

Al-Nahrain University
College of Pharmacy
Clinical Laboratory Science Dept.

Republic of Iraq
Ministry of Higher Education and Scientific Research
2021-2022



Title of the course: Human Anatomy
Level: 1st Year, 2nd Semester

Objectives:

- 1-To study the histological and anatomical structure of human body.
- 2- It is meant primarily to give the student a foundation for advanced study in health care, physiology, pathology, and other fields related to health and fitness.
- 3- At the end of the course, the student should be familiar with gross anatomical and the histological description of human body.

N O.	Subject	Hours	Lecturer	Date
1	Respiratory system: lung, conducting portion (nose, nasopharynx, trachea, bronchus, bronchioles).	1	Professor. Dr. Haider Abdul Rassol	Sunday
2	Urinary system: Structure of the kidney and nephron. Histology of the nephron, Structure of the ureter, bladder & urethra.	1	Professor. Dr. Haider Abdul Rassol	Sunday
3	Circulatory system: Structure of the cardiovascular system (Heart, arteries, veins and capillaries). Structure of the lymphatic system.	1	Professor. Dr. Haider Abdul Rassol	Sunday

4	Lymphoid tissue: Structure of the thymus gland, spleen, lymph nodes lymphoid nodule (MALT) and tonsils.	1	Professor. Dr. Haider Abdul Rassol	Sunday
5	Digestive system: General structure of the digestive tract (GIT); oral cavity, mouth, esophagus, stomach; small intestine, large intestine, rectum, anus. Glands associated with the digestive tract (salivary gland, pancreas, liver and gall bladder.	1	Professor. Dr. Haider Abdul Rassol	Sunday
6	Mid-Term Theory Exam	-	-----	
7	Male reproductive system: General structure of the testes. Excretory genital ducts; accessory genital glands; seminal vesicles, prostate, Cowper's glands.	1	Professor. Dr. Haider Abdul Rassol	Sunday
8	Female reproductive system: General structure of the ovary, oviduct, uterus and vagina.	1	Professor. Dr. Haider Abdul Rassol	Sunday
9	Endocrine system: General structure of the pituitary gland. General structure of the adrenal, thyroid, parathyroid, islet of Langerhans and pineal glands	1	Professor. Dr. Haider Abdul Rassol	Sunday
10	Nervous system: Central nervous system (CNS); Peripheral nervous system.	1	Professor. Dr. Haider Abdul Rassol	Sunday

11	The skin: Structure of thick skin and thin skin.	1	Professor. Dr. Haider Abdul Rassol	Sunday
12	Bone Tissues: histology of osseous tissue, tissues and organs of the skeletal system.	1	Professor. Dr. Haider Abdul Rassol	Sunday
13	Muscle Tissue: classification of muscle tissue, structure and functions of muscle tissue, associated structures.	1	Professor. Dr. Haider Abdul Rassol	Sunday

Grading System: Theory Mid-Term Exam (25%) , Theory Final Exam (50%)

Reference book: 2. Anatomy and Physiology: Student Study Guide. 4th. Ed. By Seeley, Stephens & Tale.

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Title of the course: Histology
Level: 1st Year, 2nd Semester

Objectives:

- 1-To study the histological and anatomical structure of human body.
- 2- It is meant primarily to give the student a foundation for advanced study in health care, physiology, pathology, and other fields related to health and fitness.
- 3- At the end of the course, the student should be familiar with gross anatomical and the histological description of human body.

N O.	Subject	Hours	Lecturer	Date
1	Respiratory system: lung, conducting portion (nose, nasopharynx, trachea, bronchus, bronchioles).	2	Lecturer M.Sc. Zeina Saif Al-Dein	Thursday
2	Urinary system: Structure of the kidney and nephron. Histology of the nephron, Structure of the ureter, bladder & urethra.	2	Lecturer M.Sc. Zeina Saif Al-Dein	Thursday
3	Circulatory system: Structure of the cardiovascular system (Heart, arteries, veins and capillaries). Structure of the lymphatic system.	2	Assistance Professor. Dr. Rafal Shakeeb	Thursday

4	Lymphoid tissue: Structure of the thymus gland, spleen, lymph nodes lymphoid nodule (MALT) and tonsils.	2	Assitance Professor. Dr. Rafal Shakeeb	Thursday
5	Mid-Term Theory Exam	-	-----	
6	Male reproductive system: General structure of the testes. Excretory genital ducts; accessory genital glands; seminal vesicles, prostate, Cowper's glands.	2	Assitance Professor. Dr. Ali Fares	Thursday
7	Female reproductive system: General structure of the ovary, oviduct, uterus and vagina.	2	Assitance Professor. Dr. Ali Fares	Thursday
8	Endocrine system: General structure of the pituitary gland. General structure of the adrenal, thyroid, parathyroid, islet of Langerhans and pineal glands	2	Lecturer M.Sc. Zeina Saif Al-Dein	Thursday
9	Nervous system: Central nervous system (CNS); Peripheral nervous system.	2	Assitance Professor. Dr. Ali Fares	Thursday
10	The skin: Structure of thick skin and thin skin.	2	Assitance Professor. Dr. Ali Fares	Thursday
11	Bone Tissues: histology of osseous tissue, tissues and organs of the skeletal system.	2	Assitance Professor. Dr. Ali Fares	Thursday
12	Muscle Tissue: classification of muscle tissue, structure and functions of muscle tissue, associated structures.	2	Assitance Professor. Dr. Ali Fares	Thursday

13	Digestive system: General structure of the digestive tract (GIT); oral cavity, mouth, esophagus, stomach; small intestine, large intestine, rectum, anus. Glands associated with the digestive tract (salivary gland, pancreas, liver and gall bladder.	2	Lecturer M.Sc. Zeina Saif Al-Dein	Thursday
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Grading System: Theory Mid-Term Exam (25%) , Theory Final Exam (50%)

Reference book: 2. Anatomy and Physiology: Student Study Guide. 4th. Ed. By Seeley, Stephens & Tale.

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Title of the course: English Language
 Level: 1st Year, 2nd Semester

NO.	Subject	Hours	Lecturer	Date
1	Time Past Student's Book	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
2	Time Past Workbook	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
3	We had a great time! Student's Book	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
4	We had a great time! Workbook	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
5	I can do that! Student's Book	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
6	I can do that! Workbook	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
7	Please and thank you. Student's Book	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
8	Mid-term Electronic Exam	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
9	Mid-term Theory Exam	-	-----	
10	Please and thank you. Workbook	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
11	Here and now. Student's Book	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
12	Here and now. Workbook	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
13	It's time to go! Student's Book	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
14	It's time to go! Workbook	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
15	Final Electronic Exam	2	Professor M.Sc. Ola Abdul-ghafoor	

Grading System: Theory Mid-Term Exam (30%) , Theory Final Exam (70%).

Reference books: students book, work book Headway

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Title of the course: Arabic Language
Level: 1st Year, 2nd Semester

NO.	Subject	Hours	Lecturer	Date
1	كان واخواتها	2	Assistance prof. Dr. Anwar Shnawi	Saturday
2	Google meet with student	2	Assistance prof. Dr. Anwar Shnawi	Saturday
3	ظن واخواتها	2	Assistance prof. Dr. Anwar Shnawi	Saturday
4	Homework	2	Assistance prof. Dr. Anwar Shnawi	Saturday
5	المعيار الثاني	2	Assistance prof. Dr. Anwar Shnawi	Saturday
6	Homework	2	Assistance prof. Dr. Anwar Shnawi	Saturday
7	Mid-term Theory Exam	-	-----	
8	همزة الوصل-الهمزة	2	Assistance prof. Dr. Anwar Shnawi	Saturday
9	اذا-ان	2	Assistance prof. Dr. Anwar Shnawi	Saturday
10	همزة القطع	2	Assistance prof. Dr. Anwar Shnawi	Saturday
11	Mid-term Arabic Electronic Exam	2	Assistance prof. Dr. Anwar Shnawi	Saturday
12	Review	2	Assistance prof. Dr. Anwar Shnawi	Saturday

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Title of the course: Medical Physics
Level: 1st Year, 2nd Semester

Objectives:

- 1- To provide students with the ability to deal with the concepts of physics, emphasize the knowledge and skills required to efficiently discharge the duties and responsibilities of the pharmacist. The course deals with the concept of basic physics and its application to medical field.
- 2- Upon the completion of the course, the students will be able to understand the physical terminology and abbreviations used to describe the lecture, and their application to medical field.

NO.	Subject	Hours	Lecturer	Date
1	Pressure: pressure scales, types of pressure in the human body, blood pressure.	2	Lecturer. Dr. Rusul Adnan	Saturday
2	Physical quantities, thermodynamic: common terms of thermodynamics, the laws of thermodynamics, gases: the gas laws, the equation of state, kinetic theory of gases, real gases.	2	Lecturer. Dr. Hawraa Hashim	Saturday
3	Heat capacity and specific heat, the relation between internal energy with heat capacity, definitions of thermodynamical process.	2	Lecturer. Dr. Hawraa Hashim	Saturday
4	temperature and heat: scales of temperature, types of thermometers, methods of heat transfer, heat gain and loss in human body, heat therapy.	2	Lecturer. Dr. Hawraa Hashim	Saturday

5	Energy, work and power of the body, conservation of energy, energy change in the body.	2	Lecturer. Dr. Hawraa Hashim	Saturday
6	the blood flow: poiseuille's law, ohm's law applied to blood flow, the continuity equation and Bernoulli's principles, Types of blood flow, pascal's law,	2	Lecturer. Dr. Rusul Adnan	Saturday
7	Surface tension: measurement of surface tension, factors effecting surface tension, Ostwald's viscometer.	2	Lecturer. Dr. Rusul Adnan	Saturday
8	Waves: sound in medicine, general properties of sound, the stethoscope. Ultrasound in medicine: generation of ultrasound waves, application of ultrasound.	2	Lecturer. Dr. Rusul Adnan	Saturday
9	Mid-term Theory Exam	-	-----	
10	Electromagnetic waves: radio wave, microwave, infra-red, visible light (application in medicine), ultraviolet, x-ray, gamma ray.	2	Lecturer. Dr. Rusul Adnan	Saturday
11	Radiation therapy, CT scan, MRI scan, PET scan, SPECT scan	2	Lecturer. Dr. Rusul Adnan	Saturday
12	Laser: laser types in medical, laser interaction with tissue, medical applications.	2	Lecturer. Dr. Hawraa Hashim	Saturday
13	Physical optics, the optical fiber, image formation.	2	Lecturer. Dr. Hawraa Hashim	Saturday

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Reference book: Physics for Biology and Medical Students, 2nd ed.

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Title of the course: Human Rights
Level: 1st Year, 2nd Semester

NO.	Subject	Hours	Lecturer	Date
1	تعريف الحق	1	Lecturer. M.Sc. Haifa Radi	Saturday
2	خصائص الحق	1	Lecturer. M.Sc. Haifa Radi	Saturday
3	حقوق الانسان في الشريعة الاسلامية	1	Lecturer. M.Sc. Haifa Radi	Saturday
4	الشرعية الدولية لحقوق الانسان	1	Lecturer. M.Sc. Haifa Radi	Saturday
5	اليات حماية حقوق الانسان	1	Lecturer. M.Sc. Haifa Radi	Saturday
6	الضمانات الدستورية لحقوق الانسان	1	Lecturer. M.Sc. Haifa Radi	Saturday
7	تنظيم حقوق الانسان في دستور جمهورية العراق لسنة 2005	1	Lecturer. M.Sc. Haifa Radi	Saturday

8	مفهوم جريمة ابادة الجنس البشري	1	Lecturer. M.Sc. Haifa Radi	Saturday
9	Mid-term Theory Exam	-		
10	الجرائم المرتكبة من النظام الدكتاتوري ضد الانسان	1	Lecturer. M.Sc. Haifa Radi	Saturday
11	اهمية التسامح والتعايش السلمي بعد تحقيق النصر على العدو (داعش)	1	Lecturer. M.Sc. Haifa Radi	Saturday
12	Review	1	Lecturer. M.Sc. Haifa Radi	Saturday

Grading System: Theory Mid-Term Exam (30%) , Theory Final Exam (70%)

مصادر الكتب:

- 1- د.ماهر صبري كاظم, حقوق الانسان والديمقراطية و الحريات العامة, ط2 , بغداد, مطبعة الكتاب, 2010
- 2- رياض عزيز هادي, حقوق الانسان تطورها ومضامينها و حمايتها, بغداد, مكتبة السنهوري, 2005
- 3- د.حميد حنون خالد, الانتظمة السياسية, القاهرة, 2011
- 4- د.صالح جواد كاظم , د.علي غالب العاني, النظم السياسية.
- 5- د.محمد المشهداني, النظم السياسية, وزارة التعليم العالي والبحث العلمي – د. احسان حميد المفرجي, د. قطران زغير نعمة , د.رعد ناجي الجدة, النظرية العامة في القانون الدستوري والنظام الدستوري في العراق.

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Title of the course: Medical Microbiology II
Level: 2nd Year, 2nd Semester

Objectives:

- 1-To provide students with knowledge about pathogenesis, morphology.
- 2- Laboratory diagnosis, identification, pathology, clinical features of medically important parasitic.
- 3- Viral diseases and the basic concepts of immunity procedures against these diseases.

NO.	Subject	hours	Lecturer	Date
1	Virology: Introduction, Comparison between viruses and bacteria and other microbes	3	Assist Prof. Dr. Nadira Salman	Sunday
2	Classification of viruses; Replication	3	Assist Prof. Dr. Nadira Salman	Sunday
3	Chemotherapy	3	Assist Prof. Dr. Nadira Salman	Sunday
4	<i>Herpes viridae</i> ; Orthomyxo viruses	3	Assist Prof. Dr. Nadira Salman	Sunday
5	Paramyxo viruses; Retro viruses;	3	Assist Prof. Dr. Nadira Salman	Sunday
6	Hepato viruses; Oncogenic viruse	3	Assist Prof. Dr. Nadira Salman	Sunday
7	Review	3	Assist Prof. Dr. Nadira Salman	Sunday
8	Mid-Term Exam	-	-----	
9	Introduction of Parasitology	3	Assist Prof. Dr. Nadira Salman	Sunday
10	Intestinal protozoa (Amoeba, Chilomastix)	3	Assist Prof. Dr. Nadira Salman	Sunday
11	Intestinal protozoa (Giardia, Chilomastix)	3	Assist Prof. Dr. Nadira Salman	Sunday
12	Haemoflagellates: Leshmania spp.; Trypanosome spp.	3	Assist Prof. Dr. Nadira Salman	Sunday

13	Helminthes: Classification, Flukes: Hepatic flukes, Blood flukes (Schistosomaspp).	3	Assist Prof. Dr. Nadira Salman	Sunday
14	Tap worms: Taenia spp., Echinococcus (Hydatid cyst). Nematods: Ascaris, Entrobilus.	3	Assist Prof. Dr. Nadira Salman	Sunday
15	Review	3	Assist Prof. Dr. Nadira Salman	Sunday

Grading System: Theory Mid-Term Exam (25%) , Theory Final Exam (50%).

Reference book: Animal Agents and Vectors of Human Disease. 5th.Ed. P.C. Beaver.

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Title of the course: English Language
 Level: 2nd Year, 2nd Semester

NO.	Subject	Hours	Lecturer	Date
1	Tell me!What's it like?Student's Book	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
2	Tell me!What's it like?Workbook	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
3	Fame.Student's Book	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
4	Fame.Workbook	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
5	Do's and don't.Student's Book	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
6	Do's and don't.Workbook	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
7	Review	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
8	Mid-term Theory Exam	-	-----	
9	Mid-term Electronic Exam	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
10	Going places.Student's Book	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
11	going places.Workbook	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
12	Dreams and reality.Student's Book	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
13	Dreams and reality.Workbook	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
14	Review	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
15	Final Electronic Exam	2	Professor M.Sc. Ola Abdul-ghafoor	

Grading System: Theory Mid-Term Exam (30%) , Theory Final Exam (70%). Reference books: students book, work book Headway

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Title of the course: Biochemistry II
Level: 3rd Year, 2nd Semester

Objectives:

- 1- To provide a condensed curriculum of strong basic biochemistry and molecular biology.
- 2- At the end of the semester, students should be able to understand all metabolic processes occurring in the living cell.

NO.	Subject	hours	Lecturer	Date
1	Bioenergetics	3	Assist Prof. Dr. Ammal Ismael	Monday
2	- Biologic oxidation. -The respiratory chain and oxidative phosphorylation	3	Assist Prof. Dr. Ammal Ismael	Monday
3	-Overview of metabolism -Citric acid Cycle	3	Assist Prof. Dr. Ammal Ismael	Monday
4	Glycolysis	3	Assist Prof. Dr. Ammal Ismael	Monday
5	Metabolism of glycogen	3	Assist Prof. Dr. Ammal Ismael	Monday
6	-Gluconeogenesis - Pentose phosphate pathway and other pathways of hexose metabolism	3	Assist Prof. Dr. Ammal Ismael	Monday
7	Mid-term Theory Exam	-	-----	
8	Mid-term Theory Exam	-	-----	

9	-Biosynthesis of fatty acids -Oxidation of fatty acids	3	Assist Prof. Dr. Fryal Hashim Rada	Monday
10	Metabolism of acylglycerol and sphingolipids	3	Assist Prof. Dr. Fryal Hashim Rada	Monday
11	Lipid transport and storage	3	Assist Prof. Dr. Fryal Hashim Rada	Monday
12	Cholesterol synthesis, transport, and excretion	3	Assist Prof. Dr. Fryal Hashim Rada	Monday
13	Biosynthesis of the Nutritionally Nonessential Amino Acids	3	Assist Prof. Dr. Fryal Hashim Rada	Monday
14	-Catabolism of Proteins & of Amino Acid Nitrogen - Catabolism of the Carbon Skeletons of Amino Acids	3	Assist Prof. Dr. Fryal Hashim Rada	Monday
15	Conversion of Amino Acids to Specialized Products	3	Assist Prof. Dr. Fryal Hashim Rada	Monday
16	Porphyrins& Bile Pigments	3	Assist Prof. Dr. Fryal Hashim Rada	Monday

Grading System: Theory Mid-Term Exam (25%) , Theory Final Exam (50%)

Reference book: Harper's Illustrated Biochemistry, Twenty-Sixth Edition

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Title of the course: English Language
Level: 3rd Year, 2nd Semester

NO.	Subject	Hours	Lecturer	Date
1	It's a wonderful world!Student's Book	2	Professor M.Sc. Ola Abdul-ghafoor	Saturday
2	It's a wonderful world!Workbook	2	Professor M.Sc. Ola Abdul-ghafoor	Saturday
3	Get happy!Student's Book	2	Professor M.Sc. Ola Abdul-ghafoor	Saturday
4	Get happy!Workbook	2	Professor M.Sc. Ola Abdul-ghafoor	Saturday
5	Telling tales.Studnet's Book	2	Professor M.Sc. Ola Abdul-ghafoor	Saturday
6	Telling tales.Workbook	2		
	Review			
7	Mid-term Theory Exam	-	-----	
8	Mid-term Electronic Exam	1	Professor M.Sc. Ola Abdul-ghafoor	Saturday
10	Doing the right thing.Student's Book	2	Professor M.Sc. Ola Abdul-ghafoor	Saturday
11	Doing the right thing.Workbook	2	Professor M.Sc. Ola Abdul-ghafoor	Saturday
12	On the move.Student's Book	2	Professor M.Sc. Ola Abdul-ghafoor	Saturday
13	On the move.Workbook	2	Professor M.Sc. Ola Abdul-ghafoor	Saturday
14	Review	2	Professor M.Sc. Ola Abdul-ghafoor	Saturday
15	Final Electronic Exam	2	Professor M.Sc. Ola Abdul-ghafoor	Saturday

Grading System: Theory Mid-Term Exam (30%) , Theory Final Exam (70%). Reference books: students book, work book Headway.