

**Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
Accreditation Department**



Academic Program and Course Description Guide

2026/2025

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

Concepts and terminology:

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

Course Description: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

Program Vision: An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

Program Mission: Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

Program Objectives: They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.


Curriculum Structure: All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.


Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must

determine the learning outcomes of each course in a way that achieves the objectives of the program.

Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.


University Name: AL-Furat AL-Awsat Technical University
Faculty/Institute: AL-Qadisiyah Polytechnic College
Scientific Department: Radiology & Sonography Techniques
Academic or Professional Program Name: Radiology & Sonography
Techniques Final Certificate Name: Diploma in Radiology & Sonar Techniques
Academic System: Semesters
Description Preparation Date: 1 / 10 / 2025
File Completion Date: 1 / 10 / 2025


Signature: 
Head of Department Name:
Asist. Prof. Afrah A. Habeeb
Date: 3 / 11 / 2025

Signature: 
Scientific Associate Name:
Prof. Dr. Khudair Majeed
Date: 3 / 11 / 2025

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Asist. Iact. Adanan Hamid
Date:



Signature: 
3 / 11 / 2025

Approval of the Dean
Prof. Dr. Zaki Muhammad Abbas
Date: 3 / 11 /
Signature 

1. Program Vision

Upgrading the level of health services to cover the needs of the medical labor market in our beloved country and advancing the scientific research process to keep pace with modern scientific progress

2. Program Mission

Providing science and special medical diagnostic knowledge through educating and training distinguished national medical cadres that harness what they have gained from radiological techniques to serve the people of society in a healthy way.

3. Program Objectives

The aim of the academic educational program :

Preparing photographers with a diploma in radiology technicians who are qualified in the field of radiography to work in government and private health institutions, taking into account the task of preparing graduates well by providing them with the information, skills and behaviors necessary to perform the radiology technician job, according to a program prepared with curricula and field practice. The importance of this specialization is due to the fact that diagnostic radiology is the first and most important step in treating patients .

4. Program Accreditation

JRCERT

5. Other external influences

The ministry of Health +The X-ray Institute

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	3	6		general
College Requirements	1	4		asistant
Department Requirements	4	20		specific
Summer Training		2 month		specific
Other				

* This can include notes whether the course is basic or optional.

7. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
First Stage/First Semester		Principle Radiological Equipment Techniques	2	4
		Principle Radiological Equipment Techniques	2	3
		Physics Radiation	2	3
		Anatomy	2	3
		Medical Biology		
		English Language	2	-
		Principle of computer1	1	2
		Human rights and democracy	2	-

8. Teaching and Learning Strategies
1-Laboratory practice 2- Methodological training in hospitals and X-rays institute. 3- Off-study (Summer) training. 4-Making reports and seminars.

9. Evaluation methods

- 1- Theoretical and practical exams (semi-final).
- 2- Oral tests.
- 3- Daily estimation.
- 4- Non-class activity.
- 5- Final exam.

10. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)	Number of the teaching staff	
	General	Special		Staff	Lecturer
	1	5		6	3

Professional Development

Mentoring new faculty members

Successful mentoring relationships go through four phases: preparation, negotiating, enabling growth, and closure. These sequential phases build on each other and vary in length. In each phase, there are specific steps and strategies that lead to mentoring excellence .

Professional development of faculty members

Assess the professional development needs of your faculty and institution. Identify evidence-based approaches faculty developers use to deliver services. Design successful learning communities, institutes, and workshops. Develop your instructional consultation skills in group and individual settings.

11. Acceptance Criterion

- 1- Student's general average at high school.
- 2- Preference of students.
- 3- The feasible capacity of X-ray department.

12. The most important sources of information about the program

- 1- Curriculum books.
- 2- Updating syllabuses according to accredited global syllabuses.
- 3- Searching through the Internet to obtain the most recent scientific information

13. Program Development Plan

Radiology & sonography Techniques First Stage

(First Semester)

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First Stage /First Semester		Principle radiological Equipment Techniques	Basic	+	+	+	+	+	+	+	+	+	+	+	+
		Principle Radiological Equipment Techniques	Basic	+	+	+	+	+	+	+	+	+	+	+	+
		Physics Radiation	Basic	+	+	+	+	+	+	+	+	+	+	+	+
		Anatomy	assistant	+	+	+	+	+	+	+	+	+	+	+	+
		Medical Biology	assistant	+	+	+	+	+	+	+	+	+	+	+	+
		English Language	general	+	+	+	+	+	+	+	+	+	+	+	+
		Principle of computer1	general	+	+	+	+	+	+	+	+	+	+	+	+
	Human rights and democracy	general	+	+	+	+	+	+	+	+	+	+	+	+	

- Please tick the boxes corresponding to the individual program learning outcomes under evaluation.

Course Description Form

1. Course Name:					
Appendicular skeleton Radiography					
2. Course Code:					
3. Semester / Year:					
1 ST semester , first stage					
4. Description Preparation Date:					
2025/10/1					
5. Available Attendance Forms:					
Theoretical and practical					
6. Number of Credit Hours (Total) / Number of Units (Total)					
90 hours					
7. Course administrator's name (mention all, if more than one name)					
Name: Mohammed Falah Fahum Email:					
8. Course Objectives					
Course Objectives			<p style="color: red; margin: 0;">1-The student learns how to perform the radiography examination.</p> <p style="color: red; margin: 0;">2-The student learns the Radiography processing and it stages.</p> <p style="color: red; margin: 0;">3-The necessary cases must be taken in the equipage and treatment of the patient.</p>		
9. Teaching and Learning Strategies					
Strategy		<p>1-Theoretical lessons</p> <p>2-Laboratory practice</p> <p>3-Methodological training in hospitals and X-rays institute.</p> <p>4- (Summer) training.</p>			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	6	Student can learned verteb column	Preliminary steps in radiography, body planes, body	Lecture, discussion And scientific films	Oral tests

			movement and body parts.		
2	6	Student will be learned the positions of atlas and axis	Positioning terms and radiographic positions	Lecture, discussion And scientific films	Daily examination
3	6	Student will be learned the positions of cervical vertebrae	Radiographic positions of the upper extremities (limbs), general notes and radiographic positions of the digits, hand and thumb.	Lecture, discussion And scientific films	Daily examination
4	6	Student will be learned the positions of the wrist joint	Radiographic positions of the wrist joint	Lecture, discussion And scientific films	Daily examination
5	6	Student will be learned the positions of the forearm	Radiographic positions of the forearm	Lecture, discussion And scientific films	Daily examination
6	6	Student will be learned the positions of the elbow joint	Radiographic positions of the elbow joint	Lecture, discussion And scientific films	Daily examination
7	6	Student will be learned the positions of the olecranon process and distal humerus	Radiographic positions of the olecranon process and distal humerus	Lecture, discussion And scientific films	Daily examination
8	6	Student will be learned the positions of the humerus	Radiographic positions of the humerus	Lecture, discussion And scientific films	Daily examination
9	6	Student will be learned the positions of the shoulder joint.	Radiographic positions of the shoulder joint.	Lecture, discussion And scientific films	Daily examination
10	6	Student will be learned the	Radiographic positions of the low	Lecture, discussion	Daily examination

		positions of the lower extremities, foot and toes.	extremities, foot and toes.	And scientific films	
11	6	Student will learn the position of the ankle joint and calcaneus bone	Radiographic position of the ankle joint and calcaneus bone	Lecture, discussion And scientific films	Daily examination
12	6	Student will learn the positions of the leg.	Radiographic positions of the leg.	Lecture, discussion And scientific films	Daily examination
13	6	Student will learn the positions of the knee joint, patella, intercondyle fossa	Radiographic positions of the knee joint, patella, intercondyle fossa	Lecture, discussion And scientific films	Daily examination
14	6	Student will learn the positions of the femur.	Radiographic positions of the femur.	Lecture, discussion And scientific films	Daily examination
15	6	Student will learn the positions of the hip joint and pelvis.	Radiographic positions of the hip joint and pelvis	Lecture, discussion And scientific films	Daily examination

11. Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Philip W. Ballinger; Merrill's Atlas of radiographic positions and radiological procedures. Ninth Edition, 2005, Mosby-Year Book, Inc.
Main references (sources)	Frances Aitchison; Chapman & Nakielny, A guide to radiological procedures. Fifth Edition, 2009. Saunders Elsevier.
Recommended books and references (scientific journals, reports...)	The Royal College of radiologists (2005) Standards for intravenous Iodinated contrast Administration to Adult Patients. London: The Royal College of radiologists
Electronic References, Websites	1-European Society of Urogenital Radiology Contrast Media Safety Committee (2007) ESUR

guidelines on contrast media version 6.0.
www.esur.org.
 2- Schoepf, U.J., Zwerner, P.I., Savino, G., et
 (2007) Coronary CT

Course Description Form

1. Course Name:					
Principle Radiological Equipment Techniques					
2. Course Code:					
3. Semester / Year:					
1 ST semester , first stage					
4. Description Preparation Date:					
2024/10/1					
5. Available Attendance Forms:					
Theoretical and practical					
6. Number of Credit Hours (Total) / Number of Units (Total)					
75 hours					
7. Course administrator's name (mention all, if more than one name)					
Name: Dr.Ameer Abdulksun odaa e-mail :ameer.odaai4@atu.edu.iq					
8. Course Objectives					
Course Objectives				1- The x- ray machine parts and and. 2- How the x- ray machine parts work 3- The x- ray machine parts maintenances	
9. Teaching and Learning Strategies					
Strategy		1-Theoretical lessons 2-Laboratory practice 3-Methodological training in hospitals and X-rays institute. 4- (Summer) training.			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Student can learned History of X-ray and Properties	History of X-ray and Properties the X-ray Machine parts.	Lecture, discussion And scientific films	Oral tests

2	5	Student will be learned the X-ray Machine parts	the X-ray Machine parts	Lecture, discussion And scientific films	Daily examination
3	5	Student will learned the Operating Console	Operating Console	Lecture, discussion And scientific film	Daily examination
4	5	Student will learned the KVp Adjustment	KVp Adjustment	Lecture, discussion And scientific film	Daily examination
5	5	Student will learned the Tube Current (mA)	Tube Current (mA)	Lecture, discussion And scientific films	Daily examination
6	5	Student will learned the Milliampereseconds (mAs)	Milliampereseconds (mAs)	Lecture, discussion And scientific films	Daily examination
7	5	Student will learned the High voltage transformer, voltage rectifications	High voltage transformer, voltage rectifications	Lecture, discussion And scientific films	Daily examination
8	5	Student will learned the Three-Phase X-Ray Generator, High-Frequency Generator	Three-Phase X-Ray Generator, High-Frequency Generator	Lecture, discussion And scientific films	Daily examination
9	5	Student will learned the The grid: effect of scattered radiation on the contrast	The grid: effect of scattered radiation on the contrast	Lecture, discussion And scientific films	Daily examination
10	5	Student will learned the Characterstics of grid construction and Grid Types	Characterstics of grid construction and Grid Types	Lecture, discussion And scientific films	Daily examination
11	5	Student will learned the Cassette: intensifying screens, x-ray film and formation of latent image .	Cassette: intensifying screens, x-ray film and formation of latent image	Lecture, discussion And scientific films	Daily examination
12	5	Student will learned the	The X-ray imaging system	Lecture, discussion	Daily examination

		The X-ray imaging system		And scientific films	
13	5	Student will learn the X-Ray Film and Film Processing	X-Ray Film and Film Processing	Lecture, discussion And scientific films	Daily examination
14	5	Student will learn the Image quality	Image quality	Lecture, discussion And scientific films	Daily examination
15	5	Student will learn the Exposure Timer & checking a timer	Exposure Timer & checking a timer	Lecture, discussion And scientific films	Daily examination

11. Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1- Essentials of Dental Radiography and Radiology , Eric Whaites , for word by R.A. Cawson , 2016 2-ESSENTIAL PHYSICS IN IMAGING FOR RADIOGRAPHERS , Ken Holmes Marcus Elkington and Phil Harris ,2019 3- Radiology PHY , D.A.SAIA, 2018 4- Radiographic Imaging and Exposure , TERRIL. FAUBER , 2020 5-X-RAY diffraction , Structure , principles and Applications , Kaimin Shih ,2020 . 6- DANCE, D. R., et al. Diagnostic radiology physics: A handbook for teachers and students. Endorsed by: American Association of Physicists in Medicine, Asia-Oceania Federation of Organizations for Medical Physics, European Federation of Organisations for Medical Physics. 2014.
Main references (sources)	- DANCE, D. R., et al. Diagnostic radiology physics: A handbook for teachers and students. Endorsed by: American Association of Physicists in Medicine, Asia-Oceania Federation of Organizations for Medical Physics, European Federation of Organisations for Medical Physics. 2014.
Recommended books and references (scientific journals, reports...)	Essentials of Dental Radiography and Radiology , Eric Whaites , for word by R.A. Cawson , 2016

Electronic References, Websites	X-RAY diffraction , Structure , principles and Applications , Kaimin Shih ,2020 .
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Course Description Form

1. Course Name:	
Physics Radiation	
2. Course Code:	
3. Semester / Year:	
1st semester , first stage	
4. Description Preparation Date:	
2025/10/1	
5. Available Attendance Forms:	
Theoretical and practical	
6. Number of Credit Hours (Total) / Number of Units (Total)	
75 hours	
7. Course administrator's name (mention all, if more than one name)	
Name: Anwar Najum Email: anwar.ali.idi3@atu.edu.iq	
8. Course Objectives	
Course Objectives	The student should be able at the end of the Semester to know the following: - 1- Types of electromagnetic waves and the most important experiments conducted in this field 2- Characteristics of x-rays and types of tubes that are used to generate these x-rays 3- Electrical circuit for generating diagnostic x-rays .
9. Teaching and Learning Strategies	
Strategy	1- Multiple teaching methods will be used (lecture, discussion, surveying, etc.) 2- Illustrative and practical examples will be used to enrich the learning material -

- 3- Illustrations will be used or science films will be shown
- 4- Multiple teaching methods will be used (lecture, discussion, surveying, etc.)
- 5- Illustrative and practical examples will be used to enrich the learning material -
- 6- Illustrations will be used or science films will be shown

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Student can learn Electricity - Coulomb's law - electric field.	Electricity - Coulomb's law - electric field	Lecture, discussion And scientific films	Oral tests
2	5	Student will be learned The meaning of magnetism and magnetization - Classification of magnetic materials	The meaning of magnetism and magnetization - Classification of magnetic materials	Lecture, discussion And scientific films	Daily examination
3	5	Student will learn the Laws of magnetism - magnetic flux - magnetic field	Laws of magnetism - magnetic flux - magnetic field	Lecture, discussion And scientific films	Daily examination
4	5	Student will learn the problems to solve	problems to solve	Lecture, discussion And scientific films	Daily examination
5	5	Student will learn the Induced emf	Induced emf	Lecture, discussion And scientific films	Daily examination
6	5	Student will learn the Electromagnetic waves	Electromagnetic waves	Lecture, discussion And scientific films	Daily examination
7	5	Student will learn the History of X-rays .	History of X-rays	Lecture, discussion And scientific films	Daily examination
8	5	Student will learn the Measurement of the intensity of X-rays	Measurement of the intensity of X-rays	Lecture, discussion And scientific films	Daily examination
9	5	Student will learn the X-ray spectrum - X-ray absorption	X-ray spectrum - X-ray absorption	Lecture, discussion And scientific films	Daily examination

10	5	Student will learn the X-ray properties- X-ray scattering- Compton effect .	X-ray properties- X-ray scattering- Compton effect	Lecture, discussion And scienc films	Daily examination
11	5	Student will learn the Photoelectric effect .	Photoelectric effect	Lecture, discussion And scienc films	Daily examination
12	5	Student will learn the problems to solve	problems to solve	Lecture, discussion And scienc films	Daily examination
13	5	Student will learn the X-ray production - X-ray tube	X-ray production - X-ray tube	Lecture, discussion And scienc films	Daily examination
14	5	Student will learn the The electrical circuit of the x-ray tube	The electrical circuit of the x-ray tube	Lecture, discussion And scienc films	Daily examination
15	5	Student will learn the Improving radiation quality - using a fixed-moving grid	Improving radiation quality - using a fixed-moving grid	Lecture, discussion And scienc films	Daily examination

11. Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	1-Ervin B. Podgoršak “Radiation physics for medical physicists” Third Edition published by Springer Nature 2016
Recommended books and references (scientific journals, reports...)	1- Claude Leroy, pier-Giorgio Rancoita “principle of radiation interaction in matter and detection “2nd edition Published by World Scientific Publishing Co. Pte. Ltd. 2009. 2- Edward M. Purcell, David J. Morin “Electricity and magnetism” Third edition Published in the United States of America by Cambridge University Press, New York 2013. 3- S. Christofides, D.R. Dance, A.D.A. Maidment, I.D. McLean and K. – H. Ng “Diagnostic radiology physics “Printed by the IAEA in Austria 2014.
Electronic References, Websites	1- Claude Leroy, pier-Giorgio Rancoita “principle of radiation interaction in matter and detection

“2nd edition Published by World Scientific Publishing Co. Pte. Ltd. 2009.
 2- Edward M. Purcell, David J. Morin “Electricity & magnetism” Third edition Published in the United States of America by Cambridge University Press New York 2013.

Course Description Form

1. Course Name:	
Anatomy	
2. Course Code:	
3. Semester / Year:	
1st semester , first stage	
4. Description Preparation Date:	
2025/10/1	
5. Available Attendance Forms:	
Theoretical and practical	
6. Number of Credit Hours (Total) / Number of Units (Total)	
75 hours	
7. Course administrator's name (mention all, if more than one name)	
Name: Maysam Hassan Hilal Email: maysam.hilal@atu.edu.iq	
8. Course Objectives	
Course Objectives	1- To learn different parts of body. 2- To learn the sites of internal organs anatomically .
9. Teaching and Learning Strategies	
Strategy	1 -Lectures 2 -Practical training

- 3 -Whiteboard
- 4 -Educational posters
- 5 -Show educational videos
- 6- Three-dimensional models of the structural anatomy of various body organs

10. Course Structure

Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Student can learned Definition of anatomy, branches of anatomy Organization and General Plan of the Body -Terminology and General Plan of the Body (Body Parts and Areas Terms of Location and Position) -Body Cavities and Their MembranesDorsal cavity,Ventral cavity) -Planes and Sections of the Body -Areas of the Abdomen	Definition of anatomy, branches of anatomy Organization and General Plan of the Body -Terminology and General Plan of the Body (Body Parts and Areas. Terms of Location and Position) -Body Cavities and Their Membranes (Dorsal cavity,Ventral cavity) -Planes and Sections of the Body -Areas of the Abdomen	Lecture, discussion And scientific films	Oral tests
2,3&4	5	Student will be learned The Types of cells and tissues in the body and their locations - Epithelial Tissue (Simple Squamous Epithelium, Stratified Squamous Epithelium, Transitional Epithelium, Simple Cuboidal Epithelium, Simple Columnar	Types of cells and tissues in the body and their locations - Epithelial Tissue (Simple Squamous Epithelium, Stratified Squamous Epithelium, Transitional Epithelium, Simple Cuboidal Epithelium, Simple Columnar Epithelium, Ciliated Epithelium, Glands (Unicellular glands, Multicellular glands).	Lecture, discussion And scient films	Daily examination

		Epithelium Ciliated Epithelium, Glands (Unicellular glands, Multicellular glands).			
5&6	5	Student will learned the The Skeletal System -Types of Bone Tissue, Classification of Bones. -parts of the skeletal system (Skull, Vertebral Column, Rib Cage, The Shoulder and Arm, The Hip and Leg) Joints— Articulations (The Classification of Joints, Synovial Joints	The Skeletal System -Types of Bone Tissue, Classification of Bones. -parts of the skeletal system (Skull, Vertebral Column, Rib Cage, The Shoulder and Arm, The Hip and Leg) Joints—Articulations (The Classification of Joints, Synovial Joints	Lecture, discussion And scient films	Daily examination
7,8,9& 10	5	Student will learned the The Muscular System -Major Muscles of the Body (Muscles of the Head and Neck, Muscles of the Trunk Muscles of the Shoulder and Arm, Muscles of the Hip and Leg). Cardiovascular and lymphatic system -The heart (Location and Pericardial Membranes, Chambers, Vessels and Valves of (Right Atrium, Left	The Muscular System 1- Practical training 2- Whiteboard 3- Major Muscles of the Body (All posters of 4- Educational 5- Show educational videos of the Trunk 6- Three dimensional models of the structural of the Hip and Leg). Cardiovascular and lymphatic system -The heart (Location and Pericardial Membranes, Chambers, Vessels and Valves of (Right Atrium, Left Atrium, Right Ventricle, Left Ventricle), Coronary Vessels -Anatomical locations of the major arteries and veins in the body	1- Observation 2- Practical training 3- Whiteboard 4- Educational 5- Show educational videos 6- Three-dimensional models of the structural	Daily examination 3- The student's cumulative record 4- The written exam

		Atrium, Right Ventricle, Left Ventricle), Coronary Vessels -Anatomical locations of the major arteries and veins in the body -The anatomical location and composition of the parts of the lymphatic system (lymph vessels, lymphatic organs, lymph node	-The anatomical location and composition of the parts of the lymphatic system (lymph vessels, lymphatic organs, lymph nodes		
11&12	5	Student will learned the The Nervous System -Nervous System Divisions -Types of Neurons -Anatomical location of the brain and its divisions -The anatomical location and structure of the spinal cord and the nerves that branch from it	The Nervous System -Nervous System Divisions -Types of Neurons -Anatomical location of the brain and its divisions -The anatomical location structure of the spinal cord and the nerves that branch from	Lecture, discussion And scientific film	Daily examination
13	5	Student will learned the The Respiratory System -Divisions of the Respiratory System and its anatomical locations (Nose and Nasal Cavities ,Pharynx, Larynx, Trachea and Bronchial Tree, Lungs and Pleural Membranes, Alveoli	The Respiratory System -Divisions of Respiratory System and anatomical locations (Nose and Nasal Cavities ,Pharynx, Larynx, Trachea Bronchial Tree, Lungs Pleural Membranes, Alveoli	Lecture, discussion And scientific films	Daily examination
14	5	Student will learned the	The Digestive System	Lecture, discussion	Daily examination

		<p>The Digestive System -Divisions of the Digestive System and its anatomical locations -Oral Cavity (Teeth, Tongue, Salivary Glands) -Pharynx -Esophagus -Structural Layers of .</p>	<p>-Divisions of the Digestive System and its anatomical locations -Oral Cavity (Teeth, Tongue, Salivary Glands) -Pharynx -Esophagus -Structural Layers of of the Alimentary Tube (Mucosa, Submucosa, External Muscle Layer, Serosa)</p>	And scient films	
15	5	<p>Student will learned the The Urinary System -Structures of The Urinary System and their anatomical locations (Kidneys, ureters, bladder, urethra) -The Reproductive Systems: -Structures of the male reproductive and their anatomical locations (Testes, Epididymis, Ductus Deferens, Ejaculatory Ducts, Seminal Vesicles, Prostate Gland, Bulbourethral Glands, Urethra-Penis. -Structures of Fem Reproductive Syst and their anatom locations (Ovar Fallopian Tul Uterus, Vag Mammary Glands)</p>	<p>The Urinary System -Structures of The Urinary System and their anatomical locations (Kidneys, ureters, bladder, urethra) -The Reproductive Systems: -Structures of the male reproductive and their anatomical locations (Testes, Epididymis, Ductus Deferens, Ejaculatory Ducts, Seminal Vesicles, Prostate Gland, Bulbourethral Glands, Urethra-Penis. -Structures of Fem Reproductive System a their anatomical locati (Ovaries, Fallopian Tul Uterus, Vagina, Mamm Glands)</p>	Lecture, discussion And scient films	Daily examination

11. Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	branch, m. o. (2005). prehospital emergency care. UK: ✓ Queens. F., B. K. (2016). first aid emergency medicine. ✓ Cenvo. S., D. W. (2000). Primary trauma care manual. UK: North house
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Medical Biology
2. Course Code:
3. Semester / Year:
1 st semester , first stage
4. Description Preparation Date:
2025/10/1
5. Available Attendance Forms:
Theoretical and practical
6. Number of Credit Hours (Total) / Number of Units (Total)
75 hours
7. Course administrator's name (mention all, if more than one name)
Name: Hussein subah Email:Hussein.sabah.idi16@atu.edu.iq

8. Course Objectives

Course Objectives

- *Distinguish between types of cells and their structures.
- *Compares between plant and animal cells.
- * Recognize the components of bacterial cell division and how it occurs.
- * Recognize the pathogen to humans.

9. Teaching and Learning Strategies

Strategy

- 1-Theoretical lessons
- 2-Laboratory practice
- 3-Methodological training in hospitals and X-rays institute.
- 4- (Summer) training.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Student can learned History of biosafety, microbiology and molecular biology ,Biosafety levels, Personal protective equipments , Laboratory facilities and safety equipment,	History of biosafety, microbiology and molecular biology ,Biosafety levels, Personal protective equipments , Laboratory facilities and safety equipment,	Lecture, discussion And scientific films	Oral tests
2	5	Student will be learned the Introduction of biology: Definition of biology, Branches of biology	Introduction of biology: Definition of biology, Branches of biology	Lecture, discussion And scientific films	Daily examination
3	5	Student will learned the The cell: Types of cells, Prokaryote cell, Eukaryote cell,Differentiation between prokaryote and eukaryote cell	The cell: Types of cells, Prokaryote cell, Eukaryote cell,Differentiation between prokaryote and eukaryote cell	Lecture, discussion And scientific films	Daily examination
4	5	Student will learned the Prokaryote cell: Bacteria cell, Types	Prokaryote cell: Bacteria cell, Types of bacteria, structure bacteria	Lecture, discussion And scientific films	Daily examination

		of bacteria, structure of bacteria			
5	5	Student will learn the Formal appearance of bacteria, shape-size, Metabolic events-Growth curve	Formal appearance of bacteria, shape-size, Metabolic events-Growth curve.	Lecture, discussion And scientific films	Daily examination
6	5	Student will learn the Infection: Types of infection, sources of infection. Methods of transmission of infection.	Infection: Types of infection, sources of infection. Methods of transmission of infection.	Lecture, discussion And scientific films	Daily examination
7	5	Student will learn the Sterilization and disinfection	Sterilization and disinfection	Lecture, discussion And scientific films	Daily examination
8	5	Student will learn the Animal cell: The internal structure of animal cell: Cell wall, cytoplasm, nucleus mitochondria.	Animal cell: The internal structure of animal cell: Cell wall, cytoplasm, nucleus mitochondria.	Lecture, discussion And scientific films	Daily examination
9	5	Student will learn the Ribosomes, Endoplasmic reticulum: types of Endoplasmic reticulum: Rough and smooth	Ribosomes, Endoplasmic reticulum: types of Endoplasmic reticulum: Rough and smooth	Lecture, discussion And scientific films	Daily examination
10	5	Student will learn the Golgi apparatus, Ribosomes	Golgi apparatus, Ribosomes	Lecture, discussion And scientific films	Daily examination
11	5	Student will learn the Types of animal cell, forms – size: Squamous shape, Cuboidal shape, Columnar shape.	Types of animal cell, forms – size: Squamous shape, Cuboidal shape, Columnar shape	Lecture, discussion And scientific films	Daily examination
12	5	Student will learn the Spindle shape, Irregular Shape, Spherical shape, Oval shape	Spindle shape, Irregular Shape, Spherical shape, Oval shape	Lecture, discussion And scientific films	Daily examination
13	5	Student will learn the	Types of animal tissues: Epithelial	Lecture, discussion	Daily examination

		Types of animal tissues: Epithelial tissue Connective tissue	tissue Connective tissue	And scient films	
14	5	Student will learned the Muscle tissue, nervous tissue	Muscle tissue, nervous tissue	Lecture, discussion And scient films	Daily examination
15	5	Student will learned the Different between bacterial cell and animal cell. .	Different between bacterial cell and animal cell.	Lecture, discussion And scient films	Daily examination

11. Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	1-- Goodman's.(2020) . Medical Cell Biology . 4th edition 2- Goodman, S.R. ed., 2007. Medical cell biology. Academic Press . 3- Laake, P. and Benestad, H.B., 2015. <i>Research in medical and biological sciences: From planning and preparation to grant application and publication.</i> Academic Press.
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
English Language
2. Course Code:
3. Semester / Year:
1 st semester , first stage
4. Description Preparation Date:
2025/10/1

5. Available Attendance Forms:

Theoretical

6. Number of Credit Hours (Total) / Number of Units (Total)

30 hours

7. Course administrator's name (mention all, if more than one name)

Name: zaid fouad

Email: zaid.hashim@atu.edu.iq

8. Course Objectives

Course Objectives

The student will be able to write the medical reports.

9. Teaching and Learning Strategies

Strategy

1-Theoretical lessons

10. Course Structure

Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Student can learned Chapter One : Medical terminology Language of medicine Medical terms Spelling of medical terms Pronunciation of medical terms .	Chapter One : Medical terminology Language of medicine Medical terms Spelling of medical terms Pronunciation of medical terms ,	Lecture, discussion And scientific films	Oral tests
2	2	Student will be learned the Chapter One : Focus on reading Vocabulary development Focus on grammar Oral skills	Chapter One : Focus on reading Vocabulary development Focus on grammar Oral skills	Lecture, discussion And scientific films	Daily examination
3	2	Student will learned the Chapter One : Focus on writing Pronunciation exercise Review exercises Self-assessment	Chapter One : Focus on writing Pronunciation exercise Review exercises Self-assessment	Lecture, discussion And scientific films	Daily examination
4	2	Student will learned the Chapter Two : Suffixes Medical terms Suffixes	Chapter Two : Suffixes Medical terms Suffixes Focus on reading	Lecture, discussion And scientific films	Daily examination

		Focus on reading			
5	2	Student will learned the Chapter Two : Vocabulary development Focus on grammar Case report Oral communication sk	Chapter Two : Vocabulary development Focus on grammar Case report Oral communication sk	Lecture, discussion And scient films	Daily examination
6	2	Student will learned the Chapter Two : Focus on writing Pronunciation of medical terms Review exercises Self-assessment .	Chapter Two : Focus on writing Pronunciation of medical terms Review exercises Self-assessment	Lecture, discussion And scient films	Daily examination
7	2	Student will learned the Chapter Three : Prefixes Medical terms Prefixes Focus on reading	Chapter Three : Prefixes Medical terms Prefixes Focus on reading	Lecture, discussion And scient films	Daily examination
8	2	Student will learned the Chapter Three : Vocabulary development Focus on grammar Oral communication skills Focus on writing .	Chapter Three : Vocabulary development Focus on grammar Oral communication skills Focus on writing	Lecture, discussion And scient films	Daily examination
9	2	Student will learned the Chapter Three : Pronunciation of medical terms Review exercises Self-assessment	Chapter Three : Pronunciation of medical terms Review exercises Self-assessment	Lecture, discussion And scient films	Daily examination
10	2	Student will learned the Chapter Four : Body structure Body structure Principal body systems Planes of the body Orientation and directional terms	Chapter Four : Body structure Body structure Principal body systems Planes of the body Orientation and directional terms	Lecture, discussion And scient films	Daily examination
11	2	Student will learned the Chapter Four : Body positions Body cavities Focus on reading	Chapter Four : Body positions Body cavities Focus on reading	Lecture, discussion And scient films	Daily examination
12	2	Student will learned the Chapter Four :	Chapter Four : Oral communication skills	Lecture, discussion	Daily examination

		Oral communication skills Focus on writing Review exercises Self-assessment	Focus on writing Review exercises Self-assessment	And scientific films	
13	2	Student will learn the Chapter Five : Body systems Body systems Focus on reading Vocabulary development	Chapter Five : Body systems Body systems Focus on reading Vocabulary development	Lecture, discussion And scientific films	Daily examination
14	2	Student will learn the Chapter Five : Focus on grammar Oral communication skills Focus on writing	Chapter Five : Focus on grammar Oral communication skills Focus on writing	Lecture, discussion And scientific films	Daily examination
15	2	Student will learn the Chapter Five : Pronunciation of medical terms Review exercises Self-assessment	Chapter Five : Pronunciation of medical terms Review exercises Self-assessment	Lecture, discussion And scientific films	Daily examination

11. Course Evaluation

The grade distribution is as follows: 30 marks for monthly and daily exams for the first semester. 70 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:

Principle of computer 1

2. Course Code:

3. Semester / Year:

1ST semester , first stage

4. Description Preparation Date:

2025/10/1

5. Available Attendance Forms:

Theoretical & practical

6. Number of Credit Hours (Total) / Number of Units (Total)

45 hours

7. Course administrator's name (mention all, if more than one name)

Name: Wassan Mahamed

Email: wassan.najum@atu.edu.iq

8. Course Objectives

Course Objectives

General goal: To provide the student with the skills of dealing with basic office applications and creating office files and documents. The use of the operating system as well as the basics of working within the digital environment .
Specific objective: To provide the student with knowledge managing and using various computer applications

9. Teaching and Learning Strategies

Strategy

1-Lectures
2- Practical training
3- Whiteboard
4- Educational posters
5- Show educational videos .

10. Course Structure

Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Student can learned Computer Fundamentals, computer concept, phases of the computer life cycle, evolution of computer generations .	Computer Fundamentals, computer concept, phases of the computer life cycle, development of computer generations	Lecture, discussion And scientific films	Oral tests
2	2	Student will be learned the	Computer advantages and areas	Lecture, discussion	Daily examination

		Computer advantages and areas of use. Computer classification in terms of purpose, size and type of data	of use. Computer classification in terms of purpose, size and type of data	And scientific films	
3	2	Student will learn the Computer's components .	Computer's components	Lecture, discussion And scientific films	Daily examination
4	2	Student will learn the Your personal computer, the concept of computer security and software licenses .	Your personal computer, the concept of computer security and software licenses	Lecture, discussion And scientific films	Daily examination
5	2	Student will learn the Computer security and software licenses .	Computer security and software licenses	Lecture, discussion And scientific films	Daily examination
6	2	Student will learn the Ethics of the electronic world, forms of abuse, computer security, computer privacy .	Ethics of the electronic world, forms of abuse, computer security, computer privacy	Lecture, discussion And scientific films	Daily examination
7	2	Student will learn the Computer software licenses and their types, intellectual property, electronic hacking, malicious software, the most important steps necessary to protect against hacking operations, computer harm to health.	Computer software licenses and their types, intellectual property, electronic hacking, malicious software, the most important steps necessary to protect against hacking operations, computer harm to health.	Lecture, discussion And scientific films	Daily examination

8	2	Student will learned the Operating Systems Definition of operating system, functions, goals, classification, examples of some operating systems	Operating Systems Definition of operating system, functions, goals, classification, examples of some operating systems	Lecture, discussion And scientific films	Daily examination
9	2	Student will learned the Operating systems 7 Windows operating system	Operating Systems 7 Windows operating system	Lecture, discussion And scientific films	Daily examination
10	2	Student will learned the Desktop components Start menu taskbar	Desktop components Start menu taskbar	Lecture, discussion And scientific films	Daily examination
11	2	Student will learned the Folders and files Icons	Folders and files Icons	Lecture, discussion And scientific films	Daily examination
12	2	Student will learned the Performing operations on windows desktop backgrounds	Performing operations on windows desktop backgrounds	Lecture, discussion And scientific films	Daily examination
13	2	Student will learned the Control Panel Windows Control Panel Groups (Category	Control Panel Windows Control Panel Groups (Category	Lecture, discussion And scientific films	Daily examination
14	2	Student will learned the From the Defragment control panel, organize files inside the computer, install and delete programs	From the Defragment control panel, organize files inside the computer, install and delete programs	Lecture, discussion And scientific films	Daily examination
15	2	Student will learned the	Some common conditions and	Lecture, discussion	Daily examination

	Some common conditions and settings in the computer, managing the printer, setting the time and date, maintaining the initial disks	settings in the computer, managing the printer, setting the time and date, maintaining the initial disks	And scientific films	
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11. Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Source Name : Computer Basics and Office Applications - Part One and Two / Ministry of Higher Education and Scientific Research - Department of Research and Development, 2014 Written by: A.M.D. Ziad Muhammad Abboud, Prof. Dr. Ghassan Hamid Abdel Majeed, M.D. Amir Hussein Murad, M. Bilal Kamal Ahmed
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:	
Human rights and democracy	
2. Course Code:	
3. Semester / Year:	
1st semester , first stage	
4. Description Preparation Date:	
2025/10/1	
5. Available Attendance Forms:	
Theoretical	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30 hours	
7. Course administrator's name (mention all, if more than one name)	
Name: Eenas Humza salman Email: Eenas.salman.idi9@atu.edu.iq	
8. Course Objectives	
Course Objectives	<p>Specific objectives: Introducing the student to human rights and democracy, their contents, and the classification of public freedoms.</p> <p>General objectives: To enable the student to become familiar with concept of human rights and their guarantees at the national and regional levels</p>
9. Teaching and Learning Strategies	
Strategy	<ul style="list-style-type: none"> 1-Lectures 2- Practical training 3- Whiteboard 4- Educational posters 5- Show educational videos .

10. Course Structure

Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Student can learned Human rights - their definition - their goals The historical development of human rights. Human rights in ancient civilizations, especially the Mesopotamian .	Human rights - their definition - their goals The historical development of human rights. Human rights in ancient civilizations, especially the Mesopotamian	Lecture, discussion And scientific films	Oral tests
2	2	Student will be learned the Human rights in divine laws, with a focus on human rights in Islam. Whiteboard lecture Discussion	Human rights in divine laws, with a focus on human rights in Islam. Whiteboard lecture Discussion	Lecture, discussion And scient films	Daily examination
3	2	Student will learned the Human rights in the Middle and Modern Ages	Human rights in the Middle and Modern Ages .	Lecture, discussion And scient films	Daily examination
4	2	Student will learned the Regional recognition of human rights at the European, American, African, Islamic, and Arab levels	Regional recognition of human rights at the European, American, African, Islamic, and Arab levels	Lecture, discussion And scient films	Daily examination
5	2	Student will learned the Non-governmental organizations and their role in human rights (International Committee of the Red Cross, Amnesty International,	Non-governmental organizations and their role in human rights (International Committee of the Red Cross, Amnesty International,	Lecture, discussion And scient films	Daily examination

		Human Rights Watch, Arab Organization for Human Rights	Human Rights Watch, Arab Organization for Human Rights		
6	2	Student will learn the Human rights in international and regional conventions and national legislation Human rights in international conventions (the Universal Declaration of Human Rights, the two international covenants on human rights)	Human rights in international and regional conventions and national legislation Human rights in international conventions (the Universal Declaration of Human Rights, the two international covenants on human rights)	Lecture, discussion And scientific films	Daily examination
7	2	Student will learn the Human rights in regional charters (European Cultural Charter on Human Rights, the American Convention on Human Rights, the African Charter on Human Rights, the Arab Charter on Human Rights)	Human rights in regional charters (European Cultural Charter on Human Rights, the American Convention on Human Rights, the African Charter on Human Rights, the Arab Charter on Human Rights)	Lecture, discussion And scientific films	Daily examination
8	2	Student will learn the Human rights in national legislation (Iraqi Constitution)	Human rights in national legislation (Iraqi Constitution)	Lecture, discussion And scientific films	Daily examination
9	2	Student will learn the Human rights in national legislation (Iraqi Constitution)	Human rights in national legislation (Iraqi Constitution)	Lecture, discussion And scientific films	Daily examination

10	2	Student will learned the Forms and generations of human rights (individual rights, collective rights, Generations of human rights (first generation: civil and political rights, second generation: economic and social rights, third generation: modern	Forms and generations of human rights (individual rights, collective rights) Generations of human rights (first generation: civil and political rights, second generation: economic and collective rights, third generation: modern	Lecture, discussion 1-Education 2 -And scientific 3 -films 4 -The written	Daily examination view nt's cumulative record exam
11	2	Student will learned the Human rights guarantees and protection at the national level: constitutional, judicial and political guarantees	Human rights guarantees and protection at the national level: constitutional, judicial and political guarantees	Lecture, discussion And scientific films	Daily examination
12	2	Student will learned the Human rights guarantees and protection at the regional and international levels (the role of the United Nations, the role of regional organizations) the crime of genocide	Human rights guarantees and protection at the regional and international levels (the role of the United Nations, the role of regional organizations) the crime of genocide	Lecture, discussion And scientific films	Daily examination
13	2	Student will learned the Classification of public freedoms: (Fundamental and individual freedoms: freedom of security and feeling of reassurance, freedom of	Classification of public freedoms: (Fundamental and individual freedoms: freedom of security and feeling of reassurance, freedom of coming and going personal freedom)	Lecture, discussion And scientific films	Daily examination

		coming and going personal freedom)			
14	3	Student will learn the Intellectual and cultural freedoms: freedom of opinion, freedom of belief, freedom of education	Intellectual and cultural freedoms: freedom of opinion, freedom of belief, freedom of education	Lecture, discussion And scientific films	Daily examination
15	3	Student will learn the Freedom of the press, freedom of assembly, freedom of forming associations	Freedom of the press, freedom of assembly, freedom of forming associations	Lecture, discussion And scientific films	Daily examination

11. Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Radiology & Sonography
Techniques
First Stage
Second Semester

Course Description Form

1. Course Name:					
Radiography of the spine					
2. Course Code:					
3. Semester / Year:					
2 ^{ed} semester , first stage					
4. Description Preparation Date:					
2025/10/1					
5. Available Attendance Forms:					
Theoretical and practical					
6. Number of Credit Hours (Total) / Number of Units (Total)					
90 hours					
7. Course administrator's name (mention all, if more than one name)					
Name: mahamad falah					
Email:					
8. Course Objectives					
Course Objectives		1-The student learns how to perform the radiography examination. 2-The student learns the Radiography processing and it stages. 3-The necessary cases must be taken in the equipage and treatment the patient .			
9. Teaching and Learning Strategies					
Strategy		1-Theoretical lessons 2-Laboratory practice 3-Methodological training in hospitals and X-rays institute. 4- (Summer) training.			
10. Course Structure					
Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	6	Student can learned Radiographic position of the vertebral column, general notes .	Radiographic position of the vertebral column, general notes	Lecture, discussion And scientific films	Oral tests
2	6	Student will be learned the Radiographic positions of atlas and axis	Radiographic positions of atlas and axis	Lecture, discussion And scientific films	Daily examination
3	6	Student will learned the Radiographic positions of the cervical ertebrae	Radiographic positions of the cervical vertebrae	Lecture, discussion And scientific films	Daily examination
4	6	Student will learned the Radiographic positions of the intervertebral foramina	Radiographic positions of the intervertebral foramina	Lecture, discussion And scientific films	Daily examination
5	6	Student will learned the Radiographic positions of the cervicothoracic region	Radiographic positions of the cervicothoracic region	Lecture, discussion And scientific films	Daily examination
6	6	Student will learned the Radiographic positions of the thoracic ertebrae	Radiographic positions of the thoracic vertebrae	Lecture, discussion And scientific films	Daily examination
7	6	Student will learned the Radiographic positions of the lumbar vertebrae.	Radiographic positions of the lumbar vertebrae.	Lecture, discussion And scientific films	Daily examination
8	6	Student will learned the Radiographic of lumbar spine .	Radiographic of lumbar spine	Lecture, discussion And scientific films	Daily examination

9	6	Student will learn the Radiographic lumbo-sacral junction .	Radiographic of lumbo-sacral junction	Lecture, discussion And scientific films	Daily examination
10	6	Student will learn the Radiographic positions of the sacrum.	Radiographic positions of the sacrum 1-Educational videos 2 -The interview 3 -The student's cumulative record 4 -The written exam	Lecture, discussion And scientific Films	Daily examination
11	6	Student will learn the Radiographic positions of the sacro-iliac joint.	Radiographic positions of the sacro-iliac joint.	Lecture, discussion And scientific films	Daily examination
12	6	Student will learn the Radiographic positions of the coccyx .	Radiographic positions of the coccyx	Lecture, discussion And scientific films	Daily examination
13	6	Student will learn the Radiographic positions of the coccygeal	Radiographic positions of the coccygeal	Lecture, discussion And scientific films	Daily examination
14	6	Student will learn the review	review	Lecture, discussion And scientific films	Daily examination
15	6	Student will learn the review	review	Lecture, discussion And scientific films	Daily examination

11. Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Philip W. Ballinger; Merrill's Atlas of radiographic positions and radiological
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	procedures. Ninth Edition, 2005, Mosby-Year Book, Inc .
Main references (sources)	Frances Aitchison; Chapman & Nakielny , A guide to radiological procedures. Fifth Edition, 2009. Saunders Elsevier .
Recommended books and references (scientific journals, reports...)	The Royal College of radiologists (2005) Standards for intravenous Iodinated contrast Administration to Adult Patients. London: The Royal College of radiologists.
Electronic References, Websites	1-European Society of Urogenital Radiology Contrast Media Safety Committee (2007) ESUR guidelines on contrast media version 6.0. www.esur.org . 2- Schoepf, U.J., Zwerner, P.I., Savino, G., et al. (2007) Coronary CT angiography: how I do it. Radiology. 3-Positioning in Radiography for K. C. Clark London 1975.

Course Description Form

1. Course Name:					
Advance Radiological Equipment .					
2. Course Code:					
3. Semester / Year:					
2 ^{ed} semester , first stage					
4. Description Preparation Date:					
2025/10/1					
5. Available Attendance Forms:					
Theoretical and practical					
6. Number of Credit Hours (Total) / Number of Units (Total)					
90 hours					
7. Course administrator's name (mention all, if more than one name)					
Name: Dr.ameer abdulkasum oadaa Email: ameer.odaa.idi4@atu.edu.iq					
8. Course Objectives					
Course Objectives		<p style="color: red; margin: 0;">The student learns:</p> <p style="color: red; margin: 0;">1- The computed , digital and panoramic radiography machines and how the parts of these machines work and their maintenances.</p> <p style="color: red; margin: 0;">2- The dental radiography machine and how its parts works and its maintenance.</p> <p style="color: red; margin: 0;">3- Introduction to the Mammography</p>			
9. Teaching and Learning Strategies					
Strategy	<p>1-Theoretical lessons</p> <p>2-Laboratory practice</p> <p>3-Methodological training in hospitals and X-rays institute.</p> <p>4- (Summer) training.</p>				
10. Course Structure					
Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	6	Student can learned Computed Radiography CR Properties	Computed Radiography CR Properties	Lecture, discussion And scientific films	Oral tests
2	6	Student will be learned the Concept of CR system	Concept of CR system	Lecture, discussion And scientific films	Daily examination
3	6	Student will learned the Imaging plate	Imaging plate	Lecture, discussion And scientific films	Daily examination
4	6	Student will learned the Imaging reading	Imaging reading	Lecture, discussion And scientific films	Daily examination
5	6	Student will learned the System operating principles	System operating principles	Lecture, discussion And scientific films	Daily examination
6	6	Student will learned the Image recording	Image recording	Lecture, discussion And scientific films	Daily examination
7	6	Student will learned the Technical trends of CR system	Technical trends of CR system	Lecture, discussion And scientific films	Daily examination
8	6	Student will learned the Digital Radiography DR Properties	Digital Radiography DR Properties	Lecture, discussion And scientific films	Daily examination
9	6	Student will learned the Major components of DR	Major components of DR	Lecture, discussion And scientific films	Daily examination
10	6	Student will learned the Digital Radiography modalities	Digital Radiography modalities DR	Lecture, discussion And scientific films	Daily examination

4 -The written exam					
11	6	Student will learned the Picture archiving and communication system	Picture archiving and communication system	Lecture, discussion And scientific films	Daily examination
12	6	Student will learned the Panoramic Radiography	Panoramic Radiography	Lecture, discussion And scientific films	Daily examination
13	6	Student will learned the Dental Radiography : Principles and Techniques	Dental Radiography : Principles and Techniques	Lecture, discussion And scientific films	Daily examination
14	6	Student will learned the Introduction of Mammography	Introduction of Mammography	Lecture, discussion And scientific film	Daily examination
15	6	Student will learned the Fundamentals of Mammography	Fundamentals of Mammography	Lecture, discussion And scientific films	Daily examination

11. Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	<p>1- Tatenno, Y., linuma, T. and Takano, M. eds., 2012. <i>Computed radiography</i>. Springer Science & Business Media.</p> <p>2- Williams, S., Taylor, K. and Campbell, S., 2021. <i>Fundamentals of Mammography-E-Book</i>. Elsevier Health Sciences.</p> <p>3- Seeram, E., 2019. <i>Digital Radiography: Physical Principles and Quality Control</i>. Springer.</p> <p>4- Iannucci, J. and Howerton, L.J., 2021. <i>Dental radiography-E-book: principles and techniques</i>. Elsevier Health Sciences</p>
Main references (sources)	
Recommended books and references (scientific journals, reports...)	

Course Description Form

1. Course Name:	
Radiation protection	
2. Course Code:	
3. Semester / Year:	
2 ^{ed} semester , first stage	
4. Description Preparation Date:	
2024/10/1	
5. Available Attendance Forms:	
Theoretical and practical	
6. Number of Credit Hours (Total) / Number of Units (Total)	
75 hours	
7. Course administrator's name (mention all, if more than one name)	
Name: Anwar najum Email: anwar.ali.idi3@atu.edu.iq	
8. Course Objectives	
Course Objectives	1-Student will be learned x-ray definition 2- Student will be learned use the x-ray in medicine. 3- Student will be learned different between the x-ray diagn & treatment
9. Teaching and Learning Strategies	
Strategy	1-Theoretical lessons 2-Laboratory practice 3-Methodological training in hospitals and X-rays institute. 4- (Summer) training.

10. Course Structure

Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	6	Student can learned Radiation-electromagnetic radiation-particulate radiation	Radiation-electromagnetic radiation-particulate radiation	Lecture, discussion And scientific films	Oral tests
2	6	Student will be learned the Light in medicine- Light has interesting properties, many of which are used in medicine- Applications of ultraviolet and infrared rays in medicine	Light in medicine- Light has interesting properties, many of which are used in medicine- Applications of ultraviolet and infrared rays in medicine	Lecture, discussion And scientific films	Daily examination
3	6	Student will learned the Radiation Units- rad - Roentgen- rem - Sievert - gray - dose.	Radiation Units- rad - Roentgen- rem - Sievert - gray - dose.	Lecture, discussion And scientific films	Daily examination
4	6	Student will learned the Radiation sources, external radiation, internal radiation, critical organs, half value layer, Curie, Radioactive Contamination	Radiation sources, external radiation, internal radiation, critical organs, half value layer, Curie, Radioactive Contamination	Lecture, discussion And scientific films	Daily examination
5	6	Student will learned the Closed sources - open sources -	Closed sources - open sources -	Lecture, discussion And scientific films	Daily examination

		5ionizing radiation - non-ionizing radiation	5ionizing radiation - non-ionizing radiation		
6	6	Student will learn the Decay process (Activity) - Radioactive Decay laws- Examples	Decay process (Activity) - Radioactive Decay laws- Examples	Lecture, discussion And scientific films	Daily examination
7	6	Student will learn the Isotopes- Isotones- Isomers-Common Radioactive Isotopes-Radiation Interaction In Cells	Isotopes- Isotones- Isomers-Common Radioactive Isotopes- Radiation Interaction In Cells	Lecture, discussion And scientific films	Daily examination
8	6	Student will learn the Radiation in medicine - the difference between diagnosis and treatment radiation herapy- half-life.	Radiation in medicine - the difference between diagnosis and treatment - radiation therapy- half-life.	Lecture, discussion And scientific films	Daily examination
9	6	Student will learn the Nuclear Radiation- Discovery of radioactivity- Atom- Stability of nuclides	Nuclear Radiation- Discovery of radioactivity- Atom- Stability of nuclides	Lecture, discussion And scientific films	Daily examination

10	6	Student will learned the Radioactive Penetration of Conservation of Energy in reactions.	Radioactive Decay- Penetration of radiation- Conservation of Energy in nuclear reactions.	Lecture, discussion And scientific films	Daily examination
11	6	Student will learned the Units used in radiation protection - exposure unit Exposure rate, absorption dose rate, absorption dose rate.	Units used in radiation protection - exposure unit Exposure rate, absorption dose rate, absorption dose rate	Lecture, discussion And scientific films	Daily examination
12	6	Student will learned the exposure time - absorbed dose - equivalent dose- Effective dose.	exposure time - absorbed dose - equivalent dose- Effective dose.	Lecture, discussion And scientific films	Daily examination
13	6	Student will learned the Biological effects - the theory of direct and indirect influence, chemical effects, physical effects, the relative biological effect and factors affecting it.	Biological effects - the theory of direct and indirect influence, chemical effects, physical effects, the relative biological effect and factors affecting it.	Lecture, discussion And scientific films	Daily examination
14	6	Student will learned the Doctor's prevention methods - Patient protection methods - Ocean protection methods	Doctor's prevention methods - Patient protection methods - Ocean protection methods	Lecture, discussion And scientific film	Daily examination

15	6	Student will learn the Gamma-ray barriers Radiation detectors and radioactive dosimeters (ionization chamber, coordination counter, Geiger counter).	Gamma-ray barriers Radiation detectors and radioactive dosimeters (ionization chamber, coordination counter, Geiger counter).	Lecture, discussion And scientific films	Daily examination
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11. Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Radiation protection concepts and principles
Main references (sources)	Radiation protection
Recommended books and references (scientific journals, reports...)	Journal, reports and resent research
Electronic References, Websites	IAEA Safety Standards

Course Description Form

1. Course Name:
physiology
2. Course Code:
3. Semester / Year:
2 ^{ed} semester , first stage
4. Description Preparation Date:
2025/10/1
5. Available Attendance Forms:
Theoretical and practical
6. Number of Credit Hours (Total) / Number of Units (Total)
75 hours

7. Course administrator's name (mention all, if more than one name)

Name: Hussein sabah.
Email: Hussein.sabah.idi16@atu.edu.iq

8. Course Objectives

Course Objectives	1-The student learns the function of the body's systems. 2-The student learns the function of the components of the body systems.
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9. Teaching and Learning Strategies

Strategy	-Knowledge and Understanding : 1. the types of blood cells 2. blood proteins and there functions 3. the types of contrast agents and how metabolized 4. the function of heart and its valves 5. different parts of the body 6. the important hormones which secret from endocrine glands .
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10. Course Structure

Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1&2	5	Student can learned definition of (physiology, homeostasis, Living Systems) - (Levels of Organization ,Chemicals, Cells,Tissues,Organ s,Organ Systems) -Metabolism and Homeostasis -Cell functions and functions of its organelles (cell membrane , nucleus, cytoplasm and cell organelles), cellular transport mechanisms, -the genetic code and protein synthesis, cell division(,mitosis, meiosis) ,abnormal cellular functioning—cancer - types of Tissues and there functions	definition of (physiology, homeostasis, Living Systems) - (Levels of Organization ,Chemicals, Cells,Tissues,Organs, Organ Systems) -Metabolism and Homeostasis -Cell functions and functions of its organelles (cell membrane , nucleus, cytoplasm and cell organelles), cellular transport mechanisms, -the genetic code and protein synthesis, cell division(,mitosis, meiosis) ,abnormal cellular functioning—cancer - types of Tissues and there functions	Lecture, discussion And scientific films	Oral tests

3,4&5	5	Student will be learned the Light in medicine- Light has interesting properties, many of which are used in medicine- Applications of ultraviolet and infrared rays in medicine	Cardiovascular system The Heart -The function of the heart, the membranes of the heart, and the blood vessels of the heart, the valves of the heart -Cardiac Cycle and Heart Sounds , Cardiac Conduction Pathway, Heart Rate, Cardiac Output , Regulation of Heart Rate The Vascular System Arteries, Veins , Anastomoses Capillaries ,Exchanges in Capillaries Pathways of Circulation(Pulmonary Circulation, Systemic Circulation, Hepatic Portal Circulation, Fetal Circulation) Velocity of Blood Flow Blood Pressure(Maintenance of Systemic Blood Pressure , Distribution of Blood Flow) Regulation of Blood Pressure(Intrinsic Mechanisms, Nervous Mechanisms) -Blood, blood cells and their .	Lecture, discussion And scientific films	Theoretical lectures Practical lectures Daily examination Seminars	Daily examination
6&7	5	Student will learned the The Respiratory System	The Respiratory System Divisions of the Respiratory System (Nose and Nasal Cavities, Pharynx, Larynx, Trachea and Bronchial Tree, Lungs and Pleural Membranes, Alveoli) Mechanism of Breathing (Inhalation, Exhalation) Pulmonary Volumes Exchange of Gases(Diffusion of Gases— Partial Pressures) Transport of Gases in the Blood Regulation	Lecture, discussion And scientific films	Daily examination	

			<p>of Respiration(Nervous Regulation, Chemical Regulation) Respiration and Acid– Base Balance (Respiratory Acidosis and Alkalosis, Respiratory Compensation</p>		
8	5	Student will learned the The Skeletal System and The Muscular System	<p>The Skeletal System and The Muscular System -skeletal system function -Factors That Affect Bone Growth and Maintenance -Muscle Tone (Exercise, Responses to Exercise— Maintaining Homeostasis) - Muscle Sense (Sarcolemma— Polarization, Sarcolemma— Depolarization) - Muscle Fiber and Energy Sources for Muscle Contraction - Contraction—The Sliding Filament Mechanism</p>	Lecture, discussion And scientific films	Daily examination
9&10	5	Student will learned the Physiology of the endocrine system of the human body	<p>Physiology of the endocrine system of the human body Regulation of Hormone Secretion The Pituitary Gland(Posterior Pituitary Gland, Antidiuretic hormone ,Oxytocin) Anterior Pituitary Gland(Growth hormone,Thyroid-stimulating hormone, Adrenocorticotrophic hormone,Prolactin Follicle-stimulating hormone,Luteinizing hormone) Thyroid Gland (Thyroxine and T3,Calcitonin)</p>	Lecture, discussion And scientific films	Daily examination

			<p>Parathyroid Glands (Parathyroid Hormone) Pancreas(Glucagon, Insulin) Adrenal Glands(Adrenal Medulla, Epinephrine and norepinephrine,) (Adrenal Cortex, Aldosterone, Cortisol) Ovaries(Estrogen, Progesterone, Inhibin) Testes(Testosterone, Inhibin) Other Hormones(Prostaglandins) Mechanisms of Hormone Action(The Two-Messenger Mechanism —Protein Kinase, Action of Steroid Hormones)</p>		
11&12	5	Student will learn the The Digestive System	<p>The Digestive System Divisions of the Digestive System Types of Digestion(Enzymes, Products of Digestion) Oral Cavity (Teeth, Tongue, Salivary Glands) Pharynx Esophagus Structural Layers of the Alimentary Tube (Mucosa, Submucosa, External Muscle Layer, Serosa) Stomach, Small Intestine, Liver, Gallbladder, Pancreas Completion of Digestion and Absorption (Small Intestine, Absorption) Large Intestine (Elimination of Feces) Other Functions of the Liver</p>	Lecture, discussion And scientific films	Daily examination seminars
13&14	5	Student will learn the The Urinary System Characteristics of Urine -The Reproductive Systems	<p>The Urinary System Kidneys (Internal Structure of the Kidney, The Nephron, Renal corpuscle, Renal tubule, Blood Vessels of the Kidney)</p>	Lecture, discussion And scientific films	Daily examination

			<p>Formation of Urine (Glomerular Filtration , Tubular Reabsorption, Mechanisms of reabsorption, Tubular Secretion, Hormones That Influence Reabsorption of Water Summary of Urine Formation)</p> <p>The Kidneys and Acid–Base Balance ,Other Functions of the Kidneys</p> <p>Elimination of Urine (Ureters ,Urinary Bladder ,Urethra ,The Urination Reflex)</p> <p>Characteristics of Urine</p> <p>-The Reproductive Systems</p> <p>-Meiosis (Spermatogenesis ,Oogenesis)</p> <p>-Mammary Glands , The Menstrual Cycle, pregnancy</p>		
15	5	Student will learned the The Nervous System	<p>The Nervous System</p> <p>Nervous System Division</p> <p>Nerve Tissue</p> <p>Synapses</p> <p>Types of Neurons</p> <p>Nerves and Nerve Tracts</p> <p>The Nerve Impulse</p> <p>The Spinal Cord(Spinal Nerves, Spinal Cord Reflexes, Reflex arc)</p> <p>The Brain(Ventricles ,Medulla ,Pons Midbrain ,Cerebellum ,Hypothalamus, Thalamus , Cerebrum ,Frontal lobes ,Parietal lobes ,Temporal lobes ,Occipital lobes Association areas ,Basal ganglia, Corpus callosum)</p> <p>Meninges and Cerebrospinal</p>	<p>Lecture, theoretical and practical lectures, discussion, And scientific reports and films</p>	<p>Daily examination</p> <p>Seminars</p>

11. Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Principle of nursing
2. Course Code:
3. Semester / Year:
2 ^{ed} semester , first stage
4. Description Preparation Date:
2025/10/1
5. Available Attendance Forms:
Theoretical and practical
6. Number of Credit Hours (Total) / Number of Units (Total)
75 hours
7. Course administrator's name (mention all, if more than one name)
Name: suhad Abdul-Hussein

Email: suhad.salman@atu.edu.iq

8. Course Objectives

Course Objectives	<p>-At the end of studying this subject, the student will be able to familiarize himself with the basic principles of nursing and present the main services in case of need in the field of work.</p> <p>-Understand the concept of nursing and professional relations in health centers</p> <p>-Taking care of patients and providing nursing services to serve his work as a radiographer.</p> <p>-Preparing the patient for the radiographic examination.</p> <p>- Learn the basic principles of first aid and civil defense. .</p>
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9. Teaching and Learning Strategies

Strategy	<p>1-Theoretical lessons</p> <p>2-Laboratory practice</p> <p>3-Methodological training in hospitals</p>
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Introduction / definition of nursing - definition of the nurse - definition of the disease - primary health care - health institutions in Iraq - qualifications of the nurse - professional relations - the nurse's relationship with society - the nurse's relationship with the patient - the nurse's relationship .	Introduction / definition of nursing - definition of the nurse - definition of the disease - primary health care - health institutions in Iraq - qualifications of the nurse - professional relations - the nurse's relationship with society - the nurse's relationship with the patient - the nurse's relationship	Lecture, discussion And scientific films	Oral tests
2	5	Student will be learned the General nursing care - Measuring and accelerating vital relationships - Defining vital relationships - Defining body temperature - Methods of taking heat through the mouth - through the anus - through the armpits - through	General nursing care - Measuring and accelerating vital relationships - Defining vital relationships - Defining body temperature - Methods of taking heat through the mouth - through the anus - through the armpits - through the thigh - body temperature rate	Lecture, discussion And scientific films	Daily examination

		the thigh - body temperature rate			
3	5	Student will learned the Breathing - definition of breathing - some diseases that accompany the breathing process - some complications - influencing factors - types of breathing - blood pressure - definition of blood pressure - systolic pressure - diastolic pressure - methods of regulating blood pressure - high blood pressure and pathological relationships	Breathing - definition of breathing - some diseases that accompany the breathing process - some complications - influencing factors - types of breathing - blood pressure - definition of blood pressure - systolic pressure - diastolic pressure - methods of regulating blood pressure - high blood pressure and pathological relationships	Lecture, discussion And scientific films	Daily examination
4	5	Student will learned the How to give and store medicines - definition of medicine - scales and measurements - purpose of giving medicines - effect of medicine -	How to give and store medicines - definition of medicine - scales and measurements - purpose of giving medicines - effect of medicine	Lecture, discussion And scientific films	Daily examination
5	5	Student will learned the Methods of giving medicines - oral - anal - glaucoma - inhalation	Methods of giving medicines - oral - anal - glaucoma - inhalation	Lecture, discussion And scientific films	Daily examination

6	5	Student will learn the Basic principles of sterilization and disinfection - surgical disinfection - medical disinfection - contamination	Basic principles of sterilization and disinfection - surgical disinfection - medical disinfection - contamination	Lecture, discussion And scientific films	Theoretical lecture Practical lecture Seminars	Daily examination	Daily examination
7	5	Student will learn the Catheterization - urinary - definition of urinary catheter - cases in which urinary catheter should be given - some notes about catheterization - definition of enemas - types of enemas - making enemas	Catheterization - urinary - definition of urinary catheter - cases in which urinary catheter should be given - some notes about catheterization - definition of enemas - types of enemas - making enemas	Lecture, discussion And scientific films		Daily examination	
8	5	Student will learn the The role of the nurse in radiography - X-rays and their types - Key points in radiography - Radiographic examination methods	The role of the nurse in radiography - X-rays and their types - Key points in radiography - Radiographic examination methods	Lecture, discussion And scientific films	Theoretical lecture Practical lecture Reports and Seminars	Daily examination	Daily examination
9	5	Student will learn the Preparing the patient for the general radiographic examination - Preparing the patient for the special radiographic examination	Preparing the patient for the general radiographic examination - Preparing the patient for the special radiographic examination	Lecture, discussion And scientific films		Daily examination	

10	5	Student will learned the Preparing the patient for radiographic examination of digestive system gallbladder - Preparing patient for radiographic examination of the urinary system .	Preparing the patient for radiographic examination of the digestive system and gallbladder - Preparing the patient for radiographic examination of the urinary system .	Lecture, discussion And scientific films	Daily examination
11	5	Student will learned the How to deal with accident patients in emergency rays . Bandages and ligatures - the dressing process .	How to deal with accident patients in emergency rays . Bandages and ligatures - the dressing process .	Lecture, discussion And scientific films	Daily examination
12	5	Student will learned the First aid - principles and application of first aid - wounds and bleeding - types of wounds - definition of bleeding - arterial pressure sites .	First aid - principles and application of first aid - wounds and bleeding - types of wounds - definition of bleeding - arterial pressure sites .	Lecture, discussion And scientific films	Daily examination
13	5	Student will learned the Burns - definition of burns - types of burns - first aid for burns - suffocation - definition of suffocation types of suffocation - first aid for patients with carbon monoxide suffocation	Burns - definition of burns - types of burns - first aid for burns - suffocation - definition of suffocation types of suffocation - first aid for patients with carbon monoxide suffocation	Lecture, discussion And scientific films	Daily examination
14	5	Student will learned the Cardiopulmonary resuscitation - definition of artificial respiration - methods of artificial respiration . Definition of fractures - types of	Cardiopulmonary resuscitation - definition of artificial respiration - methods of artificial respiration . Definition of fractures - types of fracture relief	Lecture, discussion And scientific films	Daily examination

		fractures - fracture relief			
15	5	Student will learned the Principles of civil defense and war injuries . First aid for patients who develop complications from coloring materials.	Principles of civil defense and war injuries . First aid for patients who develop complications from coloring materials.	Lecture, discussion And scientific films	Daily examination

11.Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Workshop of the Council of Program. N.L .NPub .16.1446-1971 Liwack,L.Sakata,R.and Wnkle: Consulting,evaluation and studies developmentin nursing Education 1972.W.B.Saunders company .Philadelphia. kozier,B.B.Duga.B.W.:Fundamentals of patients care . London, B.W.Saunders Company,1967 Yura, H. ; Zinick, D. : and Walsh,M.B : Nursing Leadership theory and process. 2nd ed. , New York .Appleton-Century. Cropts,1981. Meisenhelder, J.B. Clinical evaluation on instruments dilma . Nursing out look .1982 . 30 6 348 -35 .
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:					
Medical Terminology					
2. Course Code:					
3. Semester / Year:					
2 ^{ed} semester , first stage					
4. Description Preparation Date:					
2024/10/1					
5. Available Attendance Forms:					
Theoretical					
6. Number of Credit Hours (Total) / Number of Units (Total)					
30 hours					
7. Course administrator's name (mention all, if more than one name)					
Name: maruan jabber					
Email: maruan.matrood.idi18@atu.edu.iq					
8. Course Objectives					
Course Objectives			<p>Student should be able to know the most important medical terms used in the operating room.</p> <p><input type="checkbox"/> SPECIAL AIMS:-</p> <p><input type="checkbox"/> Knowledge of the medical terminology of the human body and medically circulated in the operating room and intensive care halls</p>		
9. Teaching and Learning Strategies					
Strategy		1-Theoretical lessons			
10. Course Structure					
Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Student will learn the Introduction To Medical Terminology	Introduction To Medical Terminology	Lecture, discussion And scientific films	Oral tests
2	2	Student will be learned the Basic Word Structure	Basic Word Structure	Lecture, discussion And scientific films	Daily examination

3	2	Student will learn the The Root	The Root	Lecture, discussion And scientific films	Daily examination
4	2	Student will learn the The Prefix	The Prefix	Lecture, discussion And scientific films	Daily examination
5	2	Student will learn the The Suffix	The Suffix	Lecture, discussion And scientific films	Daily examination
6	2	Student will learn the Rules For Combining Vowels	Rules For Combining Vowels	Lecture, discussion And scientific films	Daily examination
7	2	Student will learn the Combining Forms	Combining Forms	Lecture, discussion And scientific films	Daily examination
8	2	Student will learn the Medical terminology and pathology	Medical terminology and pathology	Lecture, discussion And scientific films	Daily examination
9	2	Student will learn the Terms of Cardiovascular system Terms of Nervous system	Terms of Cardiovascular system Terms of Nervous system	Lecture, discussion And scientific films	Daily examination
10	2	Student will learn the Terms of Digestive system	Terms of Digestive system	Lecture, discussion And scientific Films	Daily examination
11	2	Student will learn the Terms of Urinary system	Terms of Urinary system	Lecture, discussion And scientific films	Daily examination
12	2	Student will learn the Terms of Blood and Lymphatic system .	Terms of Blood and Lymphatic system	Lecture, discussion And scientific films	Daily examination

13	2	Student will learn the Terms of Respiratory system	Terms of Respiratory system	Lecture, discussion And scientific films	Daily examination
14	2	Student will learn the Terms Of Teeth And Oral Facial Region	Terms Of Teeth And Oral Facial Region	Lecture, discussion And scientific film	Daily examination
15	2	Student will learn the Positional and directional terms	Positional and directional terms	Lecture, discussion And scientific films	Daily examination

11.Course Evaluation

The grade distribution is as follows: 30 marks for monthly and daily exams for the first semester. 70 marks for final exams

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Radiology & sonography
Techniques
First Semester
Second Stage

1. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
second Stage/First Semester		Radiography of the skull	2	7
		Radiological Procedures	2	7
		Radiological Equipment Techniques	2	7
		Radiological Anatomy	2	4
		Principle of community health	2	
		Professional Ethics	2	-
		Methodology	-	2
		The Crimes of the defunct Baath Party	2	-
		Language Arabic	2	-

2. Teaching and Learning Strategies			
1-Laboratory practice 2- Methodological training in hospitals and X-rays institute. 3- Off-study (Summer) training. 4-Making reports and seminars.			
3. Evaluation methods			
1- Theoretical and practical exams (semi-final). 2- Oral tests. 3- Daily estimation. 4- Non-class activity. 5- Final exam.			
4. Faculty			
Faculty Members			
Academic Rank	Specialization	Special Requirements/Skills (if applicable)	Number of the teaching staff

	General	Special		Staff	Lecturer
	1	5		6	3

Professional Development

Mentoring new faculty members

Successful mentoring relationships go through four phases: preparation, negotiating, enabling growth, and closure. These sequential phases build on each other and vary in length. In each phase, there are specific steps and strategies that lead to mentoring excellence .

Professional development of faculty members

Assess the professional development needs of your faculty and institution. Identify evidence-based approaches faculty developers use to deliver services. Design successful learning communities, institutes, and workshops. Develop your instructional consultation skills in group and individual settings.

5. Acceptance Criterion

- 1- Student's general average at high school.
- 2- Preference of students.
- 3- The feasible capacity of X-ray department.

6. The most important sources of information about the program

- 1- Curriculum books.
- 2- Updating syllabuses according to accredited global syllabuses.
- 3- Searching through the Internet to obtain the most recent scientific information

7. Program Development Plan

Course Description Form

1. Course Name:	
Radiography of the skull	
2. Course Code:	
3. Semester / Year:	
First semester , second stage	
4. Description Preparation Date:	
2025/10/1	
5. Available Attendance Forms:	
Theoretical and practical	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 hours theory and 7 hours practical in a week 135 hours	
7. Course administrator's name (mention all, if more than one name)	
Name: Muhammad Falah Email:	
8. Course Objectives	
Course Objectives	<p style="color: red;">1--How to take the x-ray in multiple positions. 2- How to know if the x-ray image is good or bad and treat it. 3-how to read the examination paper and photograph the member to be examined in the appropriate position</p>
9. Teaching and Learning Strategies	
Strategy	<p>1-Theoretical lessons 2-Laboratory practice 3-Methodological training in hospitals and X-rays institute. 4- (Summer) training.</p>
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	9	Student will learned the Important points to confirm the clarity of the radiograph in terms of the amount of radiation	Important points to confirm the clarity of the radiograph in terms of the amount of radiation	Lecture, discussion And scientific films	Oral tests
2	9	Student will learned the Important anatomical terms in radiography all points, lines and planes.	Important anatomical terms in radiography all points, lines and planes.	Lecture, discussion And scientific films	Daily examination
3	9	Student will learned the Important points to prepare for the examination in the skull.	Important points to prepare for the examination in the skull.	Lecture, discussion And scientific films	Daily examination
4	9	Student will learned the X-ray skull PA , Lateral ,AP, with criteria.	X-ray skull PA , Lateral ,AP, with criteria.	Lecture, discussion And scientific films	Daily examination
5	9	Student will learned the X-ray base of the skull ,town's view with criteria	X-ray base of the skull ,town's view with criteria	Lecture, discussion And scientific films	Daily examination
6	9	Student will learned the X-ray Sellaturcica ,post nasal space PNS children with criteria.	X-ray Sellaturcica ,post nasal space PNS children with criteria.	Lecture, discussion And scientific films	Daily examination
7	9	Student will learned the X-ray sinuses open the mouth(water's, paranasal sinuses,Lateral, criteria , X-ray Cald well, with criteria.	X-ray sinuses open the mouth(water's, paranasal sinuses,Lateral, criteria , X-ray Cald well, with criteria.	Lecture, discussion And scientific films	Daily examination
8	9	Student will learned the X-ray sphenoid sinuses addition base of the skull. X-ray facial bone or soft tissue multiple film .	X-ray sphenoid sinuses addition base of the skull. X-ray facial bone or soft tissue multiple film .	Lecture, discussion And scientific films	Daily examination
9	9	Student will learned the X-ray zygomatic arch(base of the skull or town's) and AP oblique.	X-ray zygomatic arch(base of the skull or town's) and AP oblique.	Lecture, discussion And scientific films	Daily examination

10	9	Student will learned the X-ray maxilla bone X-ray hard palate with occlusal film.	X-ray maxilla bone X-ray hard palate with occlusal film.	Lecture, discussion And scientific Films	Daily examination
11	9	Student will learned the X-ray nasal bone ,Lateral ,occlusal film ,superior inferior occlusal film. Advantage occlusal film in x-ray nasal bone.	X-ray nasal bone ,Lateral ,occlusal film ,superior inferior occlusal film. Advantage occlusal film in x-ray nasal bone.	Lecture, discussion And scientific films	Daily examination
12	9	Student will learned the X-ray orbit bone and PA oblique. X-ray optic foramen.	X-ray orbit bone and PA oblique. X-ray optic foramen.	Lecture, discussion And scientific films	Daily examination
13	9	Student will learned the X-ray mastoid , stenver's ,Internal Auditory Meatus, with criteria. X-ray tempromandibular joint with criteria.	X-ray mastoid , stenver's ,Internal Auditory Meatus, with criteria. X-ray tempromandibular joint with criteria.	Lecture, discussion And scientific films	Daily examination
14	9	Student will learned the X-ray mandible (PA, Lateral oblique prone) , Lateral oblique supine ,Oblique , Molar, Chin.	X-ray mandible (PA, Lateral oblique prone) , Lateral oblique supine ,Oblique , Molar, Chin.	Lecture, discussion And scientific films	Daily examination
15	9	Student will learned the X-ray salivary gland (Parotid gland, Submandibular gland, Sublingual gland)	X-ray salivary gland (Parotid gland, Submandibular gland, Sublingual gland)	Lecture, discussion And scientific films	Daily examination

11.Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	1- Philip W. Ballinger; Merrill's Atlas of radiographic positions and radiological procedures. Ninth Edition, 2005, Mosby-Year Book, Inc. 2-. Frances Aitchison; Chapman & Nakielny, A guide to radiological procedures. Fifth Edition, 2009. Saunders Elsevier. 3- The Royal College of radiologists (2005) Standards for intravenous Iodinated contrast Administration to Adult Patients. London: The Royal College of radiologists.
Main references (sources)	1-Schoepf, U.J., Zwerner, P.I., Savino, G., et al. (2007) Coronary CT angiography: how I do it. Radiology.

	18. Positioning in Radiography for K.C.Clark London 1975. 2-. Roentegnographic positons .Vinita Mervill, Part I,II,.1965. 20. Roenterapic position .VinnitaMervill,Part I,II,.1965. 3. Positioning in Radiography for K.C.Clark London 1975. 4-. Normal Radiographic Anatomy for Dr, Meschan 1976 U.S.A
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	European Society of Urogenital Radiology Contrast Media Safety Committee (2007) ESUR guidelines on contrast media version 6.0. www.esur.org .

Course Description Form

1. Course Name:	
Radiological Procedures	
2. Course Code:	
3. Semester / Year:	
First semester , second stage	
4. Description Preparation Date:	
2025/10/1	
5. Available Attendance Forms:	
Theoretical and practical	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 hours theory and 7 hours practical in a week 135 hours	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Haider Saeed Shandal Email:	
8. Course Objectives	
Course Objectives	<b style="color: red;">Aims of Subject Study: The graduate student learns special procedure in radiological, and MRI and the contrast agents used for the soft tissue.
9. Teaching and Learning Strategies	
Strategy	1-Theoretical lessons 2-Laboratory practice 3-Methodological training in hospitals and X-rays institute.

4- (Summer) training.

10. Course Structure

Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	9	Student will learned the Contrast media, historical development	Contrast media, historical development	Lecture, discussion And scientific films	Oral tests
2	9	Student will learned the types of radiological agents.	. types of radiological agents.	Lecture, discussion And scientific Films	Daily examination
3	9	Student will learned the Intravascular contrast media	Intravascular contrast media	Lecture, discussion And scientific films	Daily examination
4	9	Student will learned the contrast media of the gastrointestinal tract	contrast media of the gastrointestinal tract	Lecture, discussion And scientific films	Daily examination
5	9	Student will learned the Contrast agents in magnetic resonance imaging	Contrast agents magnetic resonar imaging	Lecture, discussion And scientific films	Daily examination
6	9	Student will learned the adverse effects of intravenous water soluble contrast media.	adverse effects of intravenous water soluble contrast media.	Lecture, discussion And scientific films	Daily examination
7	9	Student will learned the Introduction to contrast media of the gastrointestinal tract.	Introduction to contrast media of the gastrointestinal tract	Lecture, discussion And scientific films	Daily examination
8	9	Student will learned the Contrast swallow	Contrast swallow	Lecture, discussion And scientific films	Daily examination
9	9	Student will learned the Barium meal	Barium meal	Lecture, discussion And scientific films	Daily examination
10	9	Student will learned the gastro-esophagus reflux and hiatal hernia.	gastro-esophagus reflux and hiatal hernia.	Lecture, discussion And scientific Films	Daily examination
11	9	Student will learned the Barium follow through	Barium follow through	Lecture, discussion And scientific films	Daily examination
12	9	Student will learned the Small bowel enema	Small bowel enema	Lecture, discussion And scientific films	Daily examination
13	9	Student will learned the Barium enema.	Barium enema	Lecture, discussion And scientific films	Daily examination

14	9	Student will learned the double contrast and single contrast, Reduction of an intussusception	double contrast a single contra Reduction of intussusception	Lecture, discussion And scientific films	Daily examination
15	9	Student will learned the Sinogram, colostomy enema	Sinogram, colostomy enema	Lecture, discussion And scientific films	Daily examination

11.Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	1- Philip W. Ballinger; Merrill's Atlas of radiographic positions and radiological procedures. Ninth Edition, 2005, Mosby-Year Book, Inc. 2. Frances Aitchison; Chapman & Nakielny, A guide to radiological procedures. Fifth Edition, 2009. Saunders Elsevier. 3. The Royal College of radiologists (2005) Standards for intravenous Iodinated contrast Administration to Adult Patients. London: The Royal College of radiologists.
Main references (sources)	1- Schoepf, U.J., Zwerner, P.I., Savino, G., et al. (2007) Coronary CT angiography: how I do it. Radiology. 28. Positioning in Radiography for K.C.Clark London 1975.
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	European Society of Urogenital Radiology Contrast Media Safety Committee (2007) ESUR guidelines on contrast media version 6.0. www.esur.org .

Course Description Form

1. Course Name:	
Radiological Equipment Techniques	
2. Course Code:	
3. Semester / Year:	
First semester , second stage	
4. Description Preparation Date:	
2025/10/1	
5. Available Attendance Forms:	
Theoretical and practical	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 hours theory and 7 hours practical in a week 135 hours	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Ameer Abdul-Kadhim Awda Email: ameer.odaa.idi4@atu.edu.iq	
8. Course Objectives	
Course Objectives	<p style="color: red; margin: 0;">The student should be able to know the following -:</p> <p style="color: red; margin: 0;">1- Familiarize students with the types of radiation devices.</p> <p style="color: red; margin: 0;">2- How students use these devices ideally in terms of conducting special examinations</p> <p style="color: red; margin: 0;">Theoretical Assignments.</p>
9. Teaching and Learning Strategies	

Strategy	1-Theoretical lessons 2-Laboratory practice 3-Methodological training in hospitals and X-rays institute.
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10. Course Structure

Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	9	Student will learned the Mammography	Mammography	Lecture, discussion And scientific films	Oral tests
2	9	Student will learned the Fluoroscopy	Fluoroscopy	Lecture, discussion And scientific Films	Daily examination
3	9	Student will learned the Image intensification of Fluoroscopy, Television monitor and image	Image intensification of Fluoroscopy, Television monitor and image	Lecture, discussion And scientific films	Daily examination
4	9	Student will learned the CT Scan, History of Computed Tomography, Operating steps	CT Scan, History of Computed Tomography, Operating steps	Lecture, discussion And scientific films	Daily examination
5	9	Student will learned the Different Generations of CT Scanners , First-generation CT, Second-generation	Different Generations CT Scanners , First generation CT, Seco generation	Lecture, discussion And scientific films	Daily examination
6	9	Student will learned the Third-generation CT, Fourth-generation CT, Fifth-generation CT (Electron-beam)	Third-generation CT, Fourth-generation CT, Fifth-generation CT (Electron-beam)	Lecture, discussion And scientific films	Daily examination
7	9	Student will learned the sixth-generation CT and Saven - generation CT	sixth-generation CT and Saven - generation CT	Lecture, discussion And scientific films	Daily examination
8	9	Student will learned the Principles of helical CT scanning operation	Principles of helical CT scanning operation	Lecture, discussion And scientific films	Daily examination
9	9	Student will learned the CT image, Data acquisition in CT	CT image, Data acquisition in CT	Lecture, discussion And scientific films	Daily examination
10	9	Student will learned the Patient positioning in CT.	Patient positioning in CT	Lecture, discussion And scientific Films	Daily examination
11	9	Student will learned the Computed tomography fluoroscopy	Computed tomography fluoroscopy	Lecture, discussion And scientific films	Daily examination

12	9	Student will learned the Magnetic Resonance Imaging, Historical introduction, the Basic MR System Components	Magnetic Resonance Imaging, Historical introduction, the Basic MR System Components	Lecture, discussion And scientific films	Daily examination
13	9	Student will learned the MRI (magnetic resonance imaging) scan work	MRI (magnetic resonance imaging) scan work	Lecture, discussion And scientific films	Daily examination
14	9	Student will learned the history and physics of Ultrasound beam	history and physics Ultrasound beam	Lecture, discussion And scientific films	Daily examination
15	9	Student will learned the Ultrasound machine and Operational modes	Ultrasound machine and Operational modes	Lecture, discussion And scientific films	Daily examination

11. Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	<p>1- Computer tomography for technologists, A comprehensive text / lois E. Romans 2018</p> <p>2- CT Teaching Manual , A systematic Approach to CT reading , Matthias Hofer 2016</p> <p>3- MRI , Basic principles and Applications , MARKA.BROWIN,PH.D, RICHARD C. & SEMELKA,M.A.2020</p> <p>4- Magnetic Resonance Imaging , Scott A. Huettel , Allen W. song & Gregory M.carthy 2020</p> <p>5- Mammography Radiography and Radiology by R.A. Cawson , 2018</p>
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:	
Radiological Anatomy	
2. Course Code:	
3. Semester / Year:	
First semester , second stage	
4. Description Preparation Date:	
2025/10/1	
5. Available Attendance Forms:	
Theoretical and practical	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 hours theory and 4 hours practical in a week 90 hours	
7. Course administrator's name (mention all, if more than one name)	
Name: Shahad Ahmed Bakhit Email: shahad.bkhaet.idi10@atu.edu.iq	
8. Course Objectives	
Course Objectives	The student should be able to know the following -:

1 The studies of the structure of the whole of the system of the body of the human which are appear in the X-ray plain picture and with contrast medium of the multiple positions..

9. Teaching and Learning Strategies

Strategy	1-Theoretical lessons 2-Laboratory practice 3-Methodological training in hospitals and X-rays institute.
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	9	Student will learned the Growth and development of the bone and Limitation of the bone age and anatomy structure of the skeleton of the body.	Growth and development of the bone and Limitation of the bone age and anatomy structure of the skeleton of the body.	Lecture, discussion And scientific films	Oral tests
2	9	Student will learned the Upper limb bone and shoulder joint, scapula bone and Humerus bone and elbow joint.	Upper limb bone and shoulder joint, scapula bone and Humerus bone and elbow joint.	Lecture, discussion And scientific Films	Daily examination
3	9	Student will learned the Forearm bone ad wrist joint.	Forearm bone ad wrist joint.	Lecture, discussion And scientific films	Daily examination
4	9	Student will learned the Hand (metacarpal, phalagus) bone and change growth.	Hand (metacarpal, phalagus) bone and change growth.	Lecture, discussion And scientific films	Daily examination
5	9	Student will learned the Lower limb bone and pelvis bone.	Lower limb bone a pelvis bone.	Lecture, discussion And scientific films	Daily examination
6	9	Student will learned the Hip joint and femur.	Hip joint and femur.	Lecture, discussion And scientific films	Daily examination
7	9	Student will learned the Knee joint, pattela and leg.	Knee joint, pattela and leg.	Lecture, discussion And scientific films	Daily examination
8	9	Student will learned the Ankle joint, tarsal bone, meta tarsal, toe's.	Ankle joint, tarsal bone, meta tarsal, toe's.	Lecture, discussion And scientific films	Daily examination
9	9	Student will learned the Study the structure of the skull bone.	Study the structure of the skull bone.	Lecture, discussion And scientific films	Daily examination
10	9	Student will learned the Dietal common in area of the skull (Nasal, sinuses, orbit).	Dietal common in area of the skull (Nasal, sinuses, orbit).	Lecture, discussion And scientific Films	Daily examination
11	9	Student will learned the Temporal bone and sella turcica.	Temporal bone and sella turcica.	Lecture, discussion And scientific films	Daily examination

12	9	Student will learned the Anatomy of the structure vertebral column.	Anatomy of the structure vertebral column.	Lecture, discussion And scientific films	Daily examination
13	9	Student will learned the Anatomy of the respiratory system (upper pass).	Anatomy of the respiratory system (upper pass).	Lecture, discussion And scientific films	Daily examination
14	9	Student will learned the Lungs, pleural membrane and diaphragm.	Lungs, pleural membrane and diaphragm.	Lecture, discussion And scientific film	Daily examination
15	9	Student will learned the Anatomy of the lymphoid system.	Anatomy of the lymphoid system.	Lecture, discussion And scientific films	Daily examination

11. Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1. Anatomy for Diagnostic Stephen Ryan , Michael (MMcN) Sarah, Emma, Jack and Nick (SE) . 2. Practical Radiological Anatomy Sarah McWilliams. 3. Pocket Atlas of Sectional Anatomy Computed Tomography and Magnetic Resonance Imaging. Torsten B. Moeller, M.D. Am Caritas Radiographic anatomy Frank Slaby, Eugene R.Jacobs
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Community Health
2. Course Code:
3. Semester / Year:
First semester , second stage
4. Description Preparation Date:
2025/10/1
5. Available Attendance Forms:
Theoretical and practical
6. Number of Credit Hours (Total) / Number of Units (Total)
2 hours theory (30 hour)
7. Course administrator's name (mention all, if more than one name)
Name: Suhad Abdul-Hussein Email: suhad.salman@atu.edu.iq
8. Course Objectives

Course Objectives	<p>The student should be able to know the following -:</p> <ol style="list-style-type: none"> 1 Foundations and concepts of community health, primary health control, modes of transmission, and prevention of socially significant childhood diseases, as well as diseases resulting from environmental pollution and endemic diseases in Iraq, with the aim of achieving the general goals of individual and community health, namely, optimal health. 2. Public health programs provided by the Ministry of Health, including expanded immunization programs, implementation of the primary healthcare system, and projects to control certain endemic and communicable diseases, and to combat diarrhea and its complications through oral rehydration therapy, in cooperation with the World Health Organization. 3. Causes of environmental pollution and how to prevent it. 4. Methods of dealing with patients and citizens and developing their awareness in the field of health awareness.
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9. Teaching and Learning Strategies

Strategy	1-Theoretical lessons.
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10. Course Structure

Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	9	Student will learned the Definition of health; factors that determine health.	Definition of health; factors that determine health.	Lecture, discussion And scientific films	Oral tests
2	9	Student will learned the Preventive measures as means to achieve health; health metrics and indicators	Preventive measures as means to achieve health; health metrics and indicators	Lecture, discussion And scientific Films	Daily examination
3	9	Student will learned the Epidemiology: Definition, Foundations and Objectives of Epidemiology.	Epidemiology: Definition, Foundations and Objectives of Epidemiology.	Lecture, discussion And scientific films	Daily examination
4	9	Student will learned the Causes of disease; conditions leading to the spread of disease.	Causes of disease; conditions leading to the spread of disease	Lecture, discussion And scientific films	Daily examination
5	9	Student will learned the Communicable diseases: Definition, source of disease, methods of disease transmission, person susceptible to the disease, diseases that affect the respiratory system, diseases caused by bacteria.	Communicable diseases: Definition, source of disease, methods of disease transmission, person susceptible to the disease, diseases that affect the respiratory system, diseases caused by bacteria.	Lecture, discussion And scientific films	Daily examination
6	9	Student will learned the Tonsillitis, laryngitis, scarlet fever, pneumonia, diphtheria, tetanus, pertussis.	Tonsillitis, laryngitis, scarlet fever, pneumonia, diphtheria, tetanus, pertussis.	Lecture, discussion And scientific films	Daily examination

7	9	Student will learned the Diseases caused by viruses: measles, rubella, influenza.	Diseases caused by viruses: measles, rubella, influenza.	Lecture, discussion And scientific film	Daily examination
8	9	Student will learned the Smallpox, chickenpox, herpes, mumps.	Smallpox, chickenpox, herpes, mumps.	Lecture, discussion And scientific films	Daily examination
9	9	Student will learned the Diseases transmitted through the digestive system: cholera, typhoid fever, food poisoning	Diseases transmitted through the digestive system: cholera, typhoid fever, food poisoning	Lecture, discussion And scientific films	Daily examination
10	9	Student will learned the Diseases caused by viruses: viral hepatitis, polio	Diseases caused by viruses: viral hepatitis, polio	Lecture, discussion And scientific Films	Daily examination
11	9	Student will learned the Diseases transmitted by puncture wounds include erysipelas, tetanus, and anthrax..	Diseases transmitted by puncture wounds include erysipelas, tetanus, and anthrax.	Lecture, discussion And scientific films	Daily examination
12	9	Student will learned the Immunity (Vaccination): Definition and Types	Immunity (Vaccination): Definition and Types	Lecture, discussion And scientific fi	Daily examination
13	9	Student will learned the Vaccines: Expanded Program on Immunization in Iraq	Vaccines: Expanded Program on Immunization in Iraq	Lecture, discussion And scientific fi	Daily examination
14	9	Student will learned the Environmental pollution, radiation pollution, prevention of environmental pollution	Environmental pollution radiation prevention environmental pollution	Lecture, discussion And scient films	Daily examination
15	9	Student will learned the General review..	General review.	Lecture, discussion And scientific film	Daily examination

11. Course Evaluation

The grade distribution is as follows: 30 marks for monthly and daily exams for the first semester. 70 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)

1 Public Health and Health Services Dr. Fawzi Jadallah Dr. Felix Gerges – – –
Dr. Abdul Wadood Al-Mufti Dr. Saad Tawfiq Al-Mukhtar Mr. Adnan Al-Rubaie M – – 1983 Part Al-Rubaie.

-2 Public Health and Health Services Dr. Felix Gerges Dr. Jaafar Al-Hassani Dr. Muzaffar Al-Samarrai Dr. Falih – – – –

	Matar Dr. Amjad Niyazi Dr. Mohsen Al-Khafaji Dr. Fawzi Jadallah – – – Engineer Ni'ma Al-Shukerji 1983 Part Two.
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:	Professional Ethics
2. Course Code:	
3. Semester / Year:	First semester , second stage
4. Description Preparation Date:	2025/10/1
5. Available Attendance Forms:	Theoretical and practical
6. Number of Credit Hours (Total) / Number of Units (Total)	2 hours theory (30 hour)
7. Course administrator's name (mention all, if more than one name)	

Name: Dr.Afrah Rahem

Email: afrh.reheim.idi21@atu.edu.iq

8. Course Objectives

Course Objectives

The student should be able to know the following -:

- 1 Foundations and concepts of community health, primary health control, modes of transmission, and prevention of socially significant childhood diseases, as well as diseases resulting from environmental pollution and endemic diseases in Iraq, with the aim of achieving the general goals of individual and community health, namely, optimal health.
2. Public health programs provided by the Ministry of Health, including expanded immunization programs, implementation of the primary healthcare system, and projects to control certain endemic and communicable diseases, and to combat diarrhea and its complications through oral rehydration therapy, in cooperation with the World Health Organization.
3. Causes of environmental pollution and how to prevent it.
4. Methods of dealing with patients and citizens and developing their awareness in the field of health awareness.

9. Teaching and Learning Strategies

Strategy

1-Theoretical lessons.

10. Course Structure

Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 & 2	2	Student will learned the 1- Understands the concept of ethics. 2. Explains the general principles of ethics. 3. Identifies the sources of ethics. 4. Highlights the most important ethical values. 5. Distinguishes the importance of ethics for the individual and society. 6. Engages in activities related to the concept of ethics and its sources.	Ethics	Lecture, discussion And scientific films	Oral tests
3	2	Student will learned the 1. Demonstrates the importance of work. 2. Lists work behaviors. 3. Explains the concept of a profession. 4. Defines a profession. 5. Compares the concepts of work, profession, and craft. 6. Explains the standards upon which a profession should be based.	Work and profession	Lecture, discussion And scientific Films	Daily examination
4	2	Student will learned the 1. Understands professional ethics. 2. Lists the positive benefits of adhering to professional ethics.	Professional ethics	Lecture, discussion And scientific films	Daily examination

		<p>3. Describes the characteristics of work ethics.</p> <p>4. Explains the qualities of professional ethics.</p> <p>5. Explains the steps to achieving an acceptable level of professional ethics..</p>			
5&6	2	<p>Student will learned the 1. It illustrates the importance of integrity in the workplace.</p> <p>2. It explains the importance of honesty in the workplace.</p> <p>3. It describes the nature of giving advice in the workplace.</p> <p>4. It lists aspects of fairness in job performance.</p> <p>5. It explains the nature of good conduct in the workplace.</p> <p>6. It explains the reasons for poor work performance.</p>	<p>Values and professional ethics</p> <p>-</p>	<p>Lecture, discussion And scientific films</p>	<p>Daily examination</p>
7&8	2	<p>Student will learned the 1. Unethical administrative behavior is defined.</p> <p>2. Administrative corruption is defined.</p> <p>3. Types of administrative corruption are explained.</p>	<p>Unethical behavior patterns in the profession</p>	<p>Lecture, discussion And scientific films</p>	<p>Daily examination</p>
9&10	2	<p>Student will learned the ,</p> <p>1. Explains the method of establishing professional ethics.</p> <p>2. Lists the levels of building and establishing professional ethics.</p> <p>3. Discusses the means and methods of establishing professional ethics.</p> <p>4. Explains the considerations that must be taken into account when drafting a code of ethics for the profession. Discusses how ethical behavior in the workplace is promoted according to Kritner and Kinneke..</p>	<p>Methods and means of establishing professional ethics values</p>	<p>Lecture, discussion And scientific films</p>	<p>Daily examination</p>
11-15	2	<p>It explains the qualities that a member of the healthcare staff should possess.</p> <p>2. It lists the duties of a member of the healthcare</p>	<p>Characteristics and duties of a healthcare staff member</p>	<p>Lecture, discussion And scientific film</p>	<p>Daily examination</p>

	staff towards their profession. 3. It explains the duties of the healthcare staff towards the patient. It lists the duties of the healthcare staff towards the community.			
11. Course Evaluation				
The grade distribution is as follows: 30 marks for monthly and daily exams for the first semester. 70 marks for final exams				
12. Learning and Teaching Resources				
Required textbooks (curricular books, if any)				
Main references (sources)				
Recommended books and references (scientific journals, reports...)				
Electronic References, Websites				

Course Description Form

1. Course Name:
The crimes of the Baath regime
2. Course Code:
3. Semester / Year:
First semester , second stage
4. Description Preparation Date:
2025/10/1
5. Available Attendance Forms:
Theoretical and practical
6. Number of Credit Hours (Total) / Number of Units (Total)
2 hours theory (30 hour)

7. Course administrator's name (mention all, if more than one name)

Name: Eenas humza salman

Email: Eenas.salman.idi9@atu.edu.iq

8. Course Objectives

Course Objectives

To provide the student with knowledge and information about the crimes of the Ba'ath regime in Iraq.

Specific objective: To provide the student with the facts about the crimes committed under the Ba'ath regime in Iraq.

9. Teaching and Learning Strategies

Strategy

1-Theoretical lessons.

10. Course Structure

Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	9	Student will learned the The Concept and Categories of Crimes Definition of Crime Linguistically and Technically Categories of Crimes Crimes of the Ba'ath Regime According to the Documentation of the Iraqi High Criminal Court Law of 2005.	The Concept and Categories of Crimes Definition of Crime Linguistically and Technically Categories of Crimes Crimes of the Ba'ath Regime According to the Documentation of the Iraqi High Criminal Court Law of 2005	Lecture, discussion And scientific films	Oral tests
2	2	Student will learned the Types of International Crimes Decisions Issued by the Supreme Criminal Court The Crime of Suppressing the Sha'ban Uprising	Types of International Crimes Decisions Issued by the Supreme Criminal Court The Crime of Suppressing the Sha'ban Uprising	Lecture, discussion And scientific Films	Daily examination
3	2	Student will learned the Psychological and social crimes, their effects, and the most prominent violations of the Ba'athist regime in Iraq - Psychological crimes.	Psychological and social crimes, their effects, and the most prominent violations of the Ba'athist regime in Iraq - Psychological crimes	Lecture, discussion And scientific films	Daily examination

4	2	Student will learned the The crime of suppressing the Sha'ban uprising	The crime of suppressing the Sha'ban uprising	Lecture, discussion And scientific films	Daily examination
5	2	Student will learned the The mechanism of psychological pressure and punishment	The mechanism of psychological pressure and punishment	Lecture, discussion And scientific films	Daily examination
6	2	Student will learned the Psychological effects of crimes	Psychological effects of crimes	Lecture, discussion And scientific films	Daily examination
7	2	Student will learned the Violations of Iraqi laws.	Violations of Iraqi laws	Lecture, discussion And scientific film	Daily examination
8	2	Student will learned the Some decisions regarding the political and military violations of the Ba'ath regime	Some decisions regarding the political and military violations of the Ba'ath regime	Lecture, discussion And scientific films	Daily examination
9	2	Student will learned the Environmental crimes of the Ba'ath regime in Iraq	Environmental crimes of the Ba'ath regime in Iraq	Lecture, discussion And scientific films	Daily examination
10	2	Student will learned the Halabja city	Halabja city	Lecture, discussion And scientific Films	Daily examination
11	2	Student will learned the Drying the marshes..	Drying the marshes	Lecture, discussion And scientific films	Daily examination
12	2	Student will learned the Mass grave crimes	Mass grave crimes	Lecture, discussion And scientific fi	Daily examination
13	2	Student will learned the Events spanning from 1979 to 2003 AD	Events spanning from 1979 to 2003 AD	Lecture, discussion And scientific fi	Daily examination
14	2	Student will learned the The events of the 1991 Sha'ban uprising and their relation to mass graves	The events of the 1991 Sha'ban uprising and their relation to mass graves	Lecture, discussion And scient films	Daily examination
15	2	Student will learned the Mass graves of victims of the 1991 Sha'ban uprising..	Mass graves of victims of the 1991 Sha'ban uprising	Lecture, discussion And scientific film	Daily examination

11. Course Evaluation

The grade distribution is as follows: 30 marks for monthly and daily exams for the first semester. 70 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Radiology & sonography Techniques Second Semester Second Stage

1. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
second Stage/ Second Semester		Radiography of the chest and abdomen	2	7
		CT and MRI examinations	2	7
		Medicine and Surgery	1	3
		Medical imaging anatomy	2	4
		Statistics	2	
		Research Project	–	2
		Principle of computer2	1	1

2. Teaching and Learning Strategies

- 1-Laboratory practice
- 2- Methodological training in hospitals and X-rays institute.
- 3- Off-study (Summer) training.
- 4-Making reports and seminars.

3. Evaluation methods

- 1- Theoretical and practical exams (semi-final).
- 2- Oral tests.
- 3- Daily estimation.
- 4- Non-class activity.
- 5- Final exam.

4. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)	Number of the teaching staff	
	General	Special		Staff	Lecturer
	1	5		6	3

Professional Development

Mentoring new faculty members

Successful mentoring relationships go through four phases: preparation, negotiating, enabling growth, and closure. These sequential phases build on each other and vary in length. In each phase, there are specific steps and strategies that lead to mentoring excellence .

Professional development of faculty members

Assess the professional development needs of your faculty and institution. Identify evidence-based approaches faculty developers use to deliver services. Design successful learning communities, institutes, and workshops. Develop your instructional consultation skills in group and individual settings.

5. Acceptance Criterion

- 1- Student's general average at high school.
- 2- Preference of students.

3- The feasible capacity of X-ray department.

6. The most important sources of information about the program

- 1- Curriculum books.
- 2- Updating syllabuses according to accredited global syllabuses.
- 3- Searching through the Internet to obtain the most recent scientific information

7. Program Development Plan

Course Description Form

1. Course Name:

Radiography of the chest and abdomen

2. Course Code:					
3. Semester / Year:					
second semester , second stage					
4. Description Preparation Date:					
2025/10/1					
5. Available Attendance Forms:					
Theoretical and practical					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2 hours theory and 7 hours practical in a week 135 hours					
7. Course administrator's name (mention all, if more than one name)					
Name: Mohamed falah Email:					
8. Course Objectives					
Course Objectives		<p>The second stage student graduates from the department of radiology should be familiar with all skull and chest examinations in various positions.</p> <p>The common and special: The student learns:</p> <ol style="list-style-type: none"> 1. How to take the x-ray in multiple positions. 2- How to know if the x-ray image is good or bad and treat it. 3-how to read the examination paper and photograph the member to be examined in the appropriate position. 			
9. Teaching and Learning Strategies					
Strategy		1-Theoretical lessons.			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	9	Student will learned the Important information as an introduction to chest exams radiographs	Important information as an introduction to chest exams radiographs	Lecture, discussion And scientific films	Oral tests
2	9	Student will learned the X-ray chest PA, AP , Lateral, with criteria. The Crime of Suppressing the Sha'ban Uprising	X-ray chest PA, AP , Lateral, with criteria.	Lecture, discussion And scientific Films	Daily examination
3	9	Student will learned the X-ray chest blique (Anterior and Posterior).	X-ray chest Oblique (Anterior and Posterior).	Lecture, discussion And scientific films	Daily examination
4	9	Student will learned the X-ray chest heart, and PA with barium .	X-ray chest heart, and PA with barium .	Lecture, discussion	Daily examination

				And scientific films	
5	9	Student will learned the X-ray Lordotic and (Apical lung Lateral position) with criteria	X-ray Lordotic and (Apical lung Lateral position) with criteria	Lecture, discussion And scientific films	Daily examination
6	9	Student will learned the X-ray chest fluid level, and Decubitus .	X-ray chest fluid level, and Decubitus .	Lecture, discussion And scientific films	Daily examination
7	9	Student will learned the X-ray children , PA or AP and Lateral .	X-ray children , PA or AP and Lateral .	Lecture, discussion And scientific film	Daily examination
8	9	Student will learned the X-ray ribs (AP and Oblique or PA and Oblique) and with criteria. X-ray Costal joint . with criteria.	X-ray ribs (AP and Oblique or PA and Oblique) and with criteria. X-ray Costal joint . with criteria.	Lecture, discussion And scientific films	Daily examination
9	9	Student will learned the X-ray Trachea (AP ,Lateral) with criteria. X-ray Soft tissue of the neck (AP, Lateral).	X-ray Trachea (AP ,Lateral) with criteria. X-ray Soft tissue of the neck (AP, Lateral).	Lecture, discussion And scientific films	Daily examination
10	9	Student will learned the X-ray sternum (Lateral ,Oblique) with criteria	X-ray sternum (Lateral ,Oblique) with criteria	Lecture, discussion And scientific Films	Daily examination
11	9	Student will learned the X-ray Clavical bone .(AP and Lateral)	X-ray Clavical bone .(AP and Lateral)	Lecture, discussion And scientific films	Daily examination
12	9	Student will learned the X-ray Sterno-Clavical joint	X-ray Sterno-Clavical joint	Lecture, discussion And scientific films	Daily examination
13	9	Student will learned the X-ray Scapula (AP and Lateral or Y view).	X-ray Scapula (AP and Lateral or Y view).	Lecture, discussion And scientific films	Daily examination
14	9	Student will learned the X-ray Mammography (Cranio-Caudially, Medio-Lateral , Lateral-L medial)and (Medio-Lateral oblique ,Lateral-Medial oblique). Advantage compression of breast.	X-ray Mammography (Cranio-Caudially, Medio-Lateral , Lateral-L medial)and (Medio-Lateral oblique ,Lateral-Medial oblique). Advantage compression breast.	Lecture, discussion And scientific film	Daily examination
15	9	Student will learned the x-ray abdomen(erect and supine).x-ray KUB.	x-ray abdomen(erect and supine).x-ray KUB.	Lecture, discussion And scientific films	Daily examination

11. Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester.
60 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	<p>1- Philip W. Ballinger; Merrill's Atlas of radiographic positions and radiological procedures. Ninth Edition, 2005, Mosby-Year Book, Inc.</p> <p>2- Frances Aitchison; Chapman & Nakielny, A guide to radiological procedures. Fifth Edition, 2009. Saunders Elsevier.</p> <p>3- The Royal College of radiologists (2005) Standards for intravenous Iodinated contrast Administration to Adult Patients. London: The Royal College of radiologists.</p>
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	European Society of Urogenital Radiology Contrast Media Safety Committee (2007) ESUR guidelines on contrast media version 6.0. www.esur.org .

Course Description Form

1. Course Name:

CT and MRI examinations

2. Course Code:

3. Semester / Year:

second semester , second stage

4. Description Preparation Date:

2025/10/1

5. Available Attendance Forms:

Theoretical and practical

6. Number of Credit Hours (Total) / Number of Units (Total)

2 hours theory and 7 hours practical in a week
135 hours

7. Course administrator's name (mention all, if more than one name)

Name: Dr.Haider sead shindal

Email:

8. Course Objectives

Course Objectives

The graduate student learns special procedure in radiological, CT and MRI and the contrast agents used for the soft tissue.

The common and special:

The students learn:

1. How the patient takes the contrast agents during examination.
2. The study of the whole body with using the contrast medium.
3. The adverse effects of the contrast agents during examination.

9. Teaching and Learning Strategies

Strategy

1-Theoretical lessons.

10. Course Structure

Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	9	Student will learned the Computed tomography and MRI of the gastrointestinal tract :Liver, biliary tract and pancreas; plain film, ultrasound, CT scan and MRI. Cholangiography; T-tube)	Computed tomography and MRI of the gastrointestinal tract :Liver, biliary tract and pancreas; plain film, ultrasound, CT scan and MRI. Cholangiography; T-tube)	Lecture, discussion And scientific films	Oral tests
2	9	Student will learned the cholangiography and endoscopic retrograde cholangiopancreatography (ERCP	cholangiography and endoscopic retrograde cholangiopancreatography (ERCP)	Lecture, discussion And scientific Films	Daily examination
3	9	Student will learned the Salivary glands,	Salivary glands, conventional and CT sialography.	Lecture, discussion And scientific films	Daily examination

		conventional and CT sialography.			
4	9	Student will learned the Urinary tract; excretion urography, Ct scan of the urinary tract and MRI of the urinary tract	Urinary tract; excretion urography, Ct scan of the urinary tract and MRI of the urinary tract	Lecture, discussion And scientific films	Daily examination
5	9	Student will learned the Ascending urethrography in the male, micturating cystourethrography	Ascending urethrography the male, micturating cystourethrography	Lecture, discussion And scientific films	Daily examination
6	9	Student will learned the Retrograde pyelourethrography and percutaneous antegrade pyelography.	Retrograde pyelourethrography and percutaneous antegrade pyelography	Lecture, discussion And scientific films	Daily examination
7	9	Student will learned the Reproductive system; hystrosalpingography and ultra sound of the female reproductive system	Reproductive system; hystrosalpingography and ultra sound of the female reproductive system	Lecture, discussion And scientific film	Daily examination
8	9	Student will learned the CT and MRI of the reproductive system	CT and MRI of the reproductive system	Lecture, discussion And scientific films	Daily examination
9	9	Student will learned the Respiratory system; CT and MRI of the respiratory system	Respiratory system; CT and MRI of the respiratory system Respiratory system; CT and MRI of the respiratory system Respiratory system; CT and MRI of the respiratory system	Lecture, discussion And scientific films	Daily examination
10	9	Student will learned the X-ray sternum (Lateral ,Oblique) with criteria	Heart; angiocardiology and coronary arteriography	Lecture, discussion And scientific Films	Daily examination
11	9	Student will learned the Cardiac computed tomography, Arterial system; catheter technique and complications	Cardiac computed tomography, Arterial system; catheter technique and complications	Lecture, discussion And scientific films	Daily examination
12	9	Student will learned the Ascending aortography, arteriography of the lower limbs	Ascending aortography, arteriography of the lower limbs	Lecture, discussion And scientific films	Daily examination
13	9	Student will learned the XVenous system; peripheral and central	Venous system; peripheral and central	Lecture, discussion And scientific films	Daily examination

		venography, CT and MRI of the arterial and venous systems	venography, CT and MRI of the arterial and venous systems		
14	9	Student will learned the Brain ; CT and MRI of the brain	Brain ; CT and MRI of the br	Lecture, discussion And scientific film	Daily examination
15	9	Student will learned the Cerebral angiography.	Cerebral angiography	Lecture, discussion And scientific films	Daily examination

11. Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1- Philip W. Ballinger; Merrill's Atlas of radiographic positions and radiological procedures. Ninth Edition, 2005, Mosby-Year Book, Inc. 2- Frances Aitchison; Chapman & Nakielny, A guide to radiological procedures. Fifth Edition, 2009. Saunders Elsevier. 3- The Royal College of radiologists (2005) Standards for intravenous Iodinated contrast Administration to Adult Patients. London: The Royal College of radiologists.
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	European Society of Urogenital Radiology Contrast Media Safety Committee (2007) ESUR guidelines on contrast media version 6.0. www.esur.org .

Course Description Form

1. Course Name:					
Medicine and Surgery					
2. Course Code:					
3. Semester / Year:					
second semester , second stage					
4. Description Preparation Date:					
2025/10/1					
5. Available Attendance Forms:					
Theoretical and practical					
6. Number of Credit Hours (Total) / Number of Units (Total)					
1 hours theory and 3 hours practical in a week 60 hours					
7. Course administrator's name (mention all, if more than one name)					
Name: Dr.marowa Ali Email: marowa.odda@atu.edu.iq					
8. Course Objectives					
Course Objectives		<p>Common and special.</p> <p>1- The most important signs and symptoms for each system e.g. digestive-Respiratory-Urinary and skeletal system.....etc.</p> <p>2- Methods of diagnosis of different medical and surgical diseases e.g.Radiological-laboratica- and appartical or instrumental e.g. gastro-scope, cystoscope.....etc.</p> <p>3- Methods of treatment and prevention of different diseases (medical+surgical (conservative and surgical treatment.</p> <p>4- Effects of radiation on different system of body.</p>			
9. Teaching and Learning Strategies					
Strategy		1-Theoretical lessons.			
10. Course Structure					
Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Student will learned the Temperature:-types-measuring(thermometer).	Temperature:-types-measuring(thermometer).	Lecture, discussion And scientific films	Oral tests
2	4	Student will learned the Food poisoning: types +treatment	Food poisoning: types +treatment	Lecture, discussion And scientific Films	Daily examination
3	4	Student will learned the Haematemesis-Melaena causes and treatment. Peptic ulcer of	Haematemesis-Melaena causes and treatment.	Lecture, discussion And scientific films	Daily examination

		stomach(G.U)and duodenum.	Peptic ulcer of stomach(G.U)and duodenum		
4	4	Student will learned the Hernias of diaphragm: causes and treatment.	Hernias of diaphragm: causes and treatment.	Lecture, discussion And scientific films	Daily examination
5	9	Student will learned the Intestinal obstruction (I.O):Radiological diagnosis. Appendicitis:Ss/Ss+treatment.	Intestinal obstruction (I.O):Radiological diagnosis. Appendicitis:Ss/Ss+treatment.	Lecture, discussion And scientific films	Daily examination
6	4	Student will learned the Jaundice: types +causes +investigations. Ascites :types +causes +investigations	Jaundice: types +causes +investigations. Ascites :types +causes +investigations Jaundice: types +causes +investigations. Ascites :types +causes +investigations	Lecture, discussion And scientific films	Daily examination
7	4	Student will learned the Hydatid cyst: in kidney-liver and lungs.	Hydatid cyst: in kidney-liver and lungs.	Lecture, discussion And scientific films	Daily examination
8	4	Student will learned the Bronchial Asthma: causes and treatment. Respiratory diseases: Ss/Ss Haemoptysis:- Causes+ investigations	Bronchial Asthma: causes and treatment. Respiratory diseases: Ss/Ss Haemoptysis:- Causes+ investigations	Lecture, discussion And scientific films	Daily examination
9	4	Student will learned the Pheumonia + pulmonary Tuberculosis(T.B) Pleural effusion +ca-lung	Pheumonia + pulmonary Tuberculosis(T.B): Pleural effusion +ca-lung	Lecture, discussion And scientific films	Daily examination
10	4	Student will learned the Urinary Tract diseases: Ss/Ss Haematuria:- Radiological and lab .examination (Microscopical).	Urinary Tract diseases: Ss/Ss Haematuria:- Radiological and lab .examination (Microscopical).	Lecture, discussion And scientific Films	Daily examination
11	4	Student will learned the Allergy in general. Drugs- Allergy:Ss/Ss. Sinusitis	Allergy in general. Drugs-Allergy:Ss/Ss. Sinusitis	Lecture, discussion And scientific films	Daily examination
12	4	Student will learned the Wounds: types+ Ss/Ss + treatment in general.	Wounds: types+ Ss/Ss + treatment in general.	Lecture, discussion And scientific films	Daily examination

13	4	Student will learned the Burns: degrees (percentage on surface) and depth +treatment +complications	Burns: degrees (percentage on surface) and depth +treatment +complications	Lecture, discussion And scientific films	Daily examination
14	4	Student will learned the Gangrene types+ Ss/Ss + treatment in general.	Gangrene types+ Ss/Ss treatment in general.	Lecture, discussion And scientific film	Daily examination
15	4	Student will learned the Shock: types + Ss and Ss +treatment.	Shock: types + Ss and Ss +treatment.	Lecture, discussion And scientific films	Daily examination

11. Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:					
imaging anatomy					
2. Course Code:					
3. Semester / Year:					
second semester , second stage					
4. Description Preparation Date:					
2025/10/1					
5. Available Attendance Forms:					
Theoretical and practical					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2 hours theory and 4 hours practical in a week 75 hours					
7. Course administrator's name (mention all, if more than one name)					
Name: shahad ahamad Email: shahad.bkhaet.idi10@atu.edu.iq					
8. Course Objectives					
Course Objectives		<p>The common and special: The studies of the structure of the whole of the system of the body of the human which are appear in the special X-ray procedure and with CT and MRI imaging.</p>			
9. Teaching and Learning Strategies					
Strategy		1-Theoretical lessons.			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	6	Student will learned the Upper limb bone and shoulder joint, scapula bone and elbow joint and wrist	Upper limb bone and shoulder joint, scapula bone and elbow joint and wrist	Lecture, discussion And scientific films	Oral tests

		joint by CT imaging and MRI.	joint by CT imaging and MRI.		
2	6	Student will learned the Lower limb bone and pelvis bone and Hip joint and femur and Knee joint, pattela and leg Ankle joint, tarsal bone, meta tarsal, toe's with CT imaging..	Lower limb bone and pelvis bone and Hip joint and femur and Knee joint, pattela and leg Ankle joint, tarsal bone, meta tarsal, toe's with CT imaging..	Lecture, discussion And scientific Films	Daily examination
3	6	Student will learned the Study the structure of the skull bone with CT imaging.	Study the structure of the skull bone with CT imaging.	Lecture, discussion And scientific films	Daily examination
4	6	Student will learned the Temporal bone and sella turcica with conventional x ray and CT imaging.	Temporal bone and sella turcica with conventional x ray and CT imaging	Lecture, discussion And scientific films	Daily examination
5	6	Student will learned the Anatomy of the brain with conventional x ray and CT imaging..	Anatomy of the brain with conventional x ray and imaging.	Lecture, discussion And scientific films	Daily examination
6	6	Student will learned the Study the structure of vertebral column and Spinal cord by CT imaging	Study the structure of vertebral column and Spinal cord by CT imaging	Lecture, discussion And scientific films	Daily examination
7	6	Student will learned the Study the chest, ribs with conventional x ray and CT imaging.	Study the chest, ribs with conventional x ray and CT imaging.	Lecture, discussion And scientific films	Daily examination
8	6	Student will learned the Study the bronchial position and pericardium with conventional x ray and CT imaging.	Study the bronchial position and pericardium with conventional x ray and CT imaging.	Lecture, discussion And scientific films	Daily examination
9	6	Student will learned the Study the heart and mediastina by conventional x ray and CT imaging.	Study the heart and mediastina by conventional x ray and CT imaging.	Lecture, discussion And scientific films	Daily examination
10	6	Student will learned the Anatomy of the gastro intestinal tract and and small, large intestinal and Anatomy inter in abdomen spleen, liver, pancreasin in CT and MRI imaging	Anatomy of the gastro intestinal tract and and small, large intestinal and Anatomy inter in abdomen spleen, liver, pancreasin in CT and MRI imaging	Lecture, discussion And scientific Films	Daily examination
11	6	Student will learned the Oesophagus, stomach and duodenum and biliary	Oesophagus, stomach and duodenum and biliary tract system in CT and MRI imaging	Lecture, discussion And scientific films	Daily examination

		tract system in CT and MRI imaging			
12	6	Student will learned the Anatomy inter in abdomen spleen, liver, pancreasin in CT and MRI imaging.	Anatomy inter in abdomen spleen, liver, pancreasin in CT and MRI imaging	Lecture, discussion And scientific films	Daily examination
13	6	Student will learned the Anatomy of the urinary system in kidney with conventional x ray and CT imaging	Anatomy of the urinary system in kidney with conventional x ray and CT imaging	Lecture, discussion And scientific films	Daily examination
14	6	Student will learned the Ureter and bladder with conventional x ray and CT imaging.	Ureter and bladder v conventional x ray and imaging.	Lecture, discussion And scientific film	Daily examination
15	6	Student will learned the Anatomy of the uterus, uterus tube in x ray and CT and MRI imaging..	Anatomy of the uterus, uterus tube in x ray and CT and MRI imaging.	Lecture, discussion And scientific films	Daily examination

11. Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1. Anatomy for Diagnostic Stephen Ryan , Michael (MMcN) Sarah, Emma, Jack and Nick (SE) . 2. Practical Radiological Anatomy Sarah McWilliams. 3. Pocket Atlas of Sectional Anatomy Computed Tomography and Magnetic Resonance Imaging. Torsten B. Moeller, M.D. Am Caritas Radiographic anatomy Frank Slaby, Eugene R.Jacobs
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:	
Biostatic	
2. Course Code:	
3. Semester / Year:	
second semester , second stage	
4. Description Preparation Date:	
2025/10/1	
5. Available Attendance Forms:	
Theoretical	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 hours theory in a week 30 hours	
7. Course administrator's name (mention all, if more than one name)	
Name: ashwaq abdulsada Email: ashwaq.sada.idi12@atu.edu.iq	
8. Course Objectives	
Course Objectives	<p style="color: red; margin: 0;">General objectives:- Student of statistical data and the school year on the processing and analysis Student at the end of reach the right conclusions, and prepare statistical forms</p> <p style="color: red; margin: 0;">Special Objectives: students:- Dealing with statistical data Interact and learn statistical measurements of health and life. Organize statistical form and form-related health incidents such as births, deaths and diseases.</p>
9. Teaching and Learning Strategies	

Strategy		1-Theoretical lessons.			
10. Course Structure					
Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Student will learned the Define statistics. Data collection methods	Define statistics. Data collection methods.	Lecture, discussion And scientific films	Oral tests
2	2	Student will learned the Presentation of statistical data and as, preparing form (not classified) questionnaire	Presentation of statistical data and as, preparing form (not classified) questionnaire	Lecture, discussion And scientific Films	Daily examination
3	2	Student will learned the Frequency distributions of data representation "tabular view" classified "iterative" distributions tables presentation – histogram, frequency curve, frequency polygon	Frequency distributions of data representation "tabular view" classified "iterative" distributions tables presentation – histogram, frequency curve, frequency polygon	Lecture, discussion And scientific films	Daily examination
4	2	Student will learned the Measures of central tendency — the arithmetic means. Broker. Mode.	Measures of central tendency — the arithmetic means. Broker. Mode	Lecture, discussion And scientific films	Daily examination
5	2	Student will learned the Introduction to sampling theory "meaning and causes of their choice..	Introduction to sampling theory "meaning and causes of their choice	Lecture, discussion And scientific films	Daily examination
6	2	Student will learned the Life, for statistics, the average, mortality statistics	Life, for statistics, the average, mortality statistics	Lecture, discussion And scientific films	Daily examination
7	2	Student will learned the Fertility statistics.	Fertility statistics	Lecture, discussion And scientific films	Daily examination
8	2	Student will learned the Disease statistics life tables.	Disease statistics life tables	Lecture, discussion And scientific films	Daily examination
9	2	Student will learned the Definition of health statistics and confiscation.	Definition of health statistics and confiscation	Lecture, discussion And scientific films	Daily examination
10	2	Student will learned the Fields of statistics	Fields of statistics	Lecture, discussion And scientific Films	Daily examination
11	2	Student will learned the The causes of death statistics (medical certificate, the cause, death, death certificate)	The causes of death statistics (medical certificate, the cause, death, death certificate)	Lecture, discussion And scientific films	Daily examination
12	2	Student will learned the Health Organization statistics.	Health Organization statistics	Lecture, discussion And scientific films	Daily examination

13	2	Rates and most suitable for hospitals and patients. Days of treatment. Period of stay (days)	Rates and most suitable for hospitals and patients. Days of treatment. Period of stay (days)	Lecture, discussion And scientific films	Daily examination
14&15	2	Student will learn the Ureter and bladder with conventional x ray and CT imaging.	The rate of family concentration Rate entry	Lecture, discussion And scientific films	Daily examination

11. Course Evaluation

The grade distribution is as follows: 30 marks for monthly and daily exams for the first semester. 70 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:	
Computer Application (2)	
2. Course Code:	
3. Semester / Year:	
second semester , second stage	
4. Description Preparation Date:	
2025/10/1	
5. Available Attendance Forms:	
Theoretical and practical	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 hours theory and 4 hours practical in a week 30 hours	
7. Course administrator's name (mention all, if more than one name)	
Name: wasean mahamed Email: wasean.najum@atu.edu.iq	
8. Course Objectives	
Course Objectives	General objective: To equip the student with the skills to use various computer applications. Specific objective: To enable the student to distinguish between different types of software that can be used.
9. Teaching and Learning Strategies	
Strategy	1-Theoretical lessons.

10. Course Structure

Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluat ion metho d
1 -3	2	<p>Student will learned the The concept of networks and their types</p> <p>The concept of the Internet, how it works, a description of the main screen and its components, and how to connect to the World Wide Web (Web).</p> <p>Utilizing popular search engines such as Yahoo and Google.</p> <p>Learning how to search for and access information.</p> <p>The concept of networks and their types</p> <p>Learning how to search for and access information.</p>	<p>The concept of networks and their types</p> <p>The concept of the Internet, how it works, a description of the main screen and its components, and how to connect to the World Wide Web (Web).</p> <p>Utilizing popular search engines such as Yahoo and Google.</p> <p>Learning how to search for and access information.</p>	Lecture, discussion And scientific films	Oral tests
4-8	2	<p>Student will learned the Excel program: Understanding the program's concept, benefits, features, and how to use it.</p> <p>Familiarizing yourself with the main screen, its components, and the various menus and tools it contains.</p> <p>Understanding the cell: basic data types and how to enter them. • How</p>	<p>Excel program: Understanding the program's concept, benefits, features, and how to use it.</p> <p>Familiarizing yourself with the main screen, its components, and the various menus and tools it contains.</p> <p>Understanding the cell: basic data types and how to enter them.</p> <ul style="list-style-type: none"> • How to save a workbook or worksheet: Close the program and close the file. 	Lecture, discussion And scientific Films	Daily examination

		<p>to save a workbook or worksheet: Close the program and close the file.</p> <ul style="list-style-type: none"> • Open the saved file: Enter data and perform simple calculations. Learn how to format and structure data within a single cell or a group of cells. • Learn how to collect data or groups of cells in different formats, and how to sort data. • Use some of the functions provided by the program, such as SUM, Min, Max, COUNT, SQRT, AVE, and other useful related statistical functions. • Understanding the editing process offered by the program, and how to copy or move data. • Understanding the concept of copying calculations, as well as the concept of relative and absolute cells. • Controlling cell display: changing its style and formatting using formatting tools. • Working with charts and how to convert numeric and text data into various types of charts using the Chart Wizard, and learning how to make the modifications and edits provided by the program. • Learning how to add or delete rows or columns in the worksheet and how to print numeric data or charts. 	<ul style="list-style-type: none"> • Open the saved file: Enter data and perform simple calculations. Learn how to format and structure data within a single cell or a group of cells. • Learn how to collect data or groups of cells in different formats, and how to sort data. • Use some of the functions provided by the program, such as SUM, Min, Max, COUNT, SQRT, AVE, and other useful related statistical functions. • Understanding the editing process offered by the program, and how to copy or move data. • Understanding the concept of copying calculations, as well as the concept of relative and absolute cells. • Controlling cell display: changing its style and formatting using formatting tools. • Working with charts and how to convert numeric and text data into various types of charts using the Chart Wizard, and learning how to make the modifications and edits provided by the program. • Learning how to add or delete rows or columns in the worksheet and how to print numeric data or charts. 		
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9-15	2	<p>Student will learned the</p> <ul style="list-style-type: none"> • SPSS Statistical Software: Program Concept and Operation • Data Analysis Steps and Familiarization with the Main Screen Components • Data Input, Saving, and Retrieval; Data Types, Sorting, and Swapping • Inserting Variables or Cases, Merging and Analyzing Files • Conducting Non-Parametric Tests 	<ul style="list-style-type: none"> • SPSS Statistical Software: Program Concept and Operation • Data Analysis Steps and Familiarization with the Main Screen Components • Data Input, Saving, and Retrieval; Data Types, Sorting, and Swapping • Inserting Variables or Cases, Merging and Analyzing Files • Conducting Non-Parametric Tests 	Lecture, discussion And scientific films	Daily examination
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11.Course Evaluation

The grade distribution is as follows: 40 marks for monthly and daily exams for the first semester. 60 marks for final exams

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	