning habit a dynamic one.
7. To enhance the attitude, communication skills, adapt to changing trends in education, learning method and evolve new diagnostic and therapeutic technique in the subject of ophthalmology.
8. To make the student understand the rational use of drugs used in treating eye diseases and have the knowledge of the common side effects and interactions of commonly used therapeutic agents.
9. To enable the student the measures of prevention of infectious diseases in daily ophthalmic clinical practice.

**Components, duration and units of the curriculum**

No	Components	Duration	Units
1	Theoretical lectures	30 hours	2
2	Clinical course	30 hours	1
3	Total	60 hours	3

**Places of completion the curriculum:**

1. Lecture hall in the college
2. Rooms for small teaching group
3. Skill lab
4. Outpatient ophthalmic clinic in AL-Ramadi teaching hospital
5. Emergency unit in AL-Ramadi teaching hospital
6. Inpatient ward in AL-Ramadi teaching hospital

**Material used for completion the curriculum:**

1. Real patients
2. Actors
3. Anatomical specimens
4. Examination and surgical instruments
5. Static clinical images
6. Teaching clinical Videos
7. Investigations of patients

**Theoretical lectures: 30 in number**

No	Name of the lecture	Name of the instructor	Term	Duration in hour/s
1	Anatomy and physiology of eye	Dr. Younis	1st	2
2	Disorders of eyelids	Dr. Mohammed	1st	2
3	Disorders of conjunctiva	Dr. Younis	1st	2
4	Disorders of cornea	Dr. Yousif	1st	2
5	Disorders of the lens	Dr. Thakir	1st	2
6	Strabismus	Dr. Thakir	1st	2
7	Glaucoma	Dr. Younis	1st	2
8	Disorders of the orbit	Dr. Mohammed	1st	2
9	Disorders of the lacrimal drainage system	Dr. Zeina	2 <sup>nd</sup>	2
10	Disorders of the retina	Dr. Yousif	2 <sup>nd</sup>	2
11	Intraocular tumors	Dr. Yousif	2 <sup>nd</sup>	2
12	Neuro-ophthalmology	Dr. Thakir	2 <sup>nd</sup>	2
13	Uveitis	Dr. Mohammed	2 <sup>nd</sup>	2
14	Trauma to the eye	Dr. Zeina	2 <sup>nd</sup>	2
15	Optics	Dr. Younis	2 <sup>nd</sup>	1
16	Use of laser in ophthalmology	Dr. Zeina	2 <sup>nd</sup>	1

## Clinical Course

No	Item	Duration
1	General information about history taking	2 hours
2	Anatomical specimens	1 hour
3	Instruments and the way of eye examination	5 hours
4	Ophthalmic tests	1 hours
5	Emergency ophthalmic conditions	6 hours
6	Common ophthalmic conditions	6 hours
8	Interpretation of ophthalmic printout	3 hours
9	Surgical skills	4 hours
10	Common ophthalmic operations	2 hours

### Examples of emergency ophthalmic conditions

1. Acute glaucoma
2. Blunt trauma
3. Penetrating trauma
4. Post op. endophthalmitis
5. Corneal FB
6. Chemical injury
7. Sudden loss of vision.
8. Orbital cellulites

### Examples of common ophthalmic conditions

1. Chalazion
2. Sty
3. Blepharitis
4. Allergic conjunctivitis
5. Infectious conjunctivitis
6. Glucoma
7. Pterygium
8. Keratitis (corneal ulcer)
9. Corneal FB.
10. Strabismus
11. Diabetic retinopathy
12. Dry eye

**Examples of interpretation of ophthalmic investigation printout.**

1. Visual acuity and Refractive errors
2. Air puff tonometer
3. Visual field
4. B-scan of the eye
5. X- Ray and CT scan of the orbital bones.
6. OCT of the macula.

**Examples of surgical skills**

1. Removal of foreign body
2. Chalazion removal
3. Subconjunctival injection

**Examples of common operations**

1. Pterygium removal
2. Extra capsular cataract extraction (ECCE)
3. Phacoemulsification
4. Strabismus surgery
5. Glaucoma surgery

**Methods of assessment**

No	Exam	Type of assessment	Marks
1	First term	Quiz in the same theoretical lecture for each lecture	5
		End term written exam (60% MCQs & 40% essay questions)	10
2	Second term	Quiz in the same theoretical lecture for each lecture	5
		End term written exam (60% MCQs & 40% essay questions)	10
3	Final clinical	Oral exam	10
		Data show slides exam	10
4	Final written	MCQs	30
		Essay questions	20
5	Total		100

**Recommended books:**

1. Clinical Ophthalmology A systemic approach 7<sup>th</sup> edition by Jack J Kanski & Brad Bowling.(2014)
2. American academy of ophthalmology 2016-2017.

## Department of Internal Medicine

**Subject:** Internal Medicine

**Academic year:** Fifth year

**Course coordinator:** Assistant professor Hameed Ibraheem Head of Department of Internal medicine and consultant of internal medicine.

**Teaching staff:**

1. Assistant professor Hameed Ibraheem head Department of Internal medicine consultant of internal medicine .
2. Assistant professor Sami M. Awad decider of the department consultant of internal medicine .
3. Assistant professor Salah Noori Ahmed Dalli ali previous dean of the college for two cycles consultant of internal medicine .
4. Assistant professor Khalid A. ALrawi previous head of the department.
5. Assistant professor Haitham Noaman consultant of internal medicine .
6. Assistant professor Yasin Hamad Majeed consultant of internal medicine & gastroentrologist subspecialty gastroenterology and hepatology.
7. Assistant professor Maheer A. Jasim consultant of internal medicine.
8. Lecturer Khalid M. Rmaidh specialist of internal medicine .
9. Lecturer Hazim Ismael specialist of internal medicine .
10. Lecturer Sami Meklef specialist of internal medicine .
11. Assistant Lecturer Ahmed Abdul Salam.
12. Assistant Lecturer Ahmed Ibraheem.

The Department of internal medicine of Ramadi Teaching hospital seniors whom have Board specialty license of internal medicine and have good experience in the specialty support our department in teaching our students when we need them like Amer jehad, Saleh ALadi ,Amjed Sheet .

**Allocated marks:** 100 marks.

**Course duration:** One academic year.

**Introduction:**

Internal medicine is a clinical-based study that form the skeleton of college of medicine and built of the doctor where the medical students studied it by theoretical lectures and clinically practice it in the hospital medical wards on really ill patients also we use other tools like simulators in the skill lab. An understanding of medicine provides a fundamental framework for the accurate diagnosis and proper treatment of patients with medical problem. The purpose of this curriculum is to provide a basic detailed plan for teaching medicine in our college, unnecessary details and sophisticated clinical data were avoided from the curriculum, regarding this as a first step in updating our medicine curriculum in comparison with other worldwide. The curriculum also describe the subjects and topics in clinical medicine given for medical student.

The internal medicine department in Anbar college of medicine hosts the medical students on training course for 180 hours/year for the 5<sup>th</sup> year.

**Objectives:** The course is designed to introduce the student to:

- To enable the students to gather and present the information from the patients or actors.
- To enable the students how they perform the proper physical examination belongs to haematology, endocrinology, rheumatology and neurology.
- To teach the students how they respect the patients.
- To understand the pharmacology in general medicine and in haematology, endocrinology, rheumatology and neurology.
- To teach the student how the correlation between theoretical and clinical practice is beneficial to the patients.
- To enhance the awareness of how medical knowledge may be applied effectively in clinical and scientific context.
- To enable the students how to pursue independent and self-learning and how to work effectively in small groups.
- To teach the students how to work effectively under full observations by their lecturers and doctors in the 5<sup>th</sup> year.

**Components, duration and units of the curriculum**

No	Components	Duration	Unit
1	Theoretical lectures	90 hours	6
2	Clinical course	90 hours	3
3	Total	180 hours	9

**Places of completion the curriculum:**

1. Lecture hall in the college
2. Skill lab in the college
3. Rooms for small teaching group.
4. In patient wards in Ramadi Teaching Hospital
5. Emergency unit in Ramadi Teaching Hospital
6. CCU in Ramadi Teaching Hospital
7. Dialysis unit in Ramadi Teaching Hospital
8. AL-Humait teaching hospital for infectious diseases.

**Material used for completion the curriculum:**

1. Audiovisual aids.
2. Interaction with the students through questions.
3. Power point presentation.
4. Real patients .
5. ECGs ,X-rays study .
6. Plastic specimens as simulators .
7. Videos teaching tools and movies for real emergency medical conditions.
8. Diagrams and posters .
9. Small group and large groups medical discussion conditions .
10. pharmacology discussion for medical drugs.

**Syllabus:****Teaching Techniques:**

Teaching will be conducted using the following techniques:

**1. Theoretical Sessions:**

- lectures were designed to cover most of topics in medicine. In addition to hints on practical points in medical conditions on the community, clinical physiology, clinical anatomy and pathology, Radiology, clinical statistics and community bases of disease and clinical pharmacology study.
- The time of the lecture is 60 minutes.

**2. Practical Sessions:**

- The practical sessions follow the theory lectures in the same week in the teaching hospitals .
- Each group is guided by consultant in medicine and assistant professors minority are expert teachers.
- There are 3 courses (2 weeks courses) in rheumatology, neurology, haematology.
- The time of each session is 3 hours.
- There are 5 session/week for 2 weeks.

**Theoretical lectures:** 90 in number, 45 lecture in each term

No.	Topic	Objectives	Hours
1	Cerebrovascular diseases  Anatomy and physiology of cerebral circulation  Introduction and investigation of CVD	To understand and study  a) the auto regulation of blood flow of the brain, anatomy of carotid and vertebrasilar vessels                      b) Physiology of brain cell,  Epidemiology of CVD, risk factor for stroke, Classification of CVD	3 hours
2	Cerebral infarction and TIA  Hypertensive brain disease	To understand and study  a) Mode of clinical presentation and manifestation of cerebral infarction and TIA investigation , diagnosis and management b) Hypertensive encephalopathy, c) Primary and secondary prevention d) Complications of stroke , Prognosis and	3 hours



		Rehabilitation	
3	Intracerebral hemorrhage Subarachnoid hemorrhage Cerebral sinus diseases	To understand and study  a) Classification of cerebral hemorrhage , b) Risk factors, Presentation treatment and complication b) Subarachnoid Hemorrhage, causes , type of aneurysm, Medical and neurological complication of SAH	3 hours
4	Disease of Neuromuscular Junction	To understand and study  a) Neurophysiology and anatomy of neuromuscular (NMJ)  b) Clinical features , investigation and treatment of myasthenia gravis . Myasthenia syndrome (Eaton Lambert disease)	3 hours
5	Muscle disease	To study and understand  a) the Congenital and Acquired Myopathy b) Clinical features , investigation and treatment	3 hours
6	Functional anatomy	To understand and study  a) Cerebral hemisphere b) The motor system c) The extrapyramidal system, The cerebellum.,The brainstem, The spinal cord, The autonomic system and The somatosensory system. Speech	3 hours
7	Neurological investigation and neurological presentation(PRESENTING PROBLEMS)	To understand and study  a) Neuroimaging, Neurophysiological testing(Electroencephalography) ,Lumbar puncture, Routine blood tests b) Abnormal gait, Dizziness, blackouts and 'funny turns, Vertigo , Weakness, Tremor, Ptosis, diplopia, Disturbance of smell	3 hours

8	DISORDERS OF THE SPINE AND SPINAL CORD	<p>To understand and study</p> <p>a)Cervical spondylosis, Cervical radiculopathy (Clinical features ,Investigations and Management</p> <p>b) Cervical myelopathy(Clinical features, Investigations and Management)</p> <p>c) Lumbar spondylosisLumbar disc herniation(Pathophysiology,Clinical features, Investigations and Management) Lumbar canal stenosis(Clinical features , Investigations and Management )</p> <p>d) Spinal cord compression(Clinical features , Investigations and Management</p> <p>e)Intrinsic diseases of the spinal cord</p>	3 hours
9	<p>DISEASES OF PERIPHERAL NERVES</p> <p>Neurological failure (coma</p>	<p>To understand and study</p> <p>a)Pathophysiology Clinical feature and Investigations</p> <p>Entrapment neuropathy</p> <p>Multifocal neuropathy</p> <p>Polyneuropathy</p> <p>Guillain–Barré syndrome(Clinical features Investigations and Management)Brachial plexopathy</p> <p>b)Lumbosacral plexopathy</p> <p>Spinal root lesions causes of coma</p> <p>C)Brain death and minimallyconscious states</p> <p>Glasgow Coma Scale</p>	3 hours

		Tests for confirming brain death	
	Neurodegenerative diseases	<p>To understand and study</p> <p>a) Pathophysiology Clinical feature and Investigations in diagnosis of neurodegenerative diseases .</p> <p>b) extrapyramidal disorders like anatomy ,functions and disorders classifications .</p> <p>c) parkinson disease its pathology,diagnosis and treatment with prognosis of the disease .</p> <p>d) other extrapyramidal diseases .</p> <p>e) motor neuron disease .</p>	
10	Neuroinflammatory diseases of CNS	<p>To study and understand</p> <p>a) the pathophysiology,clinical presentation, investigation,management and prognosis in Multiple sclerosis,acute disseminated encephalomyelitis, Transverse myelitis and Neuromyelitis optica.</p>	3 hours
11	Epilepsy and Status epilepticus	<p>To understand</p> <p>a) the pathophysiology, types, investigation, first aid and management of epilepsy and to guide students about the definition, first aid and emergency treatment of status epilepticus.</p>	3 hours
12	Vestibular disorders	<p>To study and understand</p> <p>a) the pathophysiology, clinical presentation, diagnosis and treatment of Labyrinthitis, benign paroxysmal positional vertigo and Menier's</p>	3 hours

		disease.	
	Brain masses	To understand and study a) brain tumors benign and malignant conditions. b) benign intracranial hypertension. c) hydrocephalus	3 hours
13	Infection of the nervous system	To study and understand the a) Pathobiology, clinical features and investigations. b) Management and prevention.	3 hours
15	Infection of the meninges and brain abscess	To study and understand a) pathophysiology, clinical presentation, diagnosis b) treatment and prevention of the disease.	3 hours
	Total hours of the 1 <sup>st</sup> semester		45 hours
16	THE THYROID GLAND  THYROTOXICOSIS  AUTOIMMUNE THYROID DISEASES  -GRAVES' DISEASE  HASHIMOTO'S THYROIDITIS  TRANSIENT THYROIDITIS  SIMPLE DIFFUSE GOITER MULTINODULAR GOITER	To study and understand the  a) Functional Clinical assessment, Investigations and Management b) Atrial fibrillation in thyrotoxicosis Thyrotoxic crisis ('thyroid storm') c) Pathophysiology, Management, Antithyroid drugs, Radioactive iodine, Subtotal thyroidectomy, Graves ophthalmopathy, Pretibial myxedema, Thyrotoxicosis in pregnancy d) Clinical presentation, investigation and Management e) SUBACUTE (DE QUERVAIN'S) THYROIDITIS, POST-PARTUM THYROIDITIS f) Clinical features, investigations Management	3 hours

17	<p><b>HYPOTHYROIDISM</b></p> <p><b>ASYMPTOMATIC ABNORMAL THYROID FUNCTION TEST RESULTS</b></p> <p><b>THYROID NEOPLASIA</b></p>	<p>To study and understand the</p> <p>a) Clinical features ,investigations and Management</p> <p>b)Thyroxine replacement in ischaemic heart disease , Hypothyroidism in pregnancy</p> <p>c)Myxoedema coma</p> <p>e)Subclinical thyrotoxicosisNon-thyroidal illness ('sick euthyroidis</p> <p>Subclinicalhypothyroidism</p> <p>f)DIFFERENTIATED CARCINOMA(,papillary and follicular carcinoma)</p> <p>Undifferentiated carcinoma</p> <p><b>MEDULLARY CARCINOMA</b></p>	3 hours
18	<b>THE PARATHYROID GLANDS</b>	<p>To study and understand the</p> <p>a) <b>HYPERCALCAEMIA</b> clinical features and management</p> <p>b)<b>TREATMENT OF SEVERE HYPERCALCAEMIA</b></p> <p>c)<b>HYPOCALCAEMIA</b>, Clinical assessment and management</p>	3 hours
19	<p>The adrenal glands</p> <p><b>CUSHING'S SYNDROME</b></p>	<p>To study and understand the</p> <p>a) Glucocorticoids, Mineralocorticoids, Catecholamines</p> <p>b)the Causes of Cushing's syndrome Clinical assessment</p> <p><b>TESTS FOR CUSHING'S SYNDROME</b></p> <p>Cushing's disease Management ,Adrenal tumours ,Ectopic</p>	3 hours

		ACTH syndrome  CONGENITAL ADRENAL HYPERPLASIA(Clinical assessment and management)  c)CAUSES OF MINERALOCORTICOID EXCESS  Clinical assessment and management)	
20	ADRENAL INSUFFICIENCY	To study and understand the a) CAUSES OF ADRENOCORTICAL INSUFFICIENCY  ,Addison's disease(Clinical assessment and management).	3 hours
21	PHAEOCHROMOCYTOMA	To study and understand the a) Clinical assessment and management.	3 hours
	Mineralocorticoid excess	To study and understand the a) CONGENITAL ADRENAL HYPERPLASIA(Clinical assessment and management)  b)CAUSES OF MINERALOCORTICOID EXCESS	
22	THE HYPOTHALAMUS AND THE PITUITARY GLAND	To study and understand the a) Anterior pituitary gland,  B)Posterior pituitary and hypothalamus,  ANTERIOR PITUITARY HORMONE DEFICIENCY,  INSULIN TOLERANCE TEST,  c)DIABETES INSIPIDUS, (Clinical assessment and	3 hours

23	Investigations and diagnosis of diabetes mellitus.	To study and understand a) Urine testing for glucose, ketone and protein. Blood tests for glucose and glycated haemoglobin.clinical features b) Criteria for diagnosis of DM.	3 hours
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		management)  HYPERPROLACTINAEMIA,(Clinical assessment and management)  ACROMEGALY(Clinical assessment and management)	
	Introduction to diabetes mellitus.	To study and understand a)Pancreatic structure and endocrine function, metabolism and the actions of insulin b)Classification ,etiology and pathogenesis of diabetes	

	Management of diabetes mellitus.	To study and understand Diet and lifestyle, Weight management, Exercise.	
	Management of diabetes mellitus.	To study and understand Anti-diabetic drugs and insulin therapy.	
	Acute complications of diabetes mellitus	To study and understand a) Diabetic ketoacidosis. b) hyperosmolar non-ketotic hyperosmolar coma, lactic acidosis.	
24	Chronic complications of diabetes mellitus.	To study and understand Diabetic nephropathy ,diabetic retinopathy, neuropathy.	3 hours
	Chronic complications of diabetes mellitus.	To study and understand macro vascular complications of diabetes mellitus.	
	Hypoglycemia.	To study and understand a) Definition, Risk factor, clinical features . b) diagnosis and treatment of hypoglycemia.	
	Gestational diabetes	To study and understand Risk factor ,diagnosis and management.	
	Diabetes and emergencies.	To study and understand Myocardial infarction and DM, Surgery and DM.	
25	Introduction to rheumatology, rheumatoid arthritis.	To study and understand a) Etiology, pathogenesis, investigations. b) clinical features (articular and extra articular) and diagnosis of rheumatoid arthritis.	3 hours



	rheumatoid arthritis.	To study and understand Management of rheumatoid arthritis.	
	Osteoarthritis (OA)	To study and understand a)Epidemiology,etiology,clinical features. b) investigations and treatment of gout.	
26	Seronegative spondyloarthritis	To study and understand a)Ankylosing spondylitis (AS), Psoriatic arthritis. b) Reactive arthritis and Arthritis associated with inflammatory bowel disease.	3 hours
	Crystal-associated disease-gout	To study and understand a)Epidemiology,etiology,clinical features. b) investigations and treatment of gout.	
	Systemic lupus erythematosus (SLE)	To study and understand a)Pathophysiology, clinical features . b)criteria for diagnosis, investigations and management.	
	Systemic sclerosis, Sjögren's syndrome, polymyositis and dermatomyositis.	To study and understand a)Pathophysiology, Clinical features. b) Investigations and Management.	
27	Systemic vasculitis.	To study and understand a) Classification, etiology. b) B)clinical features and management.	3 hours
	Septic arthritis	To study and understand etiology, clinical features and management.	
	Bone diseases(osteoporosis, Osteomalacia and rickets and Paget's	To study and understand Etiology, clinical features and management.	

	disease)		
28	Introduction to hematology system	To study and understand a- Physiology ,investigations. b- Presenting problems .	3 hours
	Anemia	To study and understand a- Acute and chronic types. b- Iron deficiency anemia . c- Autoimmune hemolytic anemia	
	Hereditary anemia	To study and understand a- thalasemias. b- Sickle cell anemia . c- G6PD deficiency	
	leukemias	To study and understand a- Acute leukemias acute myeloblastic and acute lymphoblastic leukemias. b- Chronic leukemia like chronic myeloid and lymphoid leukemias .	
29	Myeloid diseases	To study and understand a- Multiple myeloma. b- MUGAS .	3 hours
	Lymphoproliferative diseases	To study and understand a- Hodgkin s and non Hodgkin lymphoma . b- CLL .	
	Bleeding tendency	To study and understand a- Hemophilia Type A,B . b- Von-Willebrand disease . c- Platelets dysfunction primary and secondary causes . d- Vascular causes of bleeding .	
30	Blood and blood products transfusion	To study and understand a- Blood transfusion management . b- Blood products management .	3 hours

	Anticoagulants	To study and understand a- Heparin and warfrin management with direct thrombin inhibitors . b- Thrombolytic management .	
	Total hours in 2 <sup>nd</sup> semester		45 hours

**A. Clinical course in rheumatology:** 30 hours, 3 hours/day and 5 days / week

No	Item	Duration
1	General information about history taking	2 hours
2	Anatomical specimens	1 hour
3	Communication skill and presentation in history taking	3 hours
4	Physical examination- general inspection	2 hours
5	Physical examination- neck and spine examination	2 hours
6	Physical examination- upper limb	2 hours
7	Physical examination-lower limb	2 hours
8	Emergency rheumatological conditions	4 hours
9	Common rheumatological conditions	5 hours
10	Interpretation of radiological films and laboratory investigations	3 hours
11	Medical skills	4 hours
12	Total	30 hours

**B. Clinical course in endocrine and diabetes mellitus :** 30 hours, 3 hours/day and 5 days/week

No	Item	Duration
1	General information about history taking	2 hours
2	Anatomical specimens	1 hour
3	Communication skill and presentation in history taking	3 hours
4	Physical examination- general inspection	2 hours
5	Physical examination- endocrine signs	2 hours
6	Physical examination- upper limb	2 hours
7	Physical examination-lower limb	2 hours
8	Emergency endocrine and diabetes mellitus conditions	4 hours
9	Common endocrine and diabetes mellitus conditions	5 hours
10	Interpretation of radiological films and laboratory investigations	3 hours
11	Medical skills	4 hours
12	Total	30 hours

**C. Clinical course in haematology:** 30 hours, 3 hours/day and 5 days/week

No	Item	Duration
1	General information about history taking	2 hours
2	Anatomical specimens	1 hour
3	Communication skill and presentation in history taking	3 hours
4	Physical examination- general inspection	2 hours
5	Physical examination- face, eye and mouth	2 hours
6	Physical examination- abdominal	2 hours
7	Physical examination-cardiovascular	2 hours
8	Emergency haematological conditions	4 hours
9	Common haematological conditions	5 hours
10	Interpretation of radiological films and laboratory investigations	3 hours
11	Medical skills	4 hours
12	Total	30 hours

**Methods of assessment**

No	Exam	Type of assessment	Marks
1	First term	Quizzes in the same theoretical lectures	2
		End term written exam (60% MCQs & 40% essay questions)	13
2	Second term	Quiz in the same theoretical lectures	2
		End term written exam (60% MCQs & 40% essay questions)	13
3	Final clinical	5 mark for each of the 3 courses (short cases, data show exams)	15
4	Final written	MCQs	33
		Essay questions	22
5	Total		100

**Suggested Reading List:**

1. Davidson principles and practise, 22<sup>nd</sup> Edition, By: Stanley Davidson MD.
2. Macleod 's clinical examination : S. Macleod.

**Department of Surgery****Subject: General Surgery****Academic year: Fifth year****Coordinator: Instructor Dr. Mohammed jasim****Teaching staff:**

1. Assistant Professor Dr. Saad makhlif
1. Assistant Professor Dr.Mohammed tafash
2. Assistant Professor Dr. Mohammed khudir
3. Instructor Dr. Qahtan Adnan
4. Instructor Dr.Bassam Maddah
5. Instructor Dr. Mohammed jasim
6. Instructor Dr.Luay Asaad
7. Instructor Dr.Omer Tariq
8. Instructor Dr.Haider Abbas
9. Instructor Dr.Omer abdulqader
10. Instructor Dr. Atheer Ahmed

**Introduction**

A scientific curriculum is a guide line for both university teacher and student in order to accomplish the study in most appropriate manner. Owing to the change of science, curriculum of surgery is also changed in order to enable the undergraduate students to get update knowledge in the field of multiple surgical branches.

**Objectives**

1. To enhance the ability of the student in understanding the anatomical regions of human body.
2. To enable the student to familiarize himself with the common problems that will face him in orthopedic, cardiothoracic, plastic, anaesthesia, war, pediatric and hand surgery.
3. To enable the student to be competent to evaluate the symptoms, analyze the findings, diagnose the malady and suggest and implement the treatment modalities to treat the common surgical conditions.
4. To make the student aware of emergency lifesaving procedures.
5. To enhance the attitude, communication skills, adapt to changing trends in education, learning method and evolve new diagnostic and therapeutic technique in surgery.

**Components, duration and units of the curriculum**

No	Components	Duration	Unit
1	Theoretical lectures	90 hours	6
2	Clinical course	60 hours	2
3	Total	150 hours	8

**Places of completion the curriculum:**

1. Lecture hall in the college
2. Rooms for small teaching group
3. Skill lab
4. Outpatient orthopedics, plastic, vascular, pediatric and neurosurgery clinic in AL-Ramadi teaching hospital
5. Emergency unit in AL-Ramadi teaching hospital
6. Inpatient ward in AL-Ramadi teaching hospital
7. Operative theater in AL-Ramadi teaching hospital

**Material used for completion the curriculum:**

1. Real patients
2. Actors
3. Anatomical specimens
4. Examination and surgical instruments
5. Static clinical images
6. Teaching clinical Videos
7. Investigations of patients

**Theoretical lectures: 90 hours**

No	Name of lecture	Hour/s	No	Name of lecture	Hour /s
1	Introduction to Orthopaedic Surgery	2	27	Update of thoracic surgery, mini-invasive,	1
2	Introduction to Fractures	4	28	Principle of plastic surgery	1
3	Injuries of The Upper Limb	5	29	Skin graft and flap	1
4	Disorders of The Upper Limb	4	30	Cleft lip and palate	2
5	Injuries of The lower Limb	6	31	Vascular malformation	1
6	Disorders of The Lower Limb...	6	32	Principle of hand surgery and hand infection	1
7	Injuries of The Spine	1	33	Congenital hand disease	1
8	Disorders of The Spine	5	34	Hand trauma	2
9	Bone & Joint Infections	3	35	Common hand disorders	1
10	Bone Tumors	3	36	Anaesthetic assessment	1
11	Osteonecrosis and Osteochondritis	1	37	Premedications	1
12	Rheumatoid & Gouty Arthritis	1	38	Pharmacology of anesthetic drug	1
13	Osteoarthritis	1	39	Postoperative management	1
14	Disorders Metabolic Bone	2	40	Local and regional anaesthesia	1
15	Genetic Disorders of the Bone	1	41	Head injury and raised ICP, brain herniation	1
16	Introduction of cardiac surgery	1	42	Blood brain barrier and Brain edema Impaired consciousness	1
17	Heart surgical disease. congenital	1	43	Craniosynostosis,	1
18	Heart surgical disease. acquired	1	44	Intracranial hemorrhage, brain tumor	1
19	Introduction of thoracic surgery	1	45	Spinal trauma and lumbar disc	1
20	Chest wall and pleura	1	46	Lumbar canal stenosis and neural tube defect	1
21	bronchoscopy	1	47	Maxillofacial trauma	2
22	Pulmonary hydatid cyst	1	48	War surgery	3
23	Benign lung disease	1	49	Esophageal atresia, TEF and diaphragmatic hernia	1
24	Malignant lung disease	1	50	Pyloric stenosis,	1
25	Hirschsprung disease, anorectal malformation	1	51	Intussusceptions and biliary tree anomalies	1
26	Neonatal intestinal obstruction	1	52	oncology	4

**Clinical Course:****a) Orthopedic surgery (30 hours):**

No	Item	Duration
1	History taking in Orthopaedic	2 hours
2	Physical examination in Orthopedic	5 hours
3	Musculoskeletal radiology	5 hours
4	Surgical skills	4 hours
5	Short cases in common orthopedic condition	8 hours
6	Common orthopedic procedure	6 hours

**Surgical skills:**

1. Reduction of fracture
2. Reduction of joint dislocation
3. Skin and skeletal traction
4. Wound dressing
5. Fracture immobilization by cast or splint

**Short cases in orthopedics:**

1. Fracture of scaphoid bone
2. Supracondylar fracture
3. Fracture of radius and ulna
4. Fracture of clavicle
5. Fracture of femur
6. Fracture of tibia
7. DDH
8. Club foot
9. Osteomyelitis
10. Diabetic foot
11. Osteoarthritis
12. Compartment syndrome

**Common orthopedic procedures:**

1. External fixation of fracture
2. Internal fixation of fracture
3. Wound excision
4. Bone graft.
5. Fasciotomy

**b) Other surgical specialties (30 hours)**

No	Item	Duration
1	History examination in cardiothoracic surgery	2 hours
2	Common cardiothoracic problem. Case presentation	3 hours
3	Common surgical procedure	3 hours
4	Hand examination	2 hours
5	Common plastic and hand surgery condition	3 hours



6	Common plastic and hand surgery procedure	3 hours
7	Neurological history and examination	2 hour
8	Brain and spine radiology	2 hours
9	Common neurological condition	2 hours
10	Anesthetic skill	4 hours
11	History and examination in pediatric surgery	2 hours
12	Common surgical pediatric problem	2 hours

### Examples of common cardiothoracic conditions

No	Item	Duration
1	History examination in cardiothoracic surgery	2 hours
2	Common cardiothoracic problem. Case presentation	3 hours
3	Common surgical procedure	3 hours
4	Hand examination	2 hours
5	Common plastic and hand surgery condition	3 hours
6	Common plastic and hand surgery procedure	3 hours
7	Neurological history and examination	2 hour
8	Brain and spine radiology	2 hours
9	Common neurological condition	2 hours
10	Anesthetic skill	4 hours
11	History and examination in pediatric surgery	2 hours
12	Common surgical pediatric problem	2 hours

### Examples of common cardiothoracic conditions

1. Chest wall mass work up
2. Vascular ischemic lower limb
3. Deep venous thrombosis
4. lymphedema

### Common surgical procedure in cardiothoracic

1. Chest tube: indication, complication , insertion and removal
2. Pleural fluid aspiration
3. Bronchoscopy : removal of foreign body or biopsy
4. Transthoracic biopsy device in lung disease
5. Osophagoscopy.

### Common plastic and hand surgery problem:

1. Cleft lip and palate
2. Pressure sore
3. Hand trauma
4. Skin malignancy
5. Ganglion
6. Hemangioma
7. Burn
8. Scar and contracture

**Common plastic and hand surgery procedure:**

1. Skin graft
2. Flap
3. Scar revision
4. release of contracture
5. Flexor tendon repair
6. Cleft lip and palate repair

**Common neurological condition**

1. Hydrocephaly
2. Neural tube defect
3. Brain tumor
4. Head and spine injury
5. Anesthetic skill
6. IV line
7. CVL
8. Intubation
9. Spinal anesthesia
10. Patient monitoring

**Methods of assessment**

No	Exam	Type of assessment	Marks
1	First term	Quizzes in the same theoretical lectures	5
		End term written exam (60% MCQs & 40% essay questions)	10
2	Second term	Quizzes in the same theoretical lectures	5
		End term written exam (60% MCQs & 40% essay questions)	10
3	Final clinical	Oral exam	10
		Data show slides exam	10
4	Final written	MCQs	30
		Essay questions	20
5	Total		100

**Recommended books:**

1. Baily and Love's. short practice of surgery: 26<sup>th</sup> ed.
2. Apley's System of Orthopedics & Fractures, Louis M. Solomon
3. Outlines of Orthopedics, John S. Adams
4. Orthopedics & Fractures, Ronald F. McRee.
5. Essential of plastic surgery. Jeffrey E. Janis.
6. Grabb and smith. Plastic and reconstructive surgery.
7. Coran pediatric surgery. 7<sup>th</sup> ed. 2012
8. Ashcraft pediatric surgery. 6<sup>th</sup> ed. 2014

## Department of Surgery

**Subject:** Radiology

**Academic year:** Fifth year

**Coordinator:** Instructor Dr. Labeeb Qays Abdulrahman

**Teaching staff:**

1. Instructor Dr. Labeeb Qays Abdulrahman

### Introduction

A scientific curriculum is a guide line for both university teacher and student in order to accomplish the study in most appropriate manner. Owing to the change of science, the radiology curriculum is also changed in order to enable the undergraduate students to get update knowledge in the field of diagnostic imaging.

### Objectives

1. To provide a knowledge base of the principles of radiology, This should comprise some familiarity with the following:
  - Anatomy and physiology as pertaining to clinical radiology
  - Imaging physics and radiation protection
  - The characteristics of imaging techniques
  - The clinical role of imaging techniques, both individually and as part of a coordinated investigation regime
  - The use of appropriate referral criteria and clinical guidelines
  - Appropriate investigation of acute and life-threatening conditions
  - Interpretative skills for emergency investigations.
2. To ensure that the students are fully aware of their legal responsibilities with regard to patient care and safety as influenced by radiology.
3. To provide an awareness of the importance of resource management in health care and costs and benefits of radiology in relation to clinical management.
4. To provide an awareness of developments in radiology that can be anticipated to form part of the clinical practice in their future careers.
5. To support student learning across the rest of the clinical curriculum by exploiting the power of images to elucidate normal and pathological anatomy and the nature and behaviour of disease.
6. To raise the profile of radiology as a career choice for undergraduates.

### Components, duration and units of the curriculum

No	Components	Duration	Unit
1	Theoretical lectures	30 hours	2
2	Clinical course	30 hours	1
3	Total	60 hours	3

**Places of completion the curriculum:**

1. Lecture hall in the college
2. Rooms for small teaching group
3. Skill lab
4. Department of radiology in AL-Ramadi teaching hospital
5. Emergency unit in AL-Ramadi teaching hospital

**Material used for completion the curriculum:**

1. Real patients
2. Actors
3. Anatomical specimens
4. Static clinical images
5. Teaching clinical Videos
6. Investigations of patients

**Theoretical lectures: 30 in number**

No	Name of the lecture	No	Name of the lecture
1	Introduction to diagnostic radiology	16	Radiology of bone trauma
2	Introduction to diagnostic radiology	17	Neuroradiology: Introduction
3	Cardiovascular radiology: Use of Imaging Modalities and normal radiological anatomy	18	Imaging assessment of head trauma
4	CXR interpretation in cardiac disease	19	Stroke and brain tumors imaging
5	Imaging of valvular heart disease	20	Gastrointestinal radiology: Introduction
6	Radiological approach in congenital and ischemic heart diseases	21	Radiology of Esophageal disease
7	Chest Radiology: Introduction	22	Stomach and duodenum
8	Radiological assessment of pulmonary disease	23	Imaging of small bowel disease
9	Imaging of solitary pulmonary nodule	24	Radiology of large bowel disease
10	Pleural and mediastinal diseases	25	Uroradiology: Introduction/ Imaging modalities
11	Imaging in chest trauma	26	Imaging of congenital renal disease and renal infection
12	Musculoskeletal radiology: Introduction	27	Imaging of Acute flank pain and Painless hematuria
13	Approach to solitary and multiple bone lesions.	28	Principle of radiation oncology
14	Imaging in osteoporosis and metabolic disease	29	Planning and Methods of radiotherapy
15	Radiology of joint disease	30	Emergency paediatric radiology

## Clinical Course

No	Item	Duration
1	General concepts and radiation protection	2 hours
2	Identification of functioning process in general radiology	4 hours
3	Identification of functioning process in Ultrasound	2 hours
4	Identification of functioning process in CT Scan	2 hours
5	Identification of functioning process in MRI	2 hours
6	Emergency radiology skill	2 hours
7	Interpretation of films	14 hour
8	Referral skills in radiology	2 hours

## Methods of assessment

No	Exam	Type of assessment	Marks
1	First term	Quiz in the same theoretical lecture for each lecture	5
		End term written exam (60% MCQs & 40% essay questions)	10
2	Second term	Quiz in the same theoretical lecture for each lecture	5
		End term written exam (60% MCQs & 40% essay questions)	10
3	Final clinical	Data show slides exam	20
4	Final written	MCQs	30
		Essay questions	20
5	Total		100

## Recommended books:

1. Diagnostic imaging, 6<sup>th</sup> edition, Peter Armstrong, Martin Wastie, Andrea G. Rockall.
2. Imaging for students, 4<sup>th</sup> edition, by David A. Lisle.

**Department of Obstetrics & Gynecology****Subject:** Gynecology**Academic year:** Fifth year**Coordinator:** Instructor Dr. Susan Abed Zaidan**Teaching staff:**

1. Instructor Dr. Susan Abed Zaidan
2. Instructor Dr. Dhah Abdul Aziz
3. Instructor Dr. Reshed Zaki
4. Instructor Dr. Refel Mustafa
5. Instructor Dr. Nour Hazim
6. Instructor Dr. Alaa Shelal

**Introduction**

Gynecology is a science concerned about woman's health throughout her life aiming to prevent, early detect and treatment of gynecological diseases. These objectives can be achieved by close cooperation with other specialties such as endocrinology, biochemistry, microbiology, pathology & psychiatry. Our goals that medical student will have strong base in this subject with concentration on legal and ethical side on dealing with patients.

To achieve these goals, fifth curriculum includes 30 hours clinical training over 2 weeks and 60 hours gynecological lectures. Our objectives are to have the following theoretical & practical skills.

**Theoretical skills**

1. To understand gynecological terms.
2. To have thorough knowledge of gynecological diseases & their management.

**Practical skills**

1. To be able of proper gynaecological history taking.
2. To be able to conduct manual gynaecological examination.
3. To have basic knowledge of instruments used for examination, investigations and treatment.

**Components, duration and units of the curriculum:**

No	Components	Duration	Units
1	Theoretical lectures	60 hours	4
2	Clinical course	30 hours	1
3	Total	90 hours	5

**Places of completion of the curriculum:**

1. Studying hall in the college.
2. Rooms for small teaching groups.
3. Gynaecologic clinic at maternity and pediatric teaching hospital at Al-Ramadi city.
4. Skill lab.

**Material used for completion the curriculum:**

1. Real patients.
2. Actors.
3. Plastic models.
4. Clinical Images and videos.
5. Instruments and devices used for examination.

**Syllabus of the theoretical lectures and its objectives:**

Topics	Duration	Objectives
Physiology of menstruation	1 hour	To know: 1.Ovarian cycle. 2.Menstrual cycle.
Amenorrhea	2 hours	To know: 1. Definition & classification. 2.Causes: hypothalamic , pituitary, ovarian , outflow tract. 3.investigations. 4.Progesterone challenge test & treatment.
Puberty & its disorders	2 hours	To know: 1.Physiology. 2.Precocious puberty: causes, investigation, treatment. 3. Delayed puberty: causes, investigation, management, hormone replacement therapy.
Abnormal uterine bleeding	2 hours	To know: 1.Definitions & classification. 2.Pathophysiology. 3.age related abnormal uterine bleeding causes. 4.Dysfunctional uterine bleeding, investigations. 5.Medical treatment. 6.Surgical management, endometrial ablation, complications.
Postmenopausal bleeding	1 hour	To know: 1.Causes. 2.Investigation. 3.Women on tamoxifen. 4.Management.
Menopause	2 hours	To know: 1. Pathophysiology. 2.Menopausal symptoms, osteoporosis, urogenital system, cardiovascular system. 3. Hormone replacement therapy, oestrogen, side effects, breast disease, venous thrombo-embolism, contraindications, duration of treatment. 4.Alternative treatment.
Early pregnancy loss: Miscarriage	3 hours	To know: 1. Definition .

		2.Risk factors. 3. Clinical types. 4.Recurrent miscarriage, 5.Investigations. 6.Ultrasound findings. 7.Treatment of each type.
Early pregnancy loss: Ectopic pregnancy	2 hours	To know: 1 Incidence& risk factors. 2.Clinical presentation. 3.Diagnosis. 4.Expectant management, medical treatment, surgical treatment.
Gestational trophoblastic diseases	2 hours	To know: 1. Epidemiology. 2.Pathological features. 3.Molar pregnancy: types, clinical features,investigations,treatment,routine follow up, contraception. 4.Persistent trophoblastic diseases. 5. Choice of chemotherapy. 6.Choriocarcinoma. 7.Role of surgery.
Lower genital tract infection	2 hours	To know: 1.Physiological vaginal discharge. 2. Vaginal fungal infection: risk factor, clinical presentation, recurrent candidiasis, treatment. 3.bacterial vaginosis:symptoms, diagnosis, treatment. 4.Trichomoniasis:clinical presentation, treatment. 5. Vaginal discharge in children.
Pelvic inflammatory disease (PID)	2 hours	To know: 1. Incidence. 2.Aetiology. 3.Clinical presentation. 3.Investigations of suspected PID. 4.Management. 5.Role of laparoscopy. 6.Complications.
Sexually transmitted diseases(STD)	4 hours	To know: 1.Gonorrhea: clinical features, complications, diagnosis, treatment, treatment of gonorrhea in pregnancy. 2.Chlamydia trachomatis: screening program, clinical features, complications, specimen collection, treatment, 3.Anogenital warts: clinical features, treatment, warts in pregnancy, 4.Syphilis: aetiology, epidemiology, classification, clinical features, diagnosis, treatment, congenital syphilis. 5. HIV infection, HIV in pregnancy. 6.Hepatitis.
Subfertility	3 hours	To know: 1. Epidemiology.



		<p>2.Causes: unovulatory infertility, tubal infertility, role of endometriosis, uterine factors, unexplained infertility.</p> <p>3.Laboratory investigations, imaging investigations, endoscopy.</p> <p>3.Ovulation detection,ovarian reserve tests, tubal patency tests.</p> <p>4.Management of unovulation infertility.</p> <p>5.Management of tubal infertility. 6.Management of unexplained infertility.</p> <p>7.Male infertility:causes,semen analysis,management.</p>
Assisted reproductive techniques	1 hour	<p>To know:</p> <p>1.Modalities of assisted reproduction&amp; indications.</p> <p>2.In vitro fertilization: oocyte maturation, oocyte collection, laboratory procedures, embryo transfer, luteal phase support, pregnancy confirmation.</p> <p>3. Intrauterine insemination.</p> <p>4.Complications of assisted reproductive techniques,.</p> <p>5.Ovarian hyperstimulation: clinical presentation, investigations, grading, treatment.</p>
Polycystic ovary syndrome(PCO)	1 hour	<p>To know:</p> <p>1.prevalence&amp;pathophysiology.</p> <p>2.Diagnostic criteria.</p> <p>3.treatment options.</p> <p>4.Long term health problems.</p>
Hirsutism & virilism	1 hour	<p>To know:</p> <p>1.Definitions.</p> <p>2. Physiology of hair growth.</p> <p>3.Incidence&amp; clinical assessment of hirsutism.</p> <p>4. Investigations.</p> <p>5. Treatment.</p>
Abnormal development of genital tract	1 hour	<p>To know:</p> <p>1. Incidence.</p> <p>2.Classification.</p> <p>3.Clinical presentation.</p> <p>4.Management.</p>
Endometriosis & adenomyosis	2 hours	<p>To know:</p> <p>1.Endometriosis: definition, incidence, risk factors, clinical presentation, diagnosis, grading, medical&amp; surgical treatment.</p> <p>2. Adenomyosis: definition, epidemiology, clinicalfeatures, diagnosis, treatment options.</p>
Genital prolapse	2 hours	<p>To know:</p> <p>1. Risk factors.</p> <p>2. Classification&amp; grading of urogenital prolapse.</p> <p>3. Anatomy of pelvic floor&amp; uterine support.</p> <p>4.Clinical presentation.</p> <p>5.Prevention.</p> <p>6.Physiotherapy, intravaginal devices, surgical</p>

		procedures.
Urinary incontinence	4 hours	<p>To know:</p> <ol style="list-style-type: none"> <li>1. Urinary symptoms.</li> <li>2. Overactive bladder syndrome.</li> <li>3. Urinary incontinence: stress incontinence, urge incontinence, mixed urinary incontinence.</li> <li>4. Physical examination.</li> <li>5. Investigations: frequency- volume chart, pad test, uroflowmetry, methylene blue test, cystometry, videourodynamics, ambulatory urodynamic, urethral pressure profilometry, radiological imaging, cystourethroscopy.</li> <li>6. Prevalence &amp; risk factors.</li> <li>7. Conservative management, 8. Pharmacological management.</li> <li>9. Surgical procedures.</li> <li>10. Minimally invasive tape procedure.</li> </ol>
Ovarian tumours	4 hours	<p>To know:</p> <ol style="list-style-type: none"> <li>1. Classification.</li> <li>2. Functional ovarian cysts &amp; its management.</li> <li>3. Benign ovarian cysts: epidemiology, classification, imaging assessment, management.</li> <li>4. Malignant ovarian tumours: risk factors, screening, tumour markers, staging, primary surgical treatment, secondary cytoreductive surgery.</li> <li>5. Border line tumours.</li> <li>6. Fertility sparing surgery.</li> <li>7. Role of chemotherapy.</li> <li>8. Management of women with positive family history of ovarian tumours.</li> </ol>
Benign diseases of the uterus	2 hours	<p>To know:</p> <ol style="list-style-type: none"> <li>1. Endometrial polyp: clinical presentation &amp; management.</li> <li>2. Uterine fibroids: prevalence, symptoms, clinical signs, degeneration, fibroid &amp; subfertility, fibroid &amp; pregnancy, medical &amp; surgical treatment, myomectomy.</li> <li>3. Asherman syndrome.</li> </ol>
Premalignant & malignant diseases of the uterine body	2 hours	<p>To know:</p> <ol style="list-style-type: none"> <li>1. Endometrial hyperplasia: classifications, treatment, follow up.</li> <li>2. Endometrial cancer: incidence, risk factors, stages, radiological imaging, presentation, diagnosis, treatment of early stage disease, role of radiotherapy, progesterone therapy, role of chemotherapy, prognosis.</li> </ol>
Premalignant & malignant diseases of the	3 hours	<p>To know:</p> <ol style="list-style-type: none"> <li>1. Cervical intraepithelial neoplasia: pathogenesis, role of human papilloma virus, incidence, screening test</li> </ol>

cervix		performance, colposcopy, treatment, HPV vaccine. 2. Cervical cancer: epidemiology, pathology, clinical presentation, staging, treatment, radical radiotherapy.
Diseases of the vulva	2 hours	To know: 1. Lichen sclerosis: definition, incidence, aetiology, prognosis, management, surgery, follow up. 2. Vulval ulcers
Family planning	4 hours	To know: 1. Fertility awareness methods. 2. Cycle rhythm method. 3. Natural method. 4. Barrier methods. 5. Coitus interruptus. 6. Combined hormonal contraception, mechanism of action, non-contraceptive benefit, major side effects, COCP, contraindications. 7. Progesterone contraception: mode of action, return of fertility, effectiveness, side effects. 8. Intrauterine contraceptive devices: types, effectiveness, mode of action, insertion prerequisites, complications & its management. 8. Female sterilization: methods. 9. Male sterilization: methods, risks.
Dysmenorrhea & premenstrual syndrome.	1 hour	To know: 1. Definitions. 2. Dysmenorrhea: types, incidence, aetiology, investigations, management. 3. Chronic pelvic pain, medical treatment, surgical approaches for chronic pelvic pain. 4. Premenstrual symptoms, management.
Gynecological operations	1 hour	To know: 1. Hysterectomy: types, indications, complications. 2. Dilatation & curettage: indications, complications.
Laparoscopic procedure & hysteroscopy	1 hour	To know: 1. Laparoscopy: indication, therapeutic procedures, complications. 2. Hysteroscopy: indication, therapeutic procedures, complications.

**Syllabus of the clinical course:**

Items	Duration
Gynaecological history and examination	2 hours
Instruments used for examination, investigation and treatment	3 hours
Demonstration on plastic model how to take a Pap smear. Videos showing colposcopic examination of the cervix.	3 hours
Slides and videos regarding ovarian cyst with concentration on ultrasound assessment and calculation of risk of malignancy index.	4 hours
Counseling about family planning: Demonstration of different available options.	3 hours
Slides and videos showing laparoscopic and hysteroscopic procedures.	3 hours
Hysterosalpingography films interpretation .Videos showing methods of assessment of tubal patency.	3 hours
Videos and demonstration of intrauterine device insertion: Discussion about timing of insertion and possible complications.	3 hours
Counseling a patient with polycystic ovary syndrome. Ultrasound and hormonal findings. Possible lines of treatment.	3 hours
Fibroid: Videos regarding ultrasound showing different sites and sizes of fibroids, myomectomy and hysterectomy	3 hours

**Methods of assessment**

No	Exam	Type of assessment	Marks
1	First term	Quiz in the same theoretical lecture for each lecture	5
		End term written exam (60% MCQs & 40% essay questions)	10
2	Second term	Quiz in the same theoretical lecture for each lecture	5
		End term written exam (60% MCQs & 40% essay questions)	10
3	Final clinical	Seniors evaluation	
		Student behavior	1
		Student attendance	1
		Student interaction	1
		Data show slides	3
		OSCE	4
4	Final written	MCQs or /and EMQ	36
		Short assay, problem solving questions	24
5		Total	100

**Recommended references:**

1. Obstetrics by Ten Teachers.
2. Dewhurt's textbook of obstetrics and gynecology.
3. Obstetrics & Gynaecology An Evidence-based Text for the MRCOG.

## Department of Pediatrics

**Subject:** Pediatrics

**Academic year:** Fifth year

**Course coordinator:** Ass. Prof. Dr. Mohammed Maher Meshreef  
Head of Pediatrics Department

**Teaching staff:**

1. Prof. Dr. Zaid Rasheed AL-Ani
2. Ass. Prof. Dr. Fakhree Jameel AL-Ani
3. Ass. Prof. Dr. Mohammed Maher Meshreef
4. Instructor Dr. Kais AL-Ani
5. Instructor Dr. Rana Fahmee Shattran
6. Instructor Dr. Waraka Yassen AL-Ani
7. Instructor Dr. Saad Fawaz Alfahadawi

**Allocated marks:** 100 marks.

**Course duration:** One academic year.

**Introduction:**

In 60 hours lectures, we are going to understand the growth and development of pediatrics during health in different age groups and to recognize the most important signs and symptoms of diseases in different pediatric age groups and how to deal with these conditions, how to diagnose, how to investigate, and how to treat these conditions.

**Objectives**

1. Graduation of a qualified efficient medical students with efficient abilities for solving pediatric problems and protecting children from development of these conditions.
2. Attaining a maximum level for diagnosis and treatment of pediatric diseases with the least cost and the right drugs.
3. Enhancing of different scientific researching on the department, the college and the university levels.
4. Enhancement of collaborative actions between the college and the governorate general health administration for reaching a maximum benefits and care for children.
5. Graduation of an efficient postgraduate specialties in pediatrics carrying the name of the college were they gained their certificates.

**Components, duration and units of the curriculum**

No	Components	Duration	Unit
1	Theoretical lectures	60 hours	4
2	Clinical course	60 hours	2
3	Total	120 hours	6

**Places of completion the curriculum:**

1. Lecture hall in the college
2. Small teaching group
3. Skill lab in the college
4. Emergency department in AL-Ramadi teaching for maternity and pediatrics hospital
5. Pediatrics out-patient clinics in AL-Ramadi teaching for maternity and pediatrics hospital
6. Pediatrics inpatient ward in AL-Ramadi teaching for maternity and pediatrics hospital
7. Premature unit in AL-Ramadi teaching for maternity and pediatrics hospital

**Material used for completion the curriculum:**

1. Real patient
2. Actors.
3. Power point presentation.
4. Plastic specimens
5. Radiological films of patients (Plain X-ray , CT scan and MRI films)
6. Diagrams and posters
7. Clinical video tapes and movies.
8. Laboratory investigations of patients.

**Theoretical Syllabus: one hour for each topic****1- Introduction to pediatrics:**

- Definition, History taking, & Physical examination.

**2- Development & growth:**

- Physiology of growth, growth assessment, growth chart, factors affect growth.
- Growth in prematurity,
- Developmental 4 parts: stages of development: birth till 6 years including gross motor.
- Fine motor, speech, language and social development, development warning signs.

**3- Puberty:**

- Puberty, key ages in Puberty,-
- Clinical description of puberty female & male.
- Problems of Puberty: delayed & precocious, causes & management.

**4- Short stature:**

- Causes, Familial SS, Constitutional SS, Primary hypothyroidism.
- Emotional deprivation and systemic disease. Approach to SS, treatment.
- Indication of Growth hormone, side effects of Growth hormone.

**5- Neonatology:**

- Neonatal period: definition.
- APGAR score.
- Rapid visual assessment of gestational age.
- Physical examination.
- Prematurity: definition, causes, complications.
- SGA: definition, causes, complications.

**6- LGA (large for gestational age):**

- predisposing factors.
- Problems of LGA.
- Post term infants: manifestation, prognosis, treatment.
- NEC (neonatal necrotizing enterocolitis): Pathogenesis, risk factors,
- Manifestations, diagnosis, treatment, prevention.
- Meconium aspiration (MAS): Pathophysiology, manifestations, treatment, prognosis.

**7- RDS in newborn:**

- Causes.
- Hyaline membrane disease (HMD) RDS1: incidence, etiology, Pathophysiology.
- Vicious cycle, manifestations, diagnosis, D/D, prevention, treatment, complications, prognosis.
- RDS II: risk factors, clinical manifestations,

**8- Common metabolic disorders in neonates:**

- Hypoglycemia: definition, Pathophysiology, clinical manifestations, treatment.
- Hypocalcaemia: definition, early, late, clinical manifestations, treatment.

- Cold injury, thermal instability in premature.
- Hyperthermia.
- Infant of diabetic mother: Pathophysiology, clinical manifestations, treatment.

**9- Neonatal seizures:**

- Classification, causes, diagnosis, treatment, prognosis.

**10- Birth injury:**

- Hypoxic- ischemic injury: etiology.
- Pathophysiology, clinical manifestations, treatment, prognosis.
- Mechanical birth injury (Birth trauma): sub conjunctival and retinal hemorrhage.
- Caput succedaneum, cephal-hematoma. Peripheral nerve injuries, brachial palsy.
- Erbs palsy, Duchenne paralysis, Klumpke paralysis, Facial palsy.

**11- Neonatal hyperbilirubinemia:**

- Pathophysiology, etiology, clinical manifestations, physiological jaundice.
- Pathological jaundice, Rh incompatibility, ABO incompatibility, kernicterus, treatment.

**12- Hemorrhagic disease of the newborn:**

- Definition, classification, treatment.
- Neonatal anemia: definition, delayed cord clamping anemia.
- Approach to Neonatal anemia, treatment.

**13- Poisoning:**

- Epidemiology, pattern of poisoning, approach to management.
- Aspirin poisoning, lead poisoning, iron poisoning, hydrocarbon poisoning, Digoxin, Aminophylline, Acetaminophen, alkali & acid, lomotil, organophosphates.

**14- Genetics:**

- Types of Gene Diseases.
- Symbols used in pedigree.
- AD, AR, X linked recessive.
- Non mendelian inheritance.
- Down syndrome, turner syndrome.
- Gene therapy.
- Examples.

**15- Immunization:**



- Types (passive, active), cold chain storage, contraindication of vaccination.
  - Iraqi program of vaccination,
  - BCG, DPT, Oral polio vaccine, Rota virus vaccine, Hep B vaccine, Hib vaccine,
  - Quinary vaccine, Quaternary vaccine.
- Other vaccine: Hep A vaccine, Rabies vaccine, Typhoid Cholera, Cholera vaccine, yellow fever
- vaccine, pneumococcal vaccine, meningococcal, and influenza vaccines.
  - Delayed vaccination.

**16- Breast feeding:**

- Anatomy of the breast, stages of the development of the breast,
- Physiology of milk secretion and production,
- breast problems interfere with breast feeding, fore milk and hind milk, colostrum,
- technique of breast feeding, breast engorgement, sore nipple, retracted nipple.
- Weaning, artificial feeding, differences between breast milk and cow milk.
- Types of artificial feeding. Infant formula

**17- Malnutrition :**

- definition and types of malnutrition, Assessment and classification of malnutrition,
- Welcome classification, WHO classification of severe malnutrition
- kwashiorkor,
- marasmus.
- Sequelae of malnutrition,
- treatment of malnutrition.

**18- Vitamins:**

- Types of vitamins
- Discussion of every vitamin from the pediatrics point of view.
- water soluble vitamins: Vit C, Thiamin, Niacin, Riboflavin, Pyridoxine, Cyanocobalamin (B12),  
and folic acid.
- Lipid soluble vitamins:  
Vit A, Vit E, Vit K, Vit D

**19- Rickets:**

- Types and pathophysiology of rickets, hypophosphatemic and hypocalcemic rickets.

- Nutritional, vitamin dependent rickets, vitamin resistant rickets.

**20- Failure to thrive:**

- Types (organic and nonorganic), definition, clinical manifestations,
- investigations, management.

**21- Gastroenterology:**

- Diarrhea:

- physiology of diarrhea, dehydration, physiology and types of dehydration.

Isotonic, hypotonic, hypertonic dehydration,

- treatment of types of dehydration

- acute diarrhea,

- persistent diarrhea,

- dysentery,

- chronic diarrhea.

-Malabsorption syndrome, carbohydrate malabsorption, fat malabsorption, protein malabsorption.

- Disaccharidase deficiency,

- cow milk intolerance,

- food and cow milk allergy,

- celiac disease.

**22- Anemia in childhood:**

- Hematopoiesis.

- Hb electrophoresis.

- Causes of anemia.

- Iron deficiency anemia, causes, diagnosis, DDx, treatment.

- Megaloblastic anemia.

- B12 deficiency, causes, diagnosis, DDx, treatment.

- Folic acid deficiency anemia causes, diagnosis, DDx, treatment.

**23- Pancytopenia:**

- Definition, types.

- Congenital aplastic anemia: clinical manifestations, diagnosis, treatment.

- Acquired aplastic anemia: clinical presentation, diagnosis, treatment.

- Thalassemia: types, clinical manifestations diagnosis, management, sequelae.

- Follow up patient with Thalassemia.

**24- Sickle cell anemia:**

- Types, clinical manifestations, treatment, types of crisis.
- G6PD deficiency (Favism): types, causes of hemolysis in G6PD deficiency, investigations, treatment.
- Hereditary spherocytosis: clinical manifestations and treatment.
- Autoimmune hemolytic anemia : types, clinical presentation.
- Warm type IgG, cold type IgM, treatment.

**25- Bleeding tendency:**

- Evaluation of Bleeding tendency, history, diagnosis, causes of bleeding.
- Hemostasis.
- Immune thrombocytopenic purpura, types of ITP, investigations, DDx, treatment.
- Chronic ITP.
- Indications of splenectomy, prognosis.
- Wiskott Aldrich syndrome.
- Thrombocytopenia absent radius.
- Gra platelet syndrome.
- Bernard soulier syndrome.
- Glansman thrombosthenia.
- Hemophilia types A,B,C: clinical manifestations, Dx,Rx.
- Factor 7 deficiency.
- Factor 5 deficiency.
- Factor 2 deficiency.
- Factor 1 deficiency.
- Factor 13 deficiency.
- Von Willebrand disease clinical manifestations, Dx, Rx.
- Vit K deficiency, liver disease, Vascular causes of bleeding.

**26- Leukemias:**

- Causes, clinical manifestations.
- Good prognostic factors.
- Poor prognostic factors.
- Diagnosis, treatment of ALL.

- AML, Clinical Presentation, Dx, Rx.
- Lymphoma: Clinical Presentation, Dx, Rx.
- NHL: Clinical Presentation, Dx, Rx.
- Wilms tumor: Clinical Presentation, Dx, Rx.
- Malignancy in Down syndrome.
- Neuroblastoma: Clinical Presentation, Dx, Rx.
- Presentation of different types of malignancy.

**27- CNS infection:**

- Septic acute bacterial meningitis, clinical manifestations, diagnosis and treatment.
- Viral meningoencephalitis, Clinical Presentation, Dx, Rx.
- TB meningitis, clinical manifestations, diagnosis and treatment.
- Lumbar puncture: normal CSF findings, contraindications of LP.

**28- Congenital anomalies of CNS:**

- Spina bifida occulta.
- Meningomyelocele.
- Hydrocephalus, causes, types, diagnosis and treatment.
- Microcephaly: causes, diagnosis and treatment.
- Floppy baby syndrome.
- Guillain Barre syndrome Clinical Presentation, Dx, Rx.
- Duchene muscular dystrophy: Clinical Presentation, Dx, Rx.

**29- Thyroid disorders:**

- Congenital Hypothyroidism: Clinical Presentation, Dx, Rx.
- Acquired Hypothyroidism: Clinical Presentation, Dx, Rx.
- Hypoparathyroidism: causes, Clinical Presentation, Dx, Rx.
- Hyperthyroidism: causes, diagnosis and treatment.

**30- Insulin dependent diabetes mellitus:**

- Pathophysiology, Clinical Presentation, Rx.
- Diabetic ketoacidosis: classification, management, brain edema, Clinical Presentation, treatment.
- Aim of diabetic control.
- Nutritional management.

**31- Types of insulin, site of injection, resistance:**

- Signs and symptoms of hypoglycemia, Dx, Rx.
- Somogyi phenomenon, brittle phenomenon,
- Dawn phenomenon.
- Complications of diabetes.
- Muriac syndrome.
- sjoint mobility .
- Syndrome of limited
- Diabetes mellitus of newborn.

**32- Adrenal gland disease.**

- Adrenocortical insufficiency: causes, types, congenital, acquired, Dx, Rx.
- Addison disease: Clinical Presentation, Dx, Rx.
- Secondary adrenal insufficiency: Clinical Presentation, Dx, Rx.
- Cushing disease: Clinical Presentation, Dx, DDx, Rx.

**33- Approach to patient with ambiguous genitalia:**

- Causes, diagnosis, treatment.
- Congenital
- Adrenal hyperplasia: causes, investigations, treatment.

**34- Hydroxylase deficiency.**

- 3 Beta hydroxyl steroid dehydrogenase deficiency.
- Causes, diagnosis, treatment.

**35- Respiratory Disorders:**

- Introduction.
- Epidemiology.
- Factors affecting the prevalence of respiratory disorders.
- Classification of respiratory tract infection (ARI).

**36- Upper respiratory infection:**

- Common cold.
- Sore throat.
- Tonsillitis.
- Acute otitis media.
- Mode of presentation of URTI.

- WHO program about ARI.

**37- Laryngeal & Tracheal infection:**

- Croup.
- Acute epiglottitis.
- Bacterial tracheitis.
- Other causes of upper air way obstruction like F.B.

**38- Congenital stridor.**

- Presentation.
- Management.

**39- Bronchiolitis:**

- Epidemiology.
- Pathophysiology.
- Clinical manifestations.
- Diagnosis & D/D.
- Treatment.
- Course & prognosis.
- Prevention.

**40- Pneumonias:**

- Age related pathogen.
- Clinical features.
- Investigations.
- Management.

**41- Asthma:**

- Definition & epidemiology.
- Types.
- Causative factors & risk factors.
- Pathophysiology.
- Hyper responsiveness.
- Symptoms & physical signs.
- Assessment of severity.
- Diagnosis & D/D.

- Investigations.
- Management of acute attack.
- Long term & prevention.

**42- Nephrology:**

- Introduction, Pathophysiology, Investigations.
- Acute post streptococcal glomerulonephritis.
- Acute renal Failure.
- Chronic renal failure.
- UTI.
- Nephrotic syndrome.
- Renal tubular acidosis.

**43- Cardiovascular system:**

- Introduction.
- Transition from fetal to neonatal life.
- Approach to congenital heart disease.
- Acyanotic CHDs: VSD, ASD, PDA, Co-arctation of aorta.
- Cyanotic CHDs: TOF, TGA, TAPVR.
- Heart failure.
- Infective endocarditis.
- Rheumatic fever.

**44- Leishmaniasis:**

- Definition, Etiology, Epidemiology.

**Visceral leishmaniasis:**

- Pathology, Pathogenesis, Clinical manifestations, Laboratory findings.
- Differential diagnosis, Diagnosis, Treatment, Prevention.

**45- Group A streptococcus:**

- Definition, Etiology, Epidemiology, Pathogenesis.

**46- Scarlet fever:**

- Diagnosis, Differential Diagnosis, Treatment, Complications, Prognosis.

**47- Parvovirus B19:**

- Definition, Etiology, Epidemiology, Pathogenesis, Clinical manifestations.

**48- Erythema Infectiosum (Fifth Disease):**

- Arthropathy, Transient Aplastic crisis, Immunocompromised Persons.
- Fetal Infection, Diagnosis, Differential diagnosis, Treatment, Complications, Prevention.

**49- Diphtheria (*Corynebacterium diphtheriae*):**

- Definition, Etiology, Epidemiology, Pathogenesis, Clinical manifestations.
- Respiratory tract diphtheria, Cutaneous diphtheria. Toxic cardiomyopathy.
- Toxic neuropathy.
- Diagnosis, Treatment, Complications, Prognosis, Asymptomatic case contacts.
- Asymptomatic carriers, Vaccine.

**50- Epstein-Barr virus:**

- Definition, Etiology, Epidemiology, Pathogenesis, Clinical manifestations, Oncogenesis.
- Diagnosis, Differential diagnosis, Routine laboratory tests, Treatment, Complications, Prognosis.

**51- Pertussis (*B. Pertussis* and *B. Parapertussis*):**

- Definition, Etiology, Epidemiology, Pathogenesis, Clinical manifestations, Diagnosis, Treatment.
- Antimicrobial agents, Isolation, Care of contacts, Complications, Prevention, Acellular vaccine.

**52- Mumps:**

- Definition, Etiology, Epidemiology, Pathogenesis, Clinical manifestations.
- Diagnosis, Differential diagnosis, Treatment, Complications, Prognosis, Prevention.

**53- Measles:**

- Definition, Epidemiology, Transmission, Pathology, Pathogenesis, Clinical manifestations,
- Inapparent measles infection, Laboratory findings, Diagnosis, Differential diagnosis,
- Complications, Treatment, vitamin A, Prognosis, Prevention, Vaccine.

**54- Roseola (Human Herpes viruses 6 and 7):**

- Definition, Epidemiology, Pathogenesis.

**55- Roseola infantum (exanthem subitum):**

- Diagnosis, Laboratory findings, Differential diagnosis, Treatment, Prognosis, Prevention.



**56- Rubella:**

- Definition, Etiology, Epidemiology, Pathogenesis, clinical manifestations, Postnatal infection,
- Laboratory findings, Diagnoses, Differential diagnoses, Complications
- Congenital Rubella Syndrome (CRS):- Treatment, Supportive care, Prognosis, Prevention,
- Vaccination.

**57- Cytomegalovirus:**

- Definition, Etiology, Epidemiology, Pathogenesis, clinical manifestations.
- Immunocompromised Persons, Congenital Infection, Perinatal Infection, Diagnosis.
- Congenital Infection, Treatment, Immunocompromised Persons, Prevention.
- Passive Immunoprophylaxis, Active Immunization.

**58- Mycobacterial Infections:**

- Principles of Antimycobacterial Therapy.
- Commonly Used Agents Against Mycobacterium Tuberculosis:
- Isoniazid, Rifampicin's, Pyrazinamide, Ethambutol, Aminoglycosides, Ethionamide,
- Fluoroquinolones, Para-Amino Salicylic Acid.
- Tuberculosis (*Mycobacterium tuberculosis*):
- Definition, Etiology, Epidemiology.
- Latent tuberculosis infection (LTBI) :
- Definition, Treatment.
- Transmission, Pathogenesis, Pregnancy and the Newborn, Immunity, Tuberculin Skin Testing,
- Clinical Manifestations and Diagnosis, Primary Pulmonary Disease, Reactivation Tuberculosis,
- Pleural Effusion, Lymphohematogenous (Disseminated) Disease, Lymph Node Disease.
- Central Nervous System Disease, Disease in HIV- Infected Children, Perinatal Disease,
- Treatment:
- Corticosteroids, Supportive Care, Prevention, Bacille Calmette-Gurin Vaccination.

**59- Cerebral Palsy:**

- Definition, Epidemiology and Etiology, spastic hemiplegia, Spastic diplegia.

- Spastic quadriplegia, Athetoid CP, Diagnosis, Treatment.

**60-Seizures in Childhood:**

- focal (partial) seizures, generalized seizures, Acute symptomatic seizures.
- Epilepsy, epileptic encephalopathy, Symptomatic epilepsy, Evaluation of the First Seizure.
- Febrile Seizures, Absence seizures, Partial Seizures and Related Epilepsy Syndromes.
- Treatment of Seizures and Epilepsy, Status Epilepticus.

**Clinical course: Composed of four weeks: 5 days per week and 3 hours per day.**

**Day 1: History taking and presentation.**

**Day 2: History taking and presentation.**

**Day 3: History taking and presentation.**

**Day 4: History taking and presentation.**

**Day 5: General examination.**

**Day 6: General examination.**

**Day 7: Respiratory examination.**

**Day 8: Respiratory examination.**

**Day 9: Abdominal examination.**

**Day 10: Abdominal examination.**

**Day 11: Cardiovascular examination.**

**Day 12: Cardiovascular examination.**

**Day 13: Neonatal Examination**

**Day 14: Neonatal examination**

**Day 15: CNS examination.**

**Day 16: CNS examination.**

**Day 17: Nutritional assessment.**

**Day 18: Dehydration assessment.**

**Day 19: Casualty unit short cases examination.**

**Day 20: Clinical examination**

**Methods of assessment**

No	Exam	Type of assessment	Marks
1	First term	Quiz in the same theoretical lecture for each lecture	5
		End term written exam (60% MCQs & 40% essay questions)	10
2	Second term	Quiz in the same theoretical lecture for each lecture	5
		End term written exam (60% MCQs & 40% essay questions)	10
3	Final clinical	Long case exam	10
		Short case exam	10
4	Final written	MCQs	30
		Essay questions	20
5	Total		100

**Suggested Reading List:**

1. Nelson Textbook of Pediatrics
2. Essentials of pediatrics.
3. Various internet related subjects .
4. Assigned Readings.

# CHAPTER 7

**Subjects for the annual system of the sixth stage**

No.	Subject
1	Internal Medicine
2	General Surgery
3	Obstetrics & Gynecology
4	Pediatrics

## Department of Internal Medicine

**Subject: Internal Medicine**

**Academic year: six year**

**Course coordinator:** Assistant professor Hameed Ibraheem Head of Department of Internal medicine and consultant of internal medicine.

**Teaching staff:**

1. Assistant professor Hameed Ibraheem head Department of Internal medicine consultant of internal medicine .
2. Assistant professor Sami M. Awad decider of the department consultant of internal medicine .
3. Assistant professor Salah Noori Ahmed Dalli ali previous dean of the college for two cycles consultant of internal medicine .
4. Assistant professor Khalid A. ALrawi previous head of the department.
5. Assistant professor Haitham Noaman consultant of internal medicine .
6. Assistant professor Yasin Hamad Majeed consultant of internal medicine & gastroentologist subspecialty gastroenterology and hepatology.
7. Assistant professor Maheer A. Jasim consultant of internal medicine.
8. Lecturer Khalid M. Rmairh specialist of internal medicine .
9. Lecturer Hazim Ismael specialist of internal medicine .
10. Lecturer Sami Meklef specialist of internal medicine .
11. Assistant Lecturer Ahmed Abdul Salam.
12. Assistant Lecturer Ahmed Ibraheem.

The Department of internal medicine of Ramadi Teaching hospital seniors whom have Board specialty license of internal medicine and have good experience in the specialty support our department in teaching our students when we need them like Amer jehad, Saleh ALadi ,Amjed Sheet .

**Allocated marks: 100 marks.**

**Course duration: One academic year.**

**Introduction:**

Internal medicine is a clinical-based study that form the skeleton of college of medicine and built of the doctor where the medical students studied it by theoretical lectures and clinically practice it in the hospital medical wards on really ill patients also we use other tools like simulators in the skill lab. An understanding of medicine provides a fundamental framework for the accurate diagnosis and proper treatment of patients with medical problem. The purpose of this curriculum is to provide a basic detailed plan for teaching medicine in our college, unnecessary details and sophisticated clinical data were avoided from the curriculum, regarding this as a first step in updating our medicine curriculum in comparison with other worldwide. The curriculum also describe the subjects and topics in clinical medicine given for medical student.

The internal medicine department in Anbar college of medicine hosts the medical students on training course for 360 hours/year for the 6<sup>th</sup> year.

**Objectives:** The course is designed to introduce the student to:

- To enable the students to gather the information from the patients or actors.
- To enable the students how they perform the general examination and practice it on real patients or actors.
- To teach the students how they respect the patients.
- To understand the pharmacology in general medicine and all systems in the body.
- To teach the student how the correlation between theoretical and clinical practice is beneficial to the patients.
- To enhance the awareness of how medical knowledge may be applied effectively in clinical and scientific context.
- To enable the students how to pursue independent and self-learning and how to work effectively in small groups.
- To teach the students how to work effectively under full observations by their lecturers and doctors in the 6<sup>th</sup> year.

### Components, duration and units of the curriculum

No	Components	Duration	Unit
1	Clinical course	360 hours	12

### Places of completion the curriculum:

1. Lecture hall in the college
2. Skill lab in the college
3. Rooms for small teaching group.
4. In patient wards in Ramadi Teaching Hospital
5. Emergency unit in Ramadi Teaching Hospital
6. CCU in Ramadi Teaching Hospital
7. Dialysis unit in Ramadi Teaching Hospital
8. GIT center
9. AL-Humait teaching hospital for infectious diseases.

### Material used for completion the curriculum:

1. Audiovisual aids.
2. Interaction with the students through questions.
3. Power point presentation.
4. Real patients .
5. ECGs ,X-rays study .
6. Plastic specimens as simulators .
7. Videos teaching tools and movies for real emergency medical conditions.
8. Diagrams and posters.
9. Small group and large groups medical discussion conditions .
10. pharmacology discussion for medical drugs.

**Syllabus of the clinical course (6 hours per day, 5 days/week for 12 weeks) and its objectives.**

No	Name of the clinical session	Duration in hour/s	Objectives
1	History taking	60	<ol style="list-style-type: none"> <li>1. The students learn the communication skills in taking a history from a medical patient.</li> <li>2. To enhance the ability of the students to pick up the most important points from the patient in order to reach the provisional diagnosis in a quick way.</li> </ol>
1	Chest pain		
2	palpitation		
3	Headache and blurred vision		
4	Hemoptesis		
5	Dyspnea		
6	Abdominal pain		
7	Vomiting		
8	jaundice		
9	Hematemesis and melena		
10	Polyuria and polydipsia		
11	cyanosis		
12	Weight loss		
13	Loss of consciousness		
14	Peptic Ulcer		
15	, DVT AND pulmonary embolism		
16	Ischemic heart disease		
17	Joint pain and swelling		
18	Psychiatric cases		
19	Nerve palsy		
2	Physical examination	60	<ol style="list-style-type: none"> <li>1. To learn the students the proper way of examination for the various parts of the body.</li> <li>2. To pick up the specific signs for certain conditions.</li> <li>3. To enhance the ability of the students to be too much gentle with the patient.</li> </ol>
1	General examination		
2	Cardiovascular examination		
3	Respiratory system examination		
4	Abdominal examination		
5	Neurological examination		
6	Locomotor examination		
7	Vital signs examination		
8	Communication skills of the students		
9	Life support examination and management		
10	Behavior in emergency medical conditions		
11	Dermatological examination		

12	Psychiatric examination		
13	Examination of infectious patients		
3	Coronary care unit	36	
1	Radiological films for the heart and chest		<ol style="list-style-type: none"> <li>1. To learn the student the basic principles of CCU</li> <li>2. To learn the student how to use ECGs.</li> <li>3. To enhance the ability of the student to manage cardiac cases especially the emergency conditions.</li> <li>4. To learn the student the indications and complications of cardiac cases and how to manage it .</li> </ol>
2	ECGs for cardiac cases		
3	Management of cardiac emergencies		
4	Cardiac drugs management		
5	Complications management of cardiac cases		
6	Advance life support professional management		
7	To learn interventions of life saving conditions		
4	medical skill	100	
1	Self-protection by wearing gloves ,mask ,nose , gown and glasses		To practice or assisted or observe various medical skills.
2	Use DC		
3	Use Ambu Bag		
4	Taking a blood sample		
5	Blood transfusion set up and removal		
6	IM injection		
7	IV injection		
8	Insertion of a cannula		
9	IV fluid insertion		
10	Venous cut down		
11	Team management of advance life support		
12	Oxymeter exam		
13	Use ECG		
14	Manual control of a bleeding point		
15	Central venous line insertion		
16	Nasogastric tube insertion and removal		
17	Urinary catheter insertion and removal		
18	Monitor the heart		
19	Pleural aspiration and		



	biopsy		
20	Nasopharyngeal airway insertion		
21	Endotracheal intubation		
22	Peritoneal tap		
23	Cerebrospinal fluid drainage		
24	Liver biopsy		
25	Bone marrow aspiration and biopsy		
26	Observe splenic aspiration		
27	Upper endoscopy observation		
28	Lower endoscopy observation		
29	Local joint injection		
30	Aspiration of synovial fluid		
31	Double lumen catheter insertion		
32	Use of dialysis machine		
33	FNAC, true cut needle biopsy		
34	Observe fine needle aspiration ultrasound and CT-scan guid		
35	Oxygenation use and management)		
36	Arteriovenous fistula		
5	Seminars (student oriented)	20	
1	Diabetic ketoacidosis		To enhance the ability of the student to prepare and present a seminar under one or more seniors (from basic and clinical teaching staff) supervision.
2	Hypertensive encephalopathy		
3	hypoglycemia		
4	Hepatic encephalopathy		
5	HIV and AIDS		
6	Principles of antibiotics in medicine		
7	Upper GIT bleeding		
8	Chronic obstructive airway diseases		
9	Acute myocardial infarction		
10	Replacement Fluid therapy in acute gastroenteritis including cholera		

11	Blood transfusion management	
12	Acute confusional state	
13	Chronic liver diseases	
14	Malaria	
15	Enteric fever and brucellosis	
16	Peptic ulcer disease	
17	Malabsorption	
18	Cardiac arrhythmias	
19	Cushing diseases	
20	Adisson disease	
21	Diabetic nephropathy	
22	Chronic renal failure	
23	leukemias	
24	Lymphoproliferative diseases	
25	Upper GIT bleeding	
26	Chronic anemia and autoimmune hemolytic anemia	
27	Acute renal failure	
28	Diabetic retinopathy	
29	Valvular heart diseases	
30	Ischemia of the heart and atherosclerosis	
31	pneumonias	
32	Acute respiratory failure	
33	poisoning	
34	Peripheral neuropathy	
35	Acute meningitis and encephalitis	
36	Myasthenia gravis	
37	Bleeding tendency	
38	anticoagulants	
39	Insulin therapy	
40	Adrenal diseases	
41	Transverse myelitis	
42	Thyrotoxicosis	
43	hypothyroidism	
44	Sheehan syndrome	
45	hypogonadism	
46	Influenza and epidemic influenza	
48	tuberculosis	

49	Staphylococcal and streptococcal infections management		
50	cardiomyopathy		
51	Rheumatoid arthritis		
52	Systemic lupus erythmatosis		
53	Chemotherapy management		
54	Liver function tests in a acute hepatitis patientwith A,B,C and other viruses		
55	Heat strok		
56	Hemoptesis management		
57	Pleural effusion management		
58	Thrombolytic therapy		
59	Bronchogenic carcinoma		
60	parkisonism		
61	Multiple sclerosis		
62	Rheumatic fever		
63	Inflammatory bowel diseases		
64	Anaphylactic shock		
65	Infective endocarditis		
66	Structural heart diseases		
67	Heart failure and pulmonary edema		
68	scleroderma		
69	Aortic Aneurysms		
70	Septicemia amangement and pyrexia of unknown origin		
6	Teaching ward rounds	48	
	General medical ward		The student learns by participating, under close supervision, in all phases of the patient's care from admission to the hospital through final discharge and follow ups.
	GIT ward		
	neurology ward		
	Coronary care unit		
	Hematology ward		
	rheumatology ward		
	Medical emergency ward		
7	Clinical conferences	12	1. The student learns through the clinical conferences, the correlation among the clinical-pathological/radiological and

			laboratory findings in order to reach the diagnosis. 2. The student learns the best option of treatment from various options
8	Medical skills	24	<ol style="list-style-type: none"> <li>1. To enable the students to be familiar with the environment of medical ward.</li> <li>2. To know the various positions of the patients according to the type of medical conditions .</li> <li>3. To know the types of medical manipulations.</li> <li>4. To know the medical steps of common medical cases.</li> </ol>
1	Advance life support		
2	Use of cardiovertor defrillator		
3	Endotracheal intubation		
4	Ambu bag		
5	Oxygen management and oxymeter follow up		
6	Intracardiac CSF needle injection od adrenalin injection		
7	Pleural aspiration and pleural fluid analysis study		
8	Pleural biopsy maneuver		
9	Peritoneal fluid draining		
10	Peritoneal biopsy		
11	Peritoneal dialysis in renal failure		
12	Double lumen venous catheter for hemodialysis		
13	Dialysis machine usage for renal failure		
14	Upper endoscopy observation		
15	Lower endoscopy observation		
16	Liver biopsy maneuver		
17	Bone marrow aspirate and biopsy		
18	Endoscopic retrograde cholangiography observation		
19	Bronchoscopy and bronchial wash		
20	Autonomic neuropathy study		
21	EMG AND EEG study		
22	Cardiac monitor		
23	Temporaory pace maker usage		

23	Coronary angiography observorship		
24	Echocardiography observation		
25	Holter study observorship		
26	Exercise ECG study		
27	Sleep apnea study lab		
28	Endocrine investigations monitor		

### Methods of assessment

No	Exam	Type of assessment	Marks
1	During the clinical course (20 marks)	Seniors evaluation	
		1. Student attendance	1
		2. Student behavior	2
		3. Student interaction	1
		Preparation and presentation of seminar	2
		Log book	2
		Oral exam	3
		Short case exam	3
		Long case exam	4
		Data show slides exam	2
2	Final written exam (40 marks)	MCQs	24
		Short essay questions	6
		Long essay question	10
3	Final clinical exam (40 marks)	Oral exam	10
		Short case exam	10
		Long case exam	10
		Data show slides exam	10
4	Total		100

### Suggested Reading List:

1. Davidson principles and practise, 22<sup>nd</sup> Edition, By: Stanley Davidson MD.
2. Macleod 's clinical examination : S. Macleod

**Department of Surgery****Subject: General Surgery****Academic year: Sixth year****Coordinators:**

1. Assistant Professor Dr. Aamir Fkhree AL- Ubaid
2. Assistant Professor Dr. Raid Muhmid Suhil
3. Assistant Professor Dr. Waleed Nassar Jaffal

**Teaching staff**

1. Assistant Professor Dr. Aamir Fkhree AL- Ubaidi
2. Assistant Professor Dr. Neema Hamad
3. Assistant Professor Dr. Raid Muhmid Suhil
4. Assistant Professor Dr. Ziad Hammad Abd
5. Assistant Professor Dr. Saad Mikhlef Meheedi
6. Assistant Professor Dr. Thakir Mohammed Mohsen
7. Assistant Professor Dr. Waleed Nassar Jaffal
8. Assistant Professor Dr. Mohammed Tufash Dagash
9. Assistant Professor Dr. Qais Abdulrahman
10. Assistant Professor Dr. Zeina Mohammad
11. Assistant Professor Dr. Yahya hameed
12. Assistant Professor Dr. Younis Ismael
13. Assistant Professor Dr. Mohammad Khuthir
14. Instructor Dr. Ameer Abduellah Ismael
15. Instructor Dr. Labeed Qais Abdulrahman
16. Instructor Dr. Kahtan Adnan abbood
17. Instructor Dr. Duraid Taha
18. Instructor Dr. Tariq Mahdi
19. Instructor Dr. Loay Assaad Mahmood
20. Instructor Dr. Omar Tarik
21. Instructor Dr. Bassam Madah Alallosi
22. Instructor Dr. Yosif Farhan
23. Instructor Dr. Mohammed Abdulla
24. Instructor Dr. Atheer Ahmed
25. Instructor Dr. Mohammed Jassim Feehan
26. Instructor Dr. Haider Abbas
27. Instructor Dr. Omar Abdulqadir
28. Instructor Dr. Omar Malik Berjis

## Introduction

According to the Guide for Accreditation of Medical Colleges, Iraq which was prepared by the National Council for Accreditation of Medical Colleges that the curriculum must be annually revised. We are happy to update our curriculum for general surgery for the sixth year medical students in this year. Our surgical department was teaching the sixth year medical students for the past 23 year. We are updating the curriculum to improve the educational program for our students.

## Objectives

1. To inculcate the spirit of dedication, concern and empathy among students, by building thoughtful and skillful professional clinicians upon the sound foundation of the basic medical sciences.
2. To develop doctors who will have the background, skills, knowledge, understanding and appropriate attitudes to specialize in whatever area of medical science suits their talents.
3. To provide excellence in undergraduate teaching.
4. To direct and guide students to focus on the prime importance of patient care
5. To teach students to become proficient in clinical history taking and physical examination.
6. To teach the students to be a professional in the presentation of a surgical case.
7. To instruct the students to use a scheme in dealing with surgical emergencies.
8. To instruct the students to formulate a differential diagnosis for common clinical presentations.
9. To inform students about the indications for and interpretation of basic laboratory, radiological and other investigations.
10. To educate the students about the management of common surgical diseases.
11. To inform students to attend operative theater to see common surgical operations.
12. To inform the students to adopt learning and practice common surgical skills.
13. To know the ways of protection of students themselves and accompanying sub-staff.
14. To teach the students how they become a strong decision makers.
15. To learn the student the basics of postoperative care
16. To demonstrate a professional behavior (honesty, responsibility, respect for patients and colleagues and commitment and enthusiasm towards learning).

## Components, duration and units of the curriculum as in this table:

No	Components	Duration in weeks/days/hours	Units
1	Clinical course	12/60/360	12

**Places of a completion the curriculum:**

1. Rooms for small teaching group.
1. Skill lab.
2. Outpatient surgical clinics (general surgery, urological, orthopedics, neurosurgical, cardiothoracic, breast diseases, tumours, and plastic) in AL-Ramadi teaching hospital.
3. Radiological unit in AL-Ramadi teaching hospital.
4. Emergency unit in AL-Ramadi teaching hospital.
5. Inpatient surgical ward in AL-Ramadi teaching hospital.
6. Minor operative room in AL-Ramadi teaching hospital.
7. Surgical operative room in AL-Ramadi teaching hospital.
8. RCU in AL-Ramadi teaching hospital.
9. Endoscopic unit in AL-Ramadi teaching hospital
10. AL-Ramadi teaching hospital Lab.
11. Blood bank unit in the Anbar Health Directorate.
12. Primary health center.

**Materials used to accomplish the curriculum:**

1. Real patients
2. Actors
1. Anatomical specimens
2. Examination and surgical instruments
3. Static clinical images
4. Teaching Videos
5. Investigations of patients including laboratory and radiological investigations.

**Syllabus of the clinical course and its objectives.**

No	Name of the clinical session	Duration in hour/s	Objectives
1	History taking	60	<ol style="list-style-type: none"> <li>1. The students learn the communication skills in taking a history from a surgical patient.</li> <li>2. To enhance the ability of the students to pick up the most important points from the patient in order to reach the provisional diagnosis in a quick way.</li> </ol>
1	Neck mass		
2	Thyroid swelling and status		
3	Dysphagia		
4	Breast lump		
5	Dyspnea		
6	Abdominal pain		
7	Vomiting		
8	Surgical jaundice		



9	Upper GIT bleeding		
10	Bleeding per rectum		
11	Abdominal mass		
12	Groin lump		
13	Scrotal swelling		
14	Ulcer		
15	Varicose vein, DVT AND Lymphedema		
16	Ischemia, Diabetic foot		
17	Joint pain and swelling		
18	Headache		
19	Nerve palsy		
2	Physical examination	60	
1	General examination		<ol style="list-style-type: none"> <li>1. To learn the students the proper way of examination for the various parts of the body.</li> <li>2. To pick up the specific signs for certain conditions.</li> <li>3. To enhance the ability of the students to be too much gentle with the patient.</li> </ol>
2	Neck examination		
3	Thyroid status		
4	Breast mass		
5	Acute abdominal pain		
6	Abdominal mass		
7	Groin lump		
8	Scrotal lump		
9	Orthopedic examination		
10	Vascular examination		
11	Respiratory examination		
12	Cardiovascular examination		
13	Neurological examination		
3	Radiology	36	
1	Radiological films for the head and neck		<ol style="list-style-type: none"> <li>1. To learn the student the basic principles of radiology</li> </ol>

2	Radiological films for the chest		2. To learn the student the various radiological films in surgical practice. 3. To enhance the ability of the student to interpret various radiological films. 4. To lean the student the indications and complications of intervention radiology.
3	Radiological films for gastrointestinal diseases		
4	Radiological films for limbs Skelton		
5	Radiological films for vascular diseases and Doppler study		
6	Radiological films for urological diseases		
7	Intervention radiology		
4	Surgical skill	100	
1	Wearing a surgical gloves		To practice or assisted or observe various minor surgical skills.
2	Hand scrubbing		
3	Wearing a surgical clothes		
4	Taking a blood sample		
5	Blood transfusion set up and removal		
6	IM injection		
7	IV injection		
8	Insertion of a cannula		
9	IV fluid insertion		
10	Venous cut down		
11	Suturing of the wound		
12	Removal of stitches		
13	Wound dressing application and removal		
14	Manual control of a bleeding point		
15	Central venous line insertion		
16	Nasogastric tube insertion		

	and removal		
17	Urinary catheter insertion and removal		
18	Suprapubic urinary catheter insertion		
19	Oropharyngeal airway insertion		
20	Nasopharyngeal airway insertion		
21	Endotracheal intubation		
22	Chest tube insertion		
23	Burr hole		
24	Cricothyroidotomy		
25	Tracheostomy		
26	Back slap		
27	Complete slap		
28	Skin traction		
29	Skeletal traction		
30	Use of tourniquet in controlling the bleeding		
31	Double lumen catheter insertion		
32	Wound debridement/excision		
33	FNAC, true cut needle biopsy		
34	Incisional and excisional biopsy		
35	Oxygenation (mask, Ambu bag)		
36	Arteriovenous fistula		
5	Seminars (student oriented)	20	

1	Postoperative fever		To enhance the ability of the student to prepare and present a seminar under one or more seniors (from basic and clinical teaching staff) supervision.
2	Surgical jaundice		
3	Head injury		
4	Facial trauma		
5	Nutrition in a surgical patient		
6	Principles of antibiotics in surgery		
7	Haemorrhagic shock		
8	Blunt neck injury		
9	Penetrating neck injury		
10	Fluid therapy		
11	Blood transfusion		
12	Chest trauma		
13	Blunt abdominal trauma		
14	Penetrating abdominal trauma		
15	Varicose vein		
16	Lower limb ulcers: types and management		
17	Diagnostic and therapeutic role of radiology		
18	Complicated fractures by neurovascular injury		
19	Skin tumours		
20	Cholilithiasis		
21	Neck mass		
22	Dysphagia		
23	Haematuria		
24	Burn		
25	Upper GIT bleeding		

26	Bleeding per rectum	
27	Compartment syndrome	
28	Consent in surgery	
29	Scrotal swelling	
30	Surgical ethics	
31	Day case surgery	
32	Endoscopes in surgery	
33	Supracondylar fracture	
34	Peripheral nerve injuries	
35	Preoperative assessment	
36	Burst abdomen	
37	Fistulae in surgery	
38	Postoperative care	
39	Sutures and needles in surgery	
40	Laparoscopic surgery	
41	Types of anaesthesia	
42	Thyroid swelling	
43	Surgical instruments	
44	Breast lumps	
45	Benign surgical skin lesions	
46	Laser in surgery	
48	Diathermy	
49	Assessment of blood loss	
50	Robotic surgery	
51	Palliative management of a surgical patient	
52	Radiotherapy	
53	Chemotherapy	

54	Liver function tests in a surgical patient		
55	Various forms of hernias		
56	Abdominal mass		
57	Urological trauma		
58	Peptic ulcer		
59	Acute abdomen		
60	Diabetic foot		
61	Open fractures		
62	Skin and skeletal traction		
63	Gall stones		
64	Surgical infections		
65	Hand trauma		
66	Spinal cord injury		
67	Brain abscesses		
68	Urolithiasis		
69	Aneurysms		
70	Endocrine tumours		
6	Teaching ward rounds	48	
	General surgery ward		The student learns by participating, under close supervision, in all phases of the patient's care from admission to the hospital through final discharge and follow ups.
	Urological ward		
	Orthopedic ward		
	Neurosurgical ward		
	Cardiovascular ward		
	Burn ward		
	Plastic ward		
7	Clinical conferences	12	1. The student learns through the clinical conferences, the correlation among the clinical-pathological/radiological and laboratory findings in order to

			reach the diagnosis. 2. The student learns the best option of treatment from various options
8	Surgical Operations	24	<ol style="list-style-type: none"> <li>1. To enable the students to be familiar with the environment of theater.</li> <li>2. To know the various positions of the patients according to the type of surgery.</li> <li>3. To know the types of anaesthesia.</li> <li>4. To know the surgical steps of common surgical operations.</li> </ol>
1	Appendicectomy		
2	Laparoscopic cholecystectomy		
3	Conventional cholecystectomy		
4	Thyroidectomy		
5	Breast surgery		
6	Herniorrhaphy		
7	Splenectomy		
8	Exploratory laparotomy		
9	Abscess draining		
10	Perianal problems		
11	External fixation		
12	Internal fixation		
13	Wound excision		
14	Grafts		
15	Flaps		
16	Rigid cystoscopy		
17	Ureteric stent(D.J) insertion & removal		
18	Ureteroscopy & endoscopic lithotripsy		
19	TURT and or TURP		
20	Optical urethrotomy		
21	nephrectomy		
22	Herniotomy(children)		
23	Open prostatectomy		

23	Ventriculoperitoneal shunt		
24	Burr hole		
25	Laminectomy		
26	thoracotomy		
27	Arteriovenous fistula		
28	Arterial and venous anastomosis		

### Methods of assessment

No	Exam	Type of assessment	Marks
1	During the clinical course (20 marks)	Seniors evaluation	
		1. Student attendance	1
		2. Student behavior	2
		3. Student interaction	1
		Preparation and presentation of seminar	2
		Log book	2
		Oral exam	3
		Short case exam	3
		Long case exam	4
		Data show slides exam	2
2	Final written exam (40 marks)	MCQs	24
		Short essay questions	6
		Long essay question	10
3	Final clinical exam (40 marks)	Oral exam	10
		Short case exam	10
		Long case exam	10
		Data show slides exam	10
4	Total		100



**Recommended books**

1. Baily and Love – Short Practice of Surgery - Russell
2. An Introduction to the Symptoms and Sign of Surgical Disease - Norman L. Browse

**Department of Obstetrics & Gynecology****Subject: Obstetrics and Gynecology****Academic year: Sixth Year****Coordinator: Instructor Dr. Susan Abed Zaidan****Teaching staff:**

1. Instructor Dr. Susan Abed Zaidan
2. Instructor Dr. Dhai Abdul Aziz
3. Instructor Dr. Reshed Zaki
4. Instructor Dr. Refel Mustafa
5. Instructor Dr. Nour Hazim
6. Instructor Dr. Alaa Shelal

**Introduction**

After fourth and fifth year theoretical and clinical training, the student in this year should practice how to use and apply his previous knowledge and improve his abilities and skills to be a junior doctor with concentration on continuous self-teaching.

These goals are achieved through 300 hours of clinical training over 10 weeks.

**Objectives:**

1. To revise previous knowledge in obstetrics and gynecology with high level of understanding.
2. To be familiar with common terms.
3. To master comprehensive history taking.
4. To undertake proper physical examination.
5. To be familiar with instruments used for examination.
6. To be able to reach differential diagnoses.
7. To be able to ask for proper investigations.
8. To interpret the information collected from history taking, examination & investigation to reach a diagnosis.
9. To be able to suggest possible lines of management.
10. To be able to deal with obstetric and gynecological emergency in the future as a resident doctor.
11. To enable the student to be an efficient doctor.

**Places of completion of the curriculum:**

1. Obstetric & gynaecological wards at maternity and pediatric teaching hospital at Al-Ramadi city.
2. Rooms for small teaching groups.
3. Labour room at maternity and pediatric teaching hospital at Al-Ramadi city.
4. Emergency room at maternity and pediatric teaching hospital at Al-Ramadi city.
5. Operation room.
6. Infertility clinic.
7. Family planning clinic.
8. Skill lab.

**Material used for completion the curriculum:**

1. Real patients.
2. Actors.
3. Plastic models.
4. Images and videos.
5. Different investigations.
6. Instruments and devices used for examination, investigations and treatment.

**Syllabus of the clinical course and its objectives:****First week**

Day	Items	Objectives
Sunday	1-Revision of obstetric and gynecological history taking. 2-Cases presentation.	To master history taking & examination of obstetric & gynecological cases
Monday	1-Revision of obstetric and gynaecological examination. 2-Cases presentation.	
Tuesday	1-Cases presentation (including discussion regarding investigations, differential diagnosis and lines of treatment). 2-Mechanism of labour: images, videos and plastic models demonstration.	1.To understand labour. 2.To know how to perform pelvic examination.
Wednesday	1-Stages of labour: Group discussion about partogram and abnormal progress of labour. 2-Labour room attendance with concentration on abdominal and pelvic examination.	To know how to put a Partogram& detect abnormal progress of labour.
Thursday	1-Cases presentation. 2-Intrapartum fetal monitoring: small group discussion and labour room attendance with concentration on sonic aid and cadiotocography interpretation.	To know how to interpret CTG strips

**Second week**

Day	Items	Objectives
Sunday	1-Cases presentation. 2-Family planning clinic attendance with concentration on hormonal contraception.	To know different types of hormonal contraception available in the clinic
Monday	1-Cases presentation. 2-Images and videos about intrauterine devices.	To be familiar with different intrauterine devices and way of their insertion
Tuesday	1-Cases presentation. 2-Infertility clinic attendance: counseling infertile couple.	To know how to approach infertile couple
Wednesday	1-Cases presentation.	
Thursday	1-Cases presentation. 2-Seminars presentation by the students.	To assess personal attitude and way of thinking

**Third week**

Day	Items	Objectives
Sunday	1-Cases presentation. 2-First trimester ultrasound: images and videos presentation.	To know how to read an ultrasound report and expected findings at different gestational age
Monday	1-Cases presentation. 2- Breech delivery: images, videos and plastic model demonstration.	To know how to manage vaginal breech delivery
Tuesday	Infertility clinic attendance: Polycystic ovary syndrome case; counseling, investigations and lines of treatment.	To know how to approach a case of infertility due to PCO syndrome
Wednesday	Cases presentation.	
Thursday	1-Cases presentation. 2-Seminars presentation by the students.	

## Fourth week

Day	Items	Objectives
Sunday	1-Cases presentation. 2-Instrumental delivery: Group discussion with videos and plastic model application.	To know different types and how to apply them
Monday	1-Cases presentation. 2-Antepartum haemorrhage: small group discussion.	To know how to approach a case of APH
Tuesday	Infertility clinic: Tests of tubal patency.	To know how to assess tubal patency by hysterosalpingography films
Wednesday	Cases presentation	
Thursday	1-Cases presentation. 2-Seminars presentation by students.	

## Fifth week

Day	Items	Objectives
Sunday	1-Cases presentation. 2-Approach to early pregnancy complications: Small group discussion, slides and videos showing.	To know how to reach the diagnosis by clinical finding and interpretation of ultrasound images and other investigations
Monday	1-Cases presentation. 2-Operation room attendance: Caesarean section.	To be familiar with operation theatre and to see lower segment C section
Tuesday	Infertility clinic: Ovarian Hyperstimulation Syndrome.	To know the grading and management of OHSS.
Wednesday	Cases presentation	
Thursday	1-Cases presentation. 2-Seminars presentation by students.	

**Sixth week**

Day	Items	Objectives
Sunday	1-Cases presentation. 2-Amniotic fluid abnormalities: small group discussion, slides and videos showing.	To know how to assess depth of amniotic fluid by ultrasound
Monday	1-Cases presentation. 2-Episiotomy: Types and suturing of episiotomy demonstration on plastic model and the on real patients at labour room.	To know types of episiotomy and how to suture it on plastic model
Tuesday	Infertility clinic: Assisted reproductive techniques.	To know types available of ART, indications and complications
Wednesday	Cases presentation	
Thursday	1-Cases presentation. 2-Seminars presentation by students.	

**Seventh week**

Day	Items	Objectives
Sunday	1-Cases presentation. 2-Pap smear and colposcopy: small group discussion, slides and videos showing.	1-To know how to take a Pap smear. 2-To know how to do colposcopic examination of the cervix.
Monday	1-Cases presentation. 2-Operation room attendance: Dilatation and curettage.	To know instrument used in D&C .
Tuesday	1-Cases presentation. 2-Emergency room attendance: General management of obstetric haemorrhage.	To know how to deal with obstetric haemorrhage as emergency case
Wednesday	Cases presentation.	
Thursday	1-Cases presentation. 2-Seminars presentation by students.	

**Eighth week**

Day	Items	Ojectives
Sunday	1-Cases presentation. 2-Prenatal diagnosis of congenital anomalies: Small group discussion, slides and videos showing.	To know ultrasound findings of different congenital abnormalities
Monday	1-Cases predentation. 2-Ovarian cyst:Small group discussion, slides and videos showing.	To know how to assess ultrasound showing ovarian cyst to differentiate functional from pathological cyst
Tuesday	1-Cases presentation. 2-Ovarian tumours: Small group discussion, slides and videos showing.	
Wednesday	Cases presentation	
Thursday	1-Cases presentation. 2-Seminars presentation by students.	

**Ninth week**

Day	Items	Ojectives
Sunday	1-Cases presentation. 2-Intrauterine growth restriction: Small group discussion, slides and videos showing.	To know ultrasound differences between symmetrical & asymmetrical growth restricted fetus.
Monday	1-Cases presentation. 2-Thromboembolism in pregnancy: Small group discussion, slides and videos showing.	To know how to examine a woman with deep venous thrombosis
Tuesday	1-Cases presentation. 2-Labour room attendance: Active management of third stage of labour.	To know drugs given and how to deliver the placenta
Wednesday	Cases presentation.	
Thursday	1-Cases presentation. 2-Seminars presentation by students.	

**Tenth week**

Day	Items	Ojectives
Sunday	1-Cases presentation.  2-Postmenopausal bleeding: Small group discussion, slides and videos showing.	To know how to approach postmenopausal bleeding case, assess endometrial thickness by ultrasound and further management
Monday	1-Cases presentation.  2-Obstetric emergencies: Small group discussion, slides and videos showing.	To know how to deal with different maternal & fetal emergencies
Tuesday	1-Cases presentation.  2-Obstetric emergencies: Small group discussion, slides and videos showing.	
Wednesday	Cases presentation.	
Thursday	Examination	



## Methods of assessments

No	Exam	Type of assessment	Marks
1	During the clinical course (20 marks)	Seniors evaluation	
		1. Students behavior	1
		2. Students attendance	2
		3. Students interaction	1
		Preparation and presentation of seminar	2
		Log book	2
		Case presentation, examination and discussion	6
		Data show slides exam	6
2	Final written exam (40 marks)	MCQs	24
		Short essay questions	6
		Long essay question	10
3	Final clinical exam (40 marks)	Oral exam	10
		OSCE	20
		Case presentation& discussion	10
4	Total		100

**Recommended references:**

1. Obstetrics by Ten Teachers.
2. Gynaecology by Ten Teachers.
3. Dewhurst's textbook of obstetrics and gynecology.
4. Obstetrics & Gynaecology An Evidence-based Text for the MRCOG.

**Department of Pediatrics****Subject: Pediatrics****Academic year: six year****Course coordinator: Ass. Prof. Dr. Mohammed Maher Meshreef****Head of Pediatrics Department****Teaching staff:**

1. Prof. Dr. Zaid Rasheed AL-Ani
2. Ass. Prof. Dr. Fakhree Jameel AL-Ani
3. Ass. Prof. Dr. Mohammed Maher Meshreef
4. Instructor Dr. Kais AL-Ani
5. Instructor Dr. Rana Fahmee Shattran
6. Instructor Dr. Waraka Yassen AL-Ani
7. Instructor Dr. Saad Fawaz Alfahadawi

**Allocated marks: 100 marks.****Course duration: One academic year.****Introduction:**

In 300 clinical hours, we are going to understand the growth and development of pediatrics during health in different age groups and to recognize the most important signs and symptoms of diseases in different pediatric age groups and how to deal with these conditions, how to diagnose, how to investigate, and how to treat these conditions.

**Objectives**

1. Graduation of a qualified efficient medical students with efficient abilities for solving pediatric problems and protecting children from development of these conditions.
2. Attaining a maximum level for diagnosis and treatment of pediatric diseases with the least cost and the right drugs.
3. Enhancing of different scientific researching on the department, the college and the university levels.
4. Enhancement of collaborative actions between the college and the governorate general health administration for reaching a maximum benefits and care for children.
5. Graduation of an efficient postgraduate specialties in pediatrics carrying the name of the college were they gained their certificates.

**Components, duration and units of the curriculum teaching hours:**

No	Components	Duration in weeks/days/hours	Units
1	Clinical course	10/50/300	10

**Places of completion the curriculum:**

1. Small teaching group
2. Skill lab in the college
3. Emergency department in AL-Ramadi maternity and Children Teaching hospital.
4. Pediatrics out-patient clinics in AL-Ramadi Maternity and Children teaching hospital.
5. Pediatrics inpatient ward in AL-Ramadi Maternity and Children teaching hospital.
6. NICU unit in AL-Ramadi Maternity and children teaching hospital.
7. Pediatrics surgery wards, hospital's pharmacy & laboratory, and radiology department.
8. Respiratory care unit for children

**Material used for completion the curriculum:**

1. Real patient
2. Actors.
3. Power point presentation.
4. Plastic specimens
5. Radiological films of patients (Plain X-ray , CT scan and MRI films)
6. Diagrams and posters
7. Clinical video tapes and movies.
8. Laboratory investigations of patients.
9. Slide show

**Clinical training program:**

Through training and qualification of the sixth year students in long case history and physical examination training, short case history and physical examination training, emergency unit training for reception and urgent management of common urgent cases, and visiting important related hospital departments as the hospital laboratory, the RCU unit, the pediatrics surgical unit, the pharmacy, the skill lab ...and to do or see certain important practice requirements of medical management like the case sheet writing, blood pressure measurement, growth chart plotting, body temperature measurement ...etc and during the 10 weeks training course, every student must apply at least five full long case examinations and management including history, physical examination, differential diagnosis, investigation, and treatment.

In addition to the above clinical training requirements, every sixth year undergraduate must prepare a seminar including one of the topics that can't be covered by the 60 hours theory lectures of the fifth year and must be presented by data show for discussion in front of his supervisor instructor and his other colleagues.

**6<sup>th</sup> log book clinical training requirements****Student's name:****Group:****Mark (4/20): (      )**

No	Requirement	Date	Supervisor	Signature	Mark	
1-	Case history and exam 1				5	
2-	Case history and exam 2				5	
3-	Case history and exam 3				5	
4-	Case history and exam 4				5	
5-	Case history and exam 5				5	
6-	Case sheet writing				3	
7-	Do blood Pressure measurement				1	
8-	Do temperature measurement.				1	
9-	Do temperature chart plotting.				1	
10-	See cannulation of veins.				1	
11-	See IV drug injection				1	
12-	See IM drug injection				1	
13-	See IVF setting & rate of drops				1	
14-	See types of IV fluids.				1	
15-	See the Sucker, oxygen application, oximetry, NG tube, gastric lavage,				1	
16-	See rapid blood sugar measurement.				1	
17-	Training for First aid measures (life saving measures) and see Skill lab demonstration.				1	
18-	See convulsion and its management.				1	
19-	See RCU unit.				1	
20-	Visit radiology department				1	
21-	Do Weight and Height measurement and bone age assessment ( growth hormone center).				1	
22-	Do Wt/age, Ht/age, Wt/Ht plotting on growth charts.				1	
23-	See Neonatal resuscitation and endotracheal tubing.				1	
24-	Visit Blood bank to see blood donation, blood grouping, cross matching, packed RBC blood, and blood products types (FFP, cryoprecipitate and platelet concentrate).				1	
25-	Visit the Lab to see the blood aspiration technique, GUE, GSE, CBP, ESR, Blood film and other tests.				1	
26-	Visit the Hospital Pharmacy.				1	

27-	Seminar				32	
	Total Mark				80	

### Elective topics which are presented as seminars

1. Limping child
2. Renal tubular acidosis
3. Polyuria and Polydipsia
4. Autism
5. Acute & chronic otitis media
6. Basic life support
7. Heart failure
8. Cholestatic jaundice
9. Common metabolic diseases
10. Recurrent abdominal pain
11. Chronic constipation
12. Common GIT acute surgical conditions
13. Arrhythmias in childhood
14. Ambiguous genitalia
15. Diabetic ketoacidosis
16. Coma in childhood
17. Pyrexia of unknown origin
18. Approach to a child with bleeding tendency
19. Congenital adrenal hyperplasia
20. Floppy baby
21. Cyanosis, Respiratory failure
22. Acid base disorders
23. Chronic renal failure
24. Respiratory failure

**Methods of assessment**

No	Exam	Type of assessment	Marks
1	During the clinical course (20 marks)	Log book training requirements	4
		Long case examination	6
		Short case examination	6
		Oral and slideshow examination	4
2	Final written exam (40 marks)	MCQs	24
		Short essay questions	6
		Long essay question	10
3	Final clinical exam (40 marks)	Oral exam	10
		Short case exam	10
		Long case exam	10
		Data show slides exam	10
4	Total		100

**Suggested Reading List:**

1. Nelson Textbook of Pediatrics
2. Essentials of pediatrics.
3. Various internet related subjects .
4. Assigned Readings.