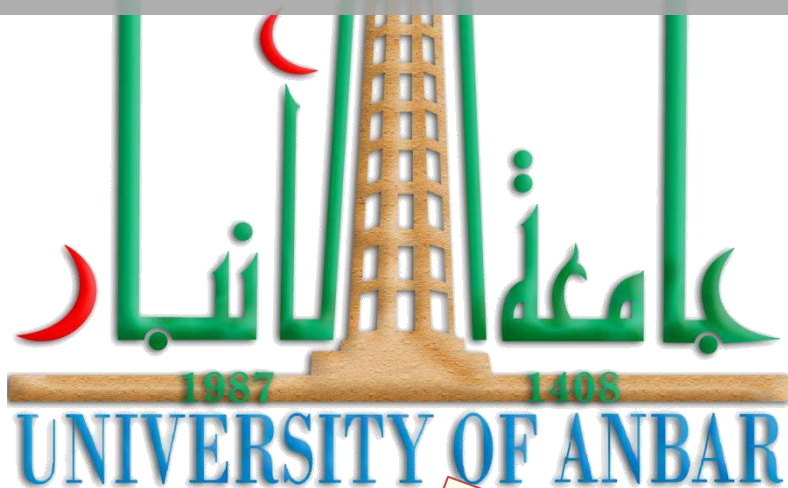


University of Anbar

College Of Medicine

2018
٢٠١٨

Curriculum of the Anbar College of Medicine



Prepared by curriculum committee

2018-2019

Chapter 2

Subjects for the annual system of the first stage

No.	Subject	Hours		Units
		Theory	practical	
1	Biology	60	60	6
2	Chemistry	60	60	6
3	Physics	45	60	5
4	Anatomy	60	120	8
5	Foundation of Medicine	30	0	2
6	Computers	30	60	4
7	Human rights and freedoms	30	0	2
8	Arabic language	30	0	0
Total		375	360	33

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">• Association of biology with medicine (biomedical science)• Historical background• Scientists contributed knowledge in medical biology.• Branches of biology
2	The microscopes	<ul style="list-style-type: none">• Principle of action of microscope• Types of microscope: light m. and electron microscope.• Uses of microscopes
3	Origin of life	<ul style="list-style-type: none">• The principles of cell theory• Organization of the cells• Growth and reproduction of the cells• Interdependence of organisms.
4	Chemistry of the cell	<ul style="list-style-type: none">• From atom to molecules• Molecules of the life• Carbohydrates• Lipids• Proteins• Nucleic acids
5	Cell structures and functions	<ul style="list-style-type: none">• What is a cell• How cells are organized (Cell organization)• Animal cells and plant cells• Types of the cells: prokaryotic and eukaryotic cells• Major differences between

		prokaryotic and eukaryotic cells <ul style="list-style-type: none"> • Cell size • Different shapes of the cell (cell morphology) • Cell specification • Cell differentiation • Major jobs of cells
6	Structures of the plasma membrane (FFMS model)	<ul style="list-style-type: none"> • Physical properties of the plasma membrane • Functions of plasma membrane. • Proteins function of plasma membrane: • Recognition • Communication • Structural support • Enzyme activity • transport • How substances cross it.
7	Transport mechanisms	<ul style="list-style-type: none"> • Simple diffusion • Facilitated diffusion • Osmosis • Active transport • cotransport
8	Cell organelles	The nucleus and endoplasmic reticulum <ul style="list-style-type: none"> • Structure • Functions • Types of ER • Differences between smooth and rough ER Mitochondria and cell metabolism <ul style="list-style-type: none"> • Structure and functions in cellular 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"> • Types of cell junctions Centrioles and cell division
10	The cell division	<ul style="list-style-type: none"> • The cell cycle • Chromosomes structure, types, numbers and gene loci • Functions of the cell division

		<ul style="list-style-type: none"> • Factors affecting the cell division Stages (details) <ul style="list-style-type: none"> • Interphase (G0, G1, S, G2) • Prophase • Metaphase • Anaphase • Telophase • Cytokinesis 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.. semiconservative 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"> • Fixation, dehydration, clearing • embedding & Sectioning • Staining Blood smear
23	Epithelial Tissue	CHARACTERISTIC FEATURES OF EPITHELIAL CELLS <ul style="list-style-type: none"> • Basement Membranes. • Intercellular Adhesion & Other Junctions. <ul style="list-style-type: none"> ○ Tight or occluding junctions ○ Adherent or anchoring ○ Gap junctions SPECIALIZATIONS OF THE APICAL CELL SURFACE <ul style="list-style-type: none"> • Microvilli. • Stereocilia. • Cilia. TYPES OF EPITHELIA Covering or lining Epithelia. <ul style="list-style-type: none"> • Simple (one layer of cells) <ul style="list-style-type: none"> ○ Squamous ○ Cuboidal ○ Columnar

		<ul style="list-style-type: none"> ○ Pseudostratified • Stratified (two or more layers of cells) <ul style="list-style-type: none"> ○ Squamous Keratinized ○ Squamous non-keratinized ○ Cuboidal ○ Transitional ○ Columnar <p>Secretory Epithelia & glands.</p> <ul style="list-style-type: none"> • Simple Glands (Ducts Do Not Branch) • Compound Glands (Ducts from Several Secretory Units Converge into Larger Ducts) <p>TRANSPORT ACROSS EPITHELIA RENEWAL OF EPITHELIAL CELLS</p>
24	Connective Tissue	<p>CELLS OF CONNECTIVE TISSUE</p> <ul style="list-style-type: none"> • Fibroblasts • Adipocytes • Macrophages & the Mononuclear Phagocyte System • Mast Cells • Plasma Cells • Leukocytes <p>FIBERS</p> <ul style="list-style-type: none"> • Collagen • Reticular Fibers • Elastic Fibers <p>GROUND SUBSTANCE TYPES OF CONNECTIVE TISSUE</p> <ul style="list-style-type: none"> • Connective Tissue Proper <ul style="list-style-type: none"> ○ Loose (areolar) connective tissue. ○ Dense irregular connective tissue. ○ Dense regular connective tissue • reticular Tissue • Mucoid Tissue <p>Adipose Tissue</p> <p>WHITE ADIPOSE TISSUE</p> <ul style="list-style-type: none"> • Storage & Mobilization of Lipids • Histogenesis of White Adipose Tissue <p>BROWN ADIPOSE TISSUE</p> <ul style="list-style-type: none"> • Function of Brown Adipocytes • Histogenesis of Brown Adipose Tissue

25		<p>Cartilage HYALINE CARTILAGE</p> <ul style="list-style-type: none"> • Matrix. • Chondrocytes. • Perichondrium. <p>ELASTIC CARTILAGE FIBROCARILAGE CARTILAGE FORMATION, GROWTH, & REPAIR</p> <p>Bone BONE CELLS</p> <ul style="list-style-type: none"> • Osteoblasts. • Osteocytes. • Osteoclasts. <p>BONE MATRIX PERIOSTEUM & ENDOSTEUM TYPES OF BONE</p> <ul style="list-style-type: none"> • Lamellar Bone. • Woven Bone. • Compact bone. • Cancellous bone <p>OSTEOGENESIS</p> <ul style="list-style-type: none"> • Intramembranous Ossification. • Endochondral Ossification. <p>BONE GROWTH, REMODELING, & REPAIR METABOLIC ROLE OF BONE</p>
26	Nerve Tissue & the Nervous System	<p>DEVELOPMENT OF NERVE TISSUE NEURONS</p> <ul style="list-style-type: none"> • Cell body (Perikaryon). • Dendrites. • Axons. • Nerve impulses. • Synaptic Communication. <p>GLIAL CELLS & NEURONAL ACTIVITY</p> <ul style="list-style-type: none"> • Oligodendrocytes. • Astrocytes. • Ependymal Cells. • Microglia. • Schwann Cells.

		<ul style="list-style-type: none"> • Satellite Cells of ganglia.
27		CENTRAL NERVOUS SYSTEM 174 <ul style="list-style-type: none"> • Meninges. • Blood-brain barrier. • Choroid Plexus. PERIPHERAL NERVOUS SYSTEM <ul style="list-style-type: none"> • Nerve Fibers. • Nerve Organization. • Ganglia. NEURAL PLASTICITY & REGENERATION
28	Muscle Tissue	SKELETAL MUSCLE <ul style="list-style-type: none"> • Organization of a Skeletal Muscle. • Organization within Muscle Fibers. • Sarcoplasmic reticulum & Transverse Tubule System. • Mechanism of Contraction. • Innervation. • Muscle Spindles & Tendon Organs. • Muscle Fiber Types.
29	MUSCLE TISSUE	CARDIAC MUSCLE SMOOTH MUSCLE REGENERATION OF
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 1st semester 1st 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 2nd semester 1st 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.	Hydrocarbons: alkanes	- Nomenclature of alkanes - The physical properties. - Chemical reactions of alkane.
2.	Hydrocarbons: alkenes	- Nomenclature of alkenes - The physical properties. - Chemical reactions of alkane.
3.	Stereochemistry:	- To know the stereomerism chirality (optical isomerism geometrical isomerism).
4.		- A relationship to medical activity of organic compounds and living system.
5.	Alcohol	- Nomenclature of alcoholes. - Physical properties.
6.		- Reactions of alcohols.
7.	Oxidation of alcohol	- Dehydration of alcohol in living system. - Qualitative tests.
8.	Toxicity of alcohol to human	- Physiological effect of alcohol.
9.	The chemistry of carbonyl compounds (aldehydes)	- Nomenclature of aldehydes. - Reactions: Addition reactions of aldehydes in living systems. - Condensation reaction in living systems. - Qualitative tests.
10.	The chemistry of carbonyl compounds (Ketones)	- Nomenclature of ketones. - Reactions: Addition reactions of ketones in living systems. - Condensation reaction in living systems. - Qualitative tests.
11.	Carboxylic acids	- Nomenclature carboxylic acids - Physical properties of carboxylic acids - Acidity of carboxylic acids
12.		- Reactions carboxylic acids - Acyl transfer reaction in living system.
13.	Some of carboxylic acid derivatives.	- Nomenclature of urea, amides, esters - Reactions. - Reaction in living system.
14.		- Nomenclature of chloride acids, latams&lactons - Reactions. - Reaction in living system.
15.	Amines	- Amines Nomenclature & Reactions.
16.	Thiol & sulfa compounds	- The organic compounds that contain sulfur Includes: Thiol & Disulfide - Drugs that contain sulfa.
17.	Radioactivity and	- To understand Radioactivity and Nuclear Chemistry

No	Subject of lecture	Objectives from the lecture by 1hr
	medical uses of radio active isotopes	<ul style="list-style-type: none"> - Types of reactions (Alpha , Beta and Gamma radiation) - Properties of nuclear radiation
18.		<ul style="list-style-type: none"> - Detecting ionizing radiation - Nuclear reactions and half life
19.	Radiation dosages	<ul style="list-style-type: none"> - Curie and Becquerel. - Radioactive tracers in biological research.
20.		<ul style="list-style-type: none"> - Medical uses of radioactive isotopes. - Advantages of using radioactive material.
21.	Acids, bases and salts of medical interests	<ul style="list-style-type: none"> - Definition of acid and base according to Arrhenius &Pronsted.
22.		<ul style="list-style-type: none"> - Neutralization and their importance to living system.
23.	The system of international units (SIU)	<ul style="list-style-type: none"> - Metric, mass, volume, temperature, quantity.
24.		<ul style="list-style-type: none"> - Density and specific gravity
25.	The PH concept, acid-base balance	<ul style="list-style-type: none"> - Acid-base titrations. - Acid-base balance in blood.
26.		<ul style="list-style-type: none"> - Abnormalities of acid-base balance in living system.
27.	Solutions and methods of expressing concentration	<ul style="list-style-type: none"> - Type of solutions. - Solubility of solutions.
28.		<ul style="list-style-type: none"> - Concentration of solutions - Molarity, molality, formality and normality
29.	Buffers	<ul style="list-style-type: none"> - Buffers concept. - Classifications of buffer systems.
30.	buffer system of physiological importance	<ul style="list-style-type: none"> - Buffer system in physiological importance.
31.	Colloidal chemistry and biological systems	<ul style="list-style-type: none"> - Colloidal concept. - Colloidal chemistry and biological systems.
32.	Dialysis and living systems	<ul style="list-style-type: none"> - Osmosis. - Dialysis. - Dialysis and biological systems.
33.	Chelation principle	<ul style="list-style-type: none"> - Chelation principle
34.	Chelationapplicati on in medicine	<ul style="list-style-type: none"> - Chelation importance in medicine
35.	Ions in living systems and there importance	<ul style="list-style-type: none"> - Ions (anion & cation)
36.		<ul style="list-style-type: none"> - Important of ions in medicine
37.	Heterocyclic	<ul style="list-style-type: none"> - Nomenclature.

No	Subject of lecture	Objectives from the lecture by 1hr
	compounds	
38.		- Classification of Heterocyclics.
39.	Carbohydrates	- Classification of carbohydrates
40.		- The three dimensional structures of monosaccharaides - The stereo isomers of carbohydrates
41.		- The cyclic structures of monosaccharaides
42.		- Glycosides. - The cyclic structures of disaccharaides
43.		- Deoxy sugar.
44.		- Amino sugar. - Sugar phosphate.
45.		- Disaccharides - Polysaccharides.
46.		- Biological importance of carbohydrates
47.	Lipids.	- Lipids classification.
48.		- Biological roles of lipids.
49.		- Fatty acids, classification.
50.		- Fatty acids, reactions.
51.		- Prostaglandins, - Thromboxanes
52.		- Leukotrienes - Phospholipids
53.	Protein and amino acids	- 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	Total			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.

Department of Physiology

Subjectt: Medical Physics.

Academic year: First year

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, Poiseuille's 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.

Methods of assessment

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:

1. Class room in the college. (Wide air-conditioned, with enough windows with curtains an enough illumination and supplied with teaching aids.
2. Medical Physics 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 and devices used to accomplish the practical curriculum:-

1. Power supply , Travelling microscope
2. Sterilizing , disinfection tools and materials.
3. Cathode ray oscilloscope.
4. capacitance and inductance
5. Laser(He- Neon) , LASER Apparatus with Holder
6. convex lens, Heater
7. concave mirror ,induced, light source with holder
8. Microscopes (compound microscopes). To Determination of the refractive index of the glass prism.
9. capillary tube, bottle resonator, Beakers, magnet
10. Teaching devices like stethoscopes, sphygmomanometers, tubes , rheostat, Clinical mercury thermometer
11. Pendulum bob, stop-watch , stand clamp, steel ball bearing
12. Geiger-Muller (G-M) tube, sealed source of gamma radiation, lead absorbers of varying thickness

13. tuning forks of different frequencies, thermometer, Rubber pad, glass tube
14. Spiral spring, half meter rule, Resistance Box
15. 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 Forces on and in the body. Introduction Statics Frictional forces Dynamics	Week 2
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 <i>Energy changes in the body</i>	Week 4

	<i>Work and power</i> <i>Heat losses from the body</i>	
Dr. Mohammed Ubaid Hussein	<i>Pressure</i> <i>Introduction, Measurement of pressure in the body ,Pressure inside the skull, Eye pressure,</i>	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 relationship of the lung Physics of alveoli The breathing mechanism Airway resistance Work of breathing Physics of some common lung disease	Week 7
Dr. Mohammed Ubaid Hussein	The physics of the cardiovascular System Introduction Major components of the cardiovascular system O2 and CO2 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		Week 9

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	
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"> • Application of heat and cold <ul style="list-style-type: none"> • in medicine • Introduction • Physical basis of heat and temperature • Thermometry and temperature scales 	Week 14
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	Week 16

	Pacemakers	
Dr. Mohammed Ubaid Hussein	Applications of electricity and magnetism in medicine Introduction Electrical shock High frequency electricity in Medicine	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 <i>Ultrasound to measure motion</i> <i>Physiological effects of ultrasound in therapy</i> <i>The production of speech phonation)</i>	Week 19
Dr. Enas S. Yousif	<i>Light in medicine</i> Introduction Measurements of light and its units Application of visible light in medicine Application of ultraviolet and infrared in medicine Lasers in medicine Application of microscope in medicine	Week 20
Dr. Mohammed Ubaid Hussein	Application of Radiation in medicine Physics of diagnostic X-ray Introduction Production of X-ray beams Absorption of X-ray by the	Week 21

	<p>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>	
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 medicine</p>	Week 22
Dr.Mohammed Ubaid Hussein	<p>Physics of Radiation therapy</p> <p>Introduction</p> <p>The dose units used in Radiotherapy</p> <p>Principles of Radiation therapy</p> <p>A short course in Radiotherapy treatment planning</p> <p>Megavoltage therapy</p> <p>Short-distance in Radiotherapy or brachytherapy</p> <p>Other Radiation sources</p>	Week 23

	Closing though on Radiotherapy	
Dr.Mohammed Ubaid Hussein	<i>Radiation protection Introduction</i> <i>Biological effect of ionizing Radiation</i> <i>Radiation protection units and limits</i> <i>Radiation protection instrumentation</i> <i>Radiation protection in diagnostic radiology</i> <i>Radiation protection in Radiation therapy</i> <i>Radiation protection in Nuclear medicine</i> <i>Radiation accidents</i>	Week 24
Dr. Enas S. Yousif	<i>Application of Nuclear physics in medicine</i> <i>Nuclear magnetic Resonance NMR</i> <i>Magnetic resonance imaging (MRI)</i>	Week 25

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

Practical course

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		Week 3

	The falling of a small sphere through a viscous medium	
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 Diea Abas	The specific heat capacity of a poor conductor by the method of mixtures.	Week 9

mahmood		
Dr. Enas S. Yousif Diea Abas mahmood	Determination of surface tension of water using a capillary tube.	Week 10
Dr. Mohammed Ubaid Hussein Diea Abas mahmood	To study the characteristics of Laser beam.	Week 11
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 Deia Abas Muhmod	Experiments with cantilever	Week 19
Dr. Enas S. Yousif Deia Abas Muhmod	Temperature measurement using clinical mercury thermometer and thermocouple	Week 20
Dr. Mohammed Ubaid Hussein Deia Abas Muhmod	The acceleration of free fall by means of simple pendulum	Week 21

Dr.Mohammed Ubaid Hussein Deia Abas Muhmod	Experiments on radioactivity to investigate the characteristics of Geiger-Muller(G-M) tube	Week 22
Dr.Mohammed Ubaid H. Deia Abas Muhmod	semiconductor "Junction diode"	Week 23
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 Deia Abas Muhmod	Revision	Week 25

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:

10. Describe the structural components of the different regions of the human body.

11. Describe the basic anatomical structure of the different organs and systems of the human body.
12. Recognize the surface landmarks of the underlying bones, muscles and tendons, and internal structures (main nerves, vessels and viscera).
13. Enumerate the different branches of nerves and vessels.
14. Recall the actions of the different muscles.
15. Distinguish the movements of different joints and the muscles responsible for each movement.
16. Outline the major clinical applications of anatomical facts.
17. 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:

3. Lecture hall in the college
4. 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.	TO STUDY: <ol style="list-style-type: none"> 1. The constituents of human skeleton: <ol style="list-style-type: none"> a) Axial skeleton: skull, vertebral column, sternum, ribs & hyoid bone. b) Appendicular skeleton: bones of limbs. 2. Classification of bones according to shape: long, short, flat, irregular, pneumatic & sesamoid bones. 3. Features of bones: elevations (tubercle, tuberosity, condyle, spine), depressions (fossa, groove, notch) & holes (foramen, canal). 4. Functions of bones (support of body, attachment to muscles, protection, storehouse for calcium & phosphorus, bone marrow forms blood cells).
2	Types of joints, <i>muscles</i> , nerve & blood vessels	TO STUDY & UNDERSTAND: <ol style="list-style-type: none"> 1. Joints types and classification 2. Attachments of skeletal muscles: origin & insertion & Innervation of muscles. 3. Classification of skeletal muscles according to fiber arrangement. 4. Difference between arteries & veins.
B) Anatomy of Upper Limb: Theory 21hr. Practical 40hr.		
3	Osteology of Upper Limb	TO STUDY: The clavicle, the scapula & the humerus, regarding: <ol style="list-style-type: none"> a) General features. b) Articulations.

4	The pectoral region & breast The brachial plexus.	TO STUDY: 1) Superficial fascia: - Cutaneous nerves & vessels. - Breast (in a female): shape & position, nipple & areola, mammary gland. 2) <u>Pectoralis major muscle ,Pectoralis minor & Subclavius muscle muscles</u> : origin, insertion, nerve supply & actions. 3) Clavipectoral fascia. 4) Stages of brachial plexus: roots, trunks, divisions & cords. Relation of its stage to the clavicle. 5) Branches of roots. 6) Branches of upper trunk. 7) Branches of lateral, medial & posterior cords. 8) Relations of cords & their branches to axillary artery.
5	The Axilla. The back and the movement of the scapula.	TO STUDY: 1) Boundaries of axilla: apex, base, walls (anterior, posterior, medial & lateral) 2) Contents of axilla. 3) Axillary artery: beginning, course, subdivisions into 3 parts according to its relations to pectoralis minor muscle, branches of each part, termination 4) Axillary vein: beginning, relations to parts of axillary artery, tributaries, termination 5) The Muscles of the back. <ul style="list-style-type: none"> • First layer of muscles of back: Trapezius & latissimus dorsi (origin, insertion & nerve supply). • Second layer of muscles of back: Levator scapulae, rhomboideus minor & rhomboideus major (origin, insertion & nerve supply). 6) The deferent types of the movement of the scapula
6	The shoulder region. Superficial vessels & Nerve of UL	TO STUDY: 1) Muscles of shoulder region: deltoid, supraspinatus, infraspinatus, subscapularis, teres minor & teres major (origin, insertion & nerve supply). 2) Superficial & deep relations to deltoid. 3) Intermuscular spaces: quadrangular, upper triangular & lower triangular spaces (boundaries, structures passing through each space). 4) Name & relations of Superficial vessels & Nerve of UL and its branches.

7	The Shoulder joint. The arm & cubital fossa	TO STUDY: 1) The Shoulder joint; Type, articulation, movements, relations. 2) Muscles of anterior compartment of arm: coracobrachialis, biceps brachii, & brachialis (origin, insertion, important relations of each muscle). 3) Nerve of anterior compartment: <i>musculocutaneous nerve</i> (formation & root value, course & relations, branches, termination). 4) Muscles of posterior compartment of arm: triceps (origin, insertion, & relations). 5) Nerve of posterior compartment: <i>radial nerve</i> (formation & root value, course & relations, branches, termination). 6) Artery of arm: <i>brachial artery</i> (beginning, course & relations, branches, termination). 7) Cubital fossa: boundaries, roof, floor & contents
8	The bones of forearm & hand. The forearm flexor group.	TO STUDY: 1) The Radius, the Ulna & the bones of the hand, regarding: <ul style="list-style-type: none"> • General features. • Articulations. 2) Muscles: (origin, insertion, nerve supply & actions) <ul style="list-style-type: none"> • Superficial group: 5 muscles (Pronator teres, flexor carpi radialis, palmaris longus, flexor digitorum superficialis & flexor carpi ulnaris). • Deep group: 3 muscles (flexor pollicis longus, flexor digitorum profundus & pronator quadratus).
9	The forearm Extensor group. The Vessels & Nerve	TO STUDY: 1) Muscles: (origin, insertion, nerve supply & actions) <ul style="list-style-type: none"> • Superficial group: brachioradialis, extensor carpi radialis longus, extensor carpi radialis brevis, extensor digitorum, extensor digiti minimi, extensor carpi ulnaris & anconeus. • Deep group: supinator, abductor pollicis longus, extensor pollicis brevis, extensor pollicis longus & extensor indicis. 2) Nerves: (course, relations & branches in the forearm). <ul style="list-style-type: none"> • Median nerve. • Ulnar nerve. • Posterior interosseous nerve: origin, course

		<p>& relation, branches.</p> <p>3) Arteries: (beginning, course, relations & branches in the forearm).</p> <ul style="list-style-type: none">• Radial artery.• Ulnar artery.
10	The Hand	<p>TO STUDY:</p> <p>1) Deep fascia:flexor retinaculum, palmar aponeurosis & fibrous flexor sheaths).</p> <p>2) Muscles: palmaris brevis, thenar, hypothenar, lumbricals & interossei (palmar & dorsal).</p> <p>3) Nerves: median & ulnar nerves (course, relations & branches in the palm).</p> <p>4) Arteries: radial & ulnar arteries (course, relations & branches in the palm).</p> <p>5) Dorsal venous arch: formation, beginning of cephalic & basilic veins.</p> <p>6) Extensor retinaculum: attachments, structures passing superficial & deep to it, functions.</p> <p>7) Extensor tendons: termination.</p>
11	The Elbow & Wrist Joints. Nerve Injuries Radiological anatomy of the UL	<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	Osteology of Thorax The Thoracic Wall & Cavity	<p>TO STUDY:</p> <p>1) Ribs: features of typical & atypical ribs & articulations.</p> <p>2) Thoracic vertebrae: features of typical & atypical thoracic vertebrae & articulations.</p> <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">○ Intercostal muscles: Vertical & horizontal extent, action.○ Intercostal nerves: typical (course & branches) & atypical.○ Anterior & posterior intercostal arteries: origin & course.○ Anterior & posterior intercostal veins: course & termination.

14	The mediastinum: divisions & contents. The root of lung & Azygos veins	<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"> • Superior mediastinum. • Inferior mediastinum: subdivided into: <ul style="list-style-type: none"> ○ Middle mediastinum: includes heart & pericardium. ○ Anterior mediastinum: anterior to heart & pericardium. ○ Posterior mediastinum: posterior to heart & pericardium. <p>2) Boundaries & contents of each mediastinum.</p> <p>3) Relations between the contents of each mediastinum.</p> <p>4) The root of lung & 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 & left lung.</p> <p>3) Costal surface: related to thoracic wall & costal pleura; presents <i>the fissures of lungs</i>: (oblique fissure in both lungs & horizontal (transverse) fissure in right lung only). Accordingly, the right lung has 3 lobes & the left lung has 2 lobes.</p> <p>4) Medial surface: divided into:</p> <ul style="list-style-type: none"> ○ <i>Larger anterior mediastinal surface</i>: related to mediastinum & contains the hilum of lung. ○ <i>Smaller posterior vertebral surface</i>: related to sides of vertebral bodies, intervertebral discs & sympathetic trunk. <p>5) Borders:</p> <ul style="list-style-type: none"> ○ <i>Anterior</i>: thin & sharp; presents <i>the cardiac notch & the lingula</i> in the left lung; separates the costal surface from the mediastinal part of medial surface. ○ <i>Posterior</i>: rounded & thick; separates the costal surface from the vertebral part of medial surface. ○ <i>Inferior</i>: separates costal & medial surface from base of lung. <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"> ○ Bronchus: the left divides after entering the

		<p>lung (one opening); the right divides before entering (two openings).</p> <ul style="list-style-type: none"> ○ Pulmonary artery: the left is above & in front of left bronchus; the right is between the 2 bronchi. <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 & lungs:</p> <ul style="list-style-type: none"> - <i>On the right side</i>: there is one artery & 2 veins. - <i>On the left side</i>: there are 2 arteries & 2 veins. <p>e) Anterior & posterior pulmonary plexuses of autonomic fibers: supply bronchi, lungs & 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"> ○ <i>Fibrous</i>: relations & nerve supply. ○ <i>Serous</i>: layers, sinuses. <p>2) Arterial supply: right & left coronary arteries (branches of each artery).</p> <p>3) Venous drainage: tributaries of coronary sinus, anterior cardiac vein & venae cordis minimi.</p>
17	The Heart.	<p>TO STUDY:</p> <p>a) External features: apex, base, surfaces & borders.</p> <p>b) The interior of the heart</p> <p>1) Cavity of right atrium:</p> <ul style="list-style-type: none"> ○ Posterior smooth part “sinus venarum”: receives the openings of superior vena cava, inferior vena cava & coronary sinus. ○ Anterior rough part: marked by parallel muscular ridges “musculi pectinati” & separated from the posterior part by a muscular ridge “crista terminalis”. <p>2) Cavity of right ventricle:</p> <ul style="list-style-type: none"> ○ Inferior part “inflow tract”: formed of muscular projections “trabeculae carneae”; some of those are developed forming anterior, posterior & septal papillary muscles attached to the cusps of tricuspid valve. ○ Superior part “outflow tract or infundibulum”: conical, has smooth walls & leads to pulmonary orifice. <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">○ Inferior part “inflow tract”: compared to that of right ventricle; has thicker wall, denser trabeculae carnae & larger papillary muscles (anterior & posterior only).○ Superior part “outflow tract or aortic vestibule”: leads to aortic orifice. <p>5) Atrioventricular valves: structure.</p> <ul style="list-style-type: none">○ Tricuspid valve: between right atrium & ventricle, has 3 triangular cusps.○ Mitral valve: between left atrium & ventricle, has 2 triangular cusps. <p>6) Semilunar valves: Structure.</p> <ul style="list-style-type: none">○ Pulmonary valve: between right ventricle & pulmonary orifice, has 3 semilunar cusps.○ Aortic valve: between left ventricle & aortic orifice, has 3 semilunar cusps.
18	The superior mediastinum and big vessels.	<p>TO STUDY:</p> <ol style="list-style-type: none">1. The superior mediastinum, its contents and important relation.2. The major structures found in the superior mediastinum.3. The great vessels of the heart and there branches in the chest.4. The aortic arch and its branches passing to the neck.
19	Diaphragm & joints of thorax. Lymph drainage of the thorax.	<p>TO STUDY:</p> <ol style="list-style-type: none">1. Diaphragm regarding; constitution, attachment, nerve supply, arterial supply, venous drainage.2. movements of the diaphragm and thoracic wall during breathing.3. Thoracic duct and its course on the left side of the chest.4. Lymph drainage on the right side of the chest.
20	Revision and Examination	
D) Anatomy of the Lower Limb: Theory 18 hr. ; Practical 40 hr.		
21	Bone of pelvis and thigh.	<p>TO STUDY:</p> <ol style="list-style-type: none">1. The shape and surfaces of the pelvic bones, sacrum, and coccyx.2. The femur bone regarding; shape, specific site name, and muscles attachment.3. Muscles originate from the external & internal surfaces of these bones and from the deep surfaces of the lumbar vertebrae,

		above.
22	The lumbo-Sacral plexus. The femoral triangle and superficial veins	TO STUDY: <ol style="list-style-type: none"> 1. Nerves that enter the lower limb from the abdomen and pelvis as terminal branches of the lumbosacral plexus. 2. Major nerves that originate from the lumbosacral plexus and leave the abdomen and pelvis to enter the lower limb. 3. The femoral nerve, obturator nerve, sciatic nerve, superior gluteal nerve, and inferior gluteal nerve. 4. 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"> • The lateral cutaneous nerve of the thigh, • Nerve to obturator internus, • Nerve to quadratus femoris, • Posterior cutaneous nerve of thigh, • Perforating cutaneous nerve. • Branches of the ilio-inguinal and genitofemoral nerves. 5. The femoral triangle regarding; surface anatomy, content, and boundaries. 6. The superficial veins and their tributaries. 7. Clinical importance of the femoral triangle.
23	Inguinal region & femoral vessels. Quadriceps group.	TO STUDY: <ol style="list-style-type: none"> 1. The inguinal region regarding; surface anatomy, content, and boundaries. 2. The major blood vessels (femoral artery and vein). 3. Lymphatics of the lower limb also pass through inguinal. 4. The femoral nerve, function, supply, and branches. 5. The anterior compartment of thigh contains: <ul style="list-style-type: none"> • Sartorius. • The quadriceps femoris muscles (rectus femoris, vastus lateralis, vastus medialis, and vastus intermedius).
24	Adductor group. Gluteal region.	TO STUDY: <ol style="list-style-type: none"> 1. The medial compartment of thigh which contains six muscles: <ul style="list-style-type: none"> • Gracilis. • Pectineus • Adductor longus • Adductor brevis.

		<ul style="list-style-type: none"> • Adductor magnus. • Obturator externus). <ol style="list-style-type: none"> 2. Muscles in the region; origin, insertion, nerve supply, and action. 3. Nerves enter the gluteal region from the pelvis through the greater sciatic foramen including: <ul style="list-style-type: none"> • Superior gluteal nerve. • Sciatic nerve. • Nerve to the quadratus femoris. • Nerve to the obturator internus. • Posterior cutaneous nerve of the thigh. • Pudendal nerve. • Inferior gluteal nerve. 4. The perforating cutaneous nerve, enters the gluteal region by passing directly through the sacrotuberous ligament. 5. The blood vessels and lymphatics of the gluteal region.
25	Post. & Lat. Aspect of thigh. The popliteal fossa	TO STUDY: <ol style="list-style-type: none"> 1. The posterior compartment of thigh contains 3 muscles: <ul style="list-style-type: none"> • Biceps femoris. • Semitendinosus. • Semimembranosus. 2. The lateral aspect of the thigh regarding surface anatomy, structures & function 3. The popliteal fossa regarding shape, boundaries, & content. 4. Clinical importance of the popliteal region.
26	The hip & Knee joints	TO STUDY: <ol style="list-style-type: none"> 1. The hip joint regarding; articulation, articular surface, ligaments, action and important relation. 2. The knee joint regarding; articulation, articular surface, ligaments, action and important relation. 3. Clinical notes on sport injuries.
27	Bones of leg & Foot	TO STUDY: <ol style="list-style-type: none"> 1. The shape and surfaces of the leg bones and foot. 2. The leg bone regarding; shape, specific site name, and muscles attachment. 3. Muscles originate from the surfaces of these bones. 4. Ligament attached to these bones.
28	The front & lateral aspect	TO STUDY:

	of the leg. The back of the leg & Ankle joint.	<ol style="list-style-type: none"> 1. Muscles in the anterior compartment: <ul style="list-style-type: none"> • Tibialis anterior. • Extensor hallucis longus • Extensor digitorum longus. • Fibularis tertius 2. Blood vessels, Nerve and Lymphatics of the anterior compartment. 3. Muscles in the lateral compartment: <ul style="list-style-type: none"> • Peronius longus. • Peronius brevis. 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	<p>TO STUDY:</p> <ol style="list-style-type: none"> 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"> • Pre-dissected specimens. • Plastic specimens. • Bones. • Radiological films. 	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"> • Pre-dissected specimens. • Plastic specimens. • Bones. • Radiological films. 	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"> • Pre-dissected specimens. • Plastic specimens. • Bones. • Radiological films. 	20
5	Total			100

Suggested Reading List:

1. Clinical Anatomy by Regions, 8th Edition, By: **Richard S. Snell MD, PhD.**
2. Clinical Neuroanatomy, 7th Edition, By: **Richard S. Snell**
3. Gray's Anatomy for Students By: **Richard L. Drake et.al**
4. Grant's Atlas of Anatomy, 12th 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 st 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 st term	1 hour	Dimensions and determinants of health
3	Basic definitions	Mahasin Ali Altaha	1 st term	3 hours	Basic knowledge about epidemiology,

					infectious, communicable diseases, and mode of transmission
4	Ecology of health	Mahasin Ali Altaha	1 st term	1 hour	Factors affecting health related to agent, host and environment
5	The concept of preventive medicine and prevention	Mahasin Ali Altaha	1 st term	2 hours	To recognize the four levels of prevention
6	The natural history of disease	Mahasin Ali Altaha	1 st term	1 hour	Stages of disease from start to termination
7	Measurement of population health	Mahasin Ali Altaha	1 st term	1 hour	Indicators of population and environmental health
8	Environment and health	Mahasin Ali Altaha	1 st term	1 hour	Risks in the environment affecting health
9	Air pollution	Mahasin Ali Altaha	1 st term	1 hour	Sources and prevention
10	Water pollution	Mahasin Ali Altaha	1 st term	1 hour	Types, sources and prevention
11	History of health care services in Iraq	Mahasin Ali Altaha	1 st term	1 hour	Organization of past and current health care system
12	General introduction to terminology	Dr. Salah Alani	2 nd 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 nd Term	1 hour	To study and understand the terms: root, prefix and suffix.
14	Basics of medical terminology	Dr. Salah Alani	2 nd 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 nd Term	1 hour	To understand medical terminology of anatomy, positions and locations.
16-	System terminology: respiratory system terminology	Dr. Salah Alani	2 nd Term	1 hour	To understand respiratory system terminology
17	System terminology: GIT terminology	Dr. Salah Alani	2 nd Term	1 hour	To understand GIT terminology

18	System terminology: urinary system terminology	Dr. Salah Alani	2 nd Term	1 hour	To understand urinary system terminology
19	System terminology: cardiovascular terminology	Dr. Salah Alani	2 nd Term	1 hour	To understand cardiovascular terminology
20	System terminology: hematology and immunology terminology	Dr. Salah Alani	2 nd Term	2 hour	To understand hematology and immunology terminology
21	System terminology: nervous system terminology	Dr. Salah Alani	2 nd Term	1 hour	To understand nervous system terminology
22	System terminology: endocrine system terminology	Dr. Salah Alani	2 nd Term	1 hour	To understand endocrine system terminology
23	System terminology: musculoskeletal system terminology	Dr. Salah Alani	2 nd Term	1 hour	To understand musculoskeletal system terminology
24	Revision and assessment	Dr. Salah Alani	2 nd Term	1 hour	To recognize more medical terms.

Methods of assessment

No.	Type of exam	1 st term	2 nd 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:
 1. Increase individual productivity
 2. Using the computer as an educational tool
 3. Using the computer as a means of searching, surveying and acquiring knowledge
 4. 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:
 1. The role of computers in humanities and scientific aspects
 2. Facilitate human life and increase individual productivity
 3. The necessity of the computer and its technology for human progress
- 8 - Accustom students to values and behavior behaviors desirable socially and individually through:
 1. Develop student curiosity
 2. Gain self-reliance in performing the required work of the girl
 3. 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:

3. Lecture hall in the college
4. Rooms for small teaching group
5. Computer laboratory
6. 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 :

- A. Control Unit (CU)
- B. Arithmetic and Logical Unit (ALU)
- C. 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

Methods 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

المادة: حقوق الإنسان والديمقراطية و الحريات العامة ، وهي من متطلبات الجامعة
اسم منسق و مدرس المنهج : أ.م.د. عماد علي دايع الشمري

المقدمة :

حقوق الإنسان هي مجموعة من القواعد القانونية والمبادئ الأساسية للقانون تشكل واقعاً سياسياً واجتماعياً وقانونياً، يهدف على تثبيت دعائم الحياة الإنسانية على أسس تتوافق مع مقتضيات العدالة والوجدان السليم وهي قواعد تمثل في مجموعها نظاماً للحق والعدل والمساواة في المجتمع الإنساني. وبالنظر إلى شطر كبير من هذه الحقوق والمبادئ نجدها تتطابق من حيث المصدر مع المبادئ الدينية والأخلاقية 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 و الحريات العامة هي من متطلبات الجامعة تهدف إلى رفد طلبة الجامعة بالمعرفة بحقوقهم و حقوق الآخرين ليتسنى لهم التعامل الإنساني فيما بينهم و ما بينهم والآخرين خلال فترة دراستهم و ما بعد الدراسة. الكلية أعطت ٣٠ ساعة في السنة الدراسية الأولى و بواقع ساعة أسبوعياً لتغطية منهاج هذه المادة الحيوية.

الأهداف :

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

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

الوحدات والساعات :

ت	عدد الساعات النظرية	عدد وحدات
١	٣٠	٢

المنهج النظري:

رقم	اسم المحاضرة	المدة/الساعة
١	جذور حقوق الإنسان وتطورها في تاريخ البشرية - تعريف : الحق لغة واصطلاحاً. - خصائص حقوق الإنسان .	١
٢	أولاً: القيم السائدة في المجتمع العراقي واشاعة الروح الوطنية ونبت الأفكار المسيئة إلى الآخر مهماً كان انتمائه . ثانياً: القيم السائدة لدى طلبة الجامعات العراقية . ثالثاً: التطرف ودوره في تفكيك المجتمع . رابعاً: العمل على بناء فلسفة تربية تؤكد حب العراق أولاً والانتماء إلى الوطن وأرضه.	١
٣	حقوق الإنسان في الحضارات القديمة والوسطى مع التركيز على حضارة وادي الرافدين.	١
٤	حقوق الإنسان في الشرائع السماوية مع التركيز على حقوق الإنسان في الإسلام .	١
٥	موقف الشرائع السماوية من حقوق الإنسان . أولاً: الديانة المسيحية ، والديانات الأخرى . ثانياً: الديانة الإسلامية .	١
٦	حقوق الإنسان في المذاهب والمدارس والنظريات السياسية .	١
٧	حقوق الإنسان في الشركات الحقوق وإعلاناتها ، والثورات ودايتها ، (الوثائق الإنجليزية ، والثورات الأمريكية ، الثورة الفرنسية ، والثورات الروسية) .	١
٨	الاعتراف الدولي بحقوق الإنسان منذ الحرب العالمية الأولى : عصبة الأمم ، الأمم المتحدة	١
٩	الإعلان العالمي لحقوق الإنسان الصادر من منظمة الأمم المتحدة عام ١٩٤٨م . - مفهوم القانون الدولي الإنساني وتطوره التاريخي .	١
١٠	المصادر القانونية لحقوق الإنسان في العصر الحديث . - المصادر القانونية لحقون الإنسان في بريطانيا.	١

	- الدستور السياسي . - الدستور الاجتماعي . أولاً: الميثاق الأعظم (Magnacarta) لسنة ١٢١٥ . ثانياً: مريضة الحقوق (Petition of Rights) لسنة ١٦٢٨ . ثالثاً: قانون الإحضار (قانون الحرية الشخصية) (Habeas corpus actor) لسنة ١٦٧٩ . رابعاً: قانون الحقوق (Bill of Rights) لسنة ١٦٨٩ .	
١١	المصادر القانونية لحقوق الإنسان في الولايات المتحدة الأمريكية . المصادر القانونية لحقوق الإنسان في فرنسا . أولاً: إعلان حقوق الإنسان والمواطن الفرنسي (٢٦ آب ١٧٨٩) . ثانياً: الدساتير والاعلانات الفرنسية التي تلت إعلان الحقوق لسنة ١٧٨٩ . ١- دستور ٣ آب ١٧٩١ . ٢- إعلان حقوق الإنسان والمواطن لسنة ١٧٩٣ . ٣- دستور ١٨٤٨ الفرنسي .	١
١٢	منظمة العفو الدولية ١٩٦١ - أهداف منظمة العفو الدولية - الأجهزة الرئيسية العامة في منظمة العفو الدولية . - اتفاقية جنيف ١٨٦٤ - اتفاقية لاهاي ١٩٠٧	١
١٣	ضمانات احترام وحماية حقوق الإنسان . ضمانات احترام وحماية حقوق الإنسان على الصعيد الوطني .	١
١٤	١- الضمانات في الدستور والقوانين . ٢- الضمانات في مبدأ سيادة القانون . ٣- الضمانات في الرقابة الدستورية . ٤- الضمانات في حرية الصحافة والرأي العام . ٥- دور المنظمات غير الحكومية في احترام وحماية حقوق الإنسان . ٧- ضمانات احترام وحماية حقوق الإنسان على الصعيد الدولي . ٨- دور الأمم المتحدة ووكالاتها المتخصصة في توفير الضمانات . ٩- دور المنظمات الإقليمية (الجامعة العربية ، الاتحاد الأوروبي ، الاتحاد الأفريقي ، منظمة الدول الأمريكية ، منظمة أسيان) . ١٠- دور المنظمات الإقليمية والدولية غير الحكومية والرأي العام العالمي في احترام وحماية حقوق الإنسان .	١
١٥	تأثير ظاهرة الفساد الإداري على حقوق الإنسان والمجتمع . - تعريف ظاهرة الفساد الإداري . - أنواع الفساد - أسبابه وعوامله . - انعكاسات ظاهرة الفساد على حقوق الإنسان في المجتمع . - المعالجات المنهجية الناجحة لمكافحة الفساد الإداري وحماية المجتمع منه .	١
١٦	الاعتراف الإقليمي بحقوق الإنسان . - الاتفاقية الأوروبية لحقوق الإنسان ١٩٥٠ - الاتفاقية الأمريكية لحقوق الإنسان ١٩٦٩ . - الميثاق الأفريقي لحقوق الإنسان ١٩٨١ . - الميثاق العربي لحقوق الإنسان ١٩٩٤ .	٢
١٧	المنظمات غير الحكومية المعنية بحقوق الإنسان . اللجنة الدولية للصليب الأحمر ١٨٥٩ . - واللجنة الدولية للهلال الأحمر . - واللجنة الدولية لإغاثة الجرحى ١٨٦٣ .	١
١٨	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 . أشكال 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.	١

		- الترابط بين حقوق الإنسان كل لا يتجزء .
١٩	١	المادة الديمقراطية والحريات العامة الأنظمة السياسية من حيث ممارسة السلطة : ١- الأنظمة الفردية (الموقراطية) ٢- الموقراطية القديمة : الملكية المطلقة - الدكتاتورية الاستبدادية ٣- التميز بين نوعين من الدكتاتوريات : أ- الدكتاتورية المذهبية (الأيديولوجية) ب- خصائص الدكتاتوريات
٢٠	١	الأنظمة الديمقراطية : ١- تاريخ الديمقراطية ٢- الإسلام والديمقراطية : أ- اختيار الحاكم ، ب- مبدأ الشورى
٢١	١	أنواع الديمقراطية : أولاً : الديمقراطية المباشرة
٢٢	١	ثانياً : الديمقراطية شبه المباشرة : • الاستفتاء ؛ والاستفتاء على أنواعه المختلفة : • الاستفتاء دستورياً • الاستفتاء وجوبياً • الاستفتاء إلزامياً • الاستفتاء من ناحية التوقيت .
٢٣	١	ثالثاً : مظاهر الديمقراطية شبه المباشرة : • الاستفتاء . • الاقتراع الشعبي . • الاعتراض الشعبي . • الحل الشعبي . • عزل النائب . • عزل رئيس الجمهورية .
٢٤	١	رابعاً : الديمقراطية التمثيلية : أولاً : نشأة البرلمان ثانياً : الانتخاب : طبيعة الانتخاب :
٢٥	١	أ- الانتخاب حق ب- الانتخاب وظيفته اجتماعية هيئة الناخبين : أ- العمر ، ب- الجنسية ، ت- الجنس ، ث- الثروة ، ج- التعليم .
٢٦	١	الأنظمة الانتخابية المختلفة : • نظم الانتخاب ١- نظام الأغلبية : أ- نظام الأغلبية ذو الدور الواحد ، ب- نظام الأغلبية ذو الدورين ٢- نظام التمثيل النسبي : أ- توزيع المقاعد النيابية بين القوائم ب- توزيع المقاعد النيابية بين مرشحي القوائم
٢٧	١	• تمثيل النسبي الكامل • التمثيل النسبي التقريبي : ويشمل
٢٨	١	١- طريقة الباقي الأقوى ٢- طريقة المعدل العام ٣- طريقة الأستاذ (دهونت)
٢٩	١	
٣٠	١	

طرق تقييم الطلبة :

ت	الأمتحان	الدرجة	نوع الأسئلة
١	الفصل الأول	١٥	أسئلة مقالية قصيرة و طويلة
٢	الفصل الثاني	١٥	أسئلة مقالية قصيرة و طويلة
٣	الإمتحان النهائي	٧٠	أسئلة مقالية قصيرة و طويلة
٤	الدرجة النهائية	١٠٠	

- الكتب المقررة التي يقرأها الطالب :
- ١- القانون الدولي الإنساني
 - ٢- حقوق الإنسان وحياته الأساسية
 - ٣- حقوق يجب أن تُعرف الحقوق الإسلامية

منهاج مادة اللغة العربية لغير الاختصاص

اسم المادة : اللغة العربية وهي 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. لتعريف الطلاب بلغتهم العربية ، من خلال الوقوف على أساليبها النحوية واللفوية والإملائية 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 الجامعات العلمية في الوطن العربي والعراق خاصة ولا يتم ذلك لطالب الطبية إلا اذا كان يمتلك الكثير من المفردات العربية والمصطلحات اللغوية التي تسهل عليه عملية ترجمة المصطلحات الأجنبية ووضع المصطلح العربي الفصيح 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
١	٣٠	مستوى

المنهج النظري:

رقم	اسم المحاضرة	الساعة
١	التعريف باللغة العربية	١
٢	أقسام الكلمة العربية (الاسم – الفعل – الحرف) .	١
٣	الجملة وشبه الجملة .	١
٤	المعرب والمبني .	١
٥	علامات رفع الاسم (الضمة – الألف – الواو) .	١
٦	اسم الإشارة (الإشارة إلى القريب – والإشارة إلى البعيد) .	١
٧	الاسم الموصول	١
٨	رفع الفعل المضارع علامة رفع الفعل المضارع (الضمة – ثبوت النون) الأفعال الخمسة	١
٩	نصب الفعل المضارع – علامة نصب المضارع (الفتحة – حذف النون) . – حروف النصب .	١
١٠	الحرف (حروف تدخل على الاسم)	١
١١	حروف الجر.....	١
١٢	إن وأخواتها.....	١
١٣	حروف النداء.....	١
١٤	حروف تدخل على الفعل حروف النصب..... حروف الجزم..... قد – السين – وسوف.....	١
١٥	الجملة العربية	١
١٦	الجملة التي لها محل من الإعراب .	١
١٧	الجملة التي لا محل لها من الإعراب .	١
١٨	الظاء والضاد.	١
١٩	همزة الوصل وهمزة القطع	١
٢٠	كيف تُنطق همزة الوصل أمثلة على همزات الوصل.....	١
٢١	رسم الهمزة المتطرفة الهمزة المتطرفة وتنوين الفتح..... يتوقف رسم الهمزة المتطرفة على حركة الحرف السابق لها .	١
٢٢	قواعد الإملاء والخط العربي : قواعد الإملاء وعلامات الترقيم	١
٢٣	الأخطاء اللغوية الشائعة	١

٢٤	الخط وأنواع الخطوط العربية الخط الكوفي خط النسخ خط الثلث خط الرقعة خط التعليق خط الفارسي	١
٢٥	محمد مهدي الجواهري وقصيدته (يا دجلة الخير.....)	١
٢٦	معروف عبد الغني الرصافي وقصيدته (الأملّة المرضعة.....)	١
٢٧	شعراء المهجر .	١
٢٨	دراسة عن الشاعر إيليا أبو ماضي	١
٢٩	دراسة عن الشاعر جبران خليل جبران .	١
٣٠	القيم السائدة في المجتمع العراقي وإشاعة الروح الوطنية ونبد الأفكار المسيئة إلى الآخر مهما كان انتمائه .	١

طرق تقييم الطلبة :

ت	الامتحان	الدرجة	نوع الأسئلة
١	الفصل الأول	١٥	أسئلة مقالية قصيرة و طويلة
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٤	الدرجة النهائية	١٠٠	

الكتب المقررة التي يقرأها الطالب :

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