

Ministry of Higher Education and Scientific Research
Scientific supervision and evaluation device
Department of Quality Assurance and Academic accreditation
Department Accreditation



Academic Program and Course Description Guide

2024

Republic of Iraq

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

Academic Program Specification Form For Colleges and Institutions

University: Northern Technical University

Institute: Technical Medical Institute / Mosul

Department: Radiology Techniques Department

Date of Form Completion: 08/ 1 / 2024



Assistant Professor
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The Dean

Date: 8/1/2024



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Quality Assurance And University Performance Manager

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Date: /8/1/2024

Signature



1-Program vision:

The basic concept behind establishing the Department of Radiology Technologies is to build an educational system within a technical, applied and practical framework, taking into account scientific progress in the world

It relies on an approved quality system and comprehensive performance development based on the needs of the government sector and the private sector to advance the department to reach the level of specialized international scientific institutions.

2-Program message:

Transferring radiological specialization in technical education to the highest level by keeping pace with rapid developments internationally and globally in addition to developing curricula

Therefore, graduates must acquire skills and experience to meet the country's needs in both the public and private sectors based on the quality targeted by technical education

3- Program objectives

- 1-Qualification of technical medical staff in the field of radiography.
- 2 -Training students on how to deal with different conditions, ways to care for them, and justifying exposure to radiation.
- 3 -Preparing students based on professional ethics and administrative and imaging quality in the Department of Radiology.
- 4 -Educating students about the dangers of radiation exposure and how to protect workers and patients from these dangers.
- 5 -Developing the educational capabilities of students' research and creativity skills.

4-Program accreditation:

Nothing

5-Other external influences:

Nothing

6-Program structure:				
Program Structure	Number of Courses	Study Unit	Percentage	Notes *
University requirements	10	18	18.75	
Institute requirements	5	14	14.58	
Department requirements	20	72		
summer training	2			
Other	/			

Curriculum Skills Map Second Year

Code	Path	Units	Hours		Course name	Course name
			P	Th		
NTU100	-	2	-	2	Democracy & Human Rights	University
NTU101	-	2	-	2	English Language 1	
NTU102		3	2	1	Computer Application 1	
NTU103		2	-	2	Arabic Language	
NTU105		2	-	2	French Language	
NTU104	-	2	1	1	Physical Activity	
		10			Total university units required	
TIMM106	-	4	2	2	Physiology	Institute
TIMM107	-	4	2	2	Anatomy	
TIMM108	-	2	-	2	Laboratory safety	
TIMM109	-	2	-	2	Medical Terminology	
		12			Total Institute units required	
RADT110	-	4	2	2	Principles of Nursing	Department
RADT111	-	8	4	4	Principle of Radiography	
RADT112	-	4	2	2	Radiation Physics	

RADT113	-	4	2	2	Radiation Protection	
RADT114	-	4	2	2	X-Ray Machines Techniques 1	
RADT115	-	4	2	2	Medical Biology	
RADT116	-	2	-	2	Medical Physics	
RADT117	-	2	-	2	Radiobiology	
		30			Total required department requirements units	
		52			Total units of the First level	

Curriculum Skills Map Second Year

Code	Path	Units	Hours		Course name	Course name
			P	Th		
NTU201		2	1	1	Computer Application 2	University
NTU202		2	-	2	Arabic Language2	
NTU203		2		2	Crimes of Baath regime in Iraq	
NTU204		2		2	Professional Ethics	
		8			Total university units required	
TIMM202		2	-	2	Statistics	Institute
		2			Total Institute units required	
302RADT	-	10	6	4	Radiography	Department
402RADT	-	10	6	4	Radiological Procedures	
502RADT	-	8	4	4	Radiological Anatomy	
602RADT	-	4	2	2	2Radiology Equipment Techniques	
702RADT	-	6	2	4	Medicine and Surgery	

802RADT	-	3	3	-	Research Project	
902RADT	-	2	-	2	Principle Community Health	
210RADT	-	2	-	2	Pharmacology	
		42			Total required department requirements units	
		52			Total units of the Second level	

7- Program description				
Year/level	Course or course code	Name of the course or course	Hours	Note
2023-2024/ first	NTU 100	Democracy and Human Rights	1	
	NTU 101	English language 1	1	
	NTU 102	Computer 1	1	
	NTU 103	Arabic language 1	1	
	NTU 104	Physical Activity	1	
	TIMM 106	Physiology	2	
	TIMM 107	Anatomy	2	
	TIMM 108	Safety in lab. & workshop	1	
	TIMM 109	Medical terminology	1	
	RADT110	Principles of Nursing	2	
	RADT111	Principle of Radiography	4	
	RADT112	Radiation Physics	2	
	RADT113	Radiation Protection	2	
	RADT114	X-Ray Machines Techniques 1	2	
	RADT115	Medical Biology	2	
	RADT117	Radiobiology	2	
2023-2024 / 2ed	NTU201	Computer 2	2	
	NTU 202	Arabic language 2	2	
	NTU 203	Crimes of the Baath regime in Iraq	2	
	NTU204	Professional Ethics	2	

	TIMM202	Biostatistics	2	
	RADT209	Principle Community Health	2	
	RADT210	Pharmacology	2	
	RADT203	Radiography	4	
	RADT204	Radiological Procedures	4	
	RADT205	Radiological Anatomy	4	
	RADT206	Radiology Equipment Techniques 2	2	
	RADT207	Surgical internal medicine	4	
	RADT208	research project	2	

8– Expected learning outcomes of the programme

Knowledge:

- 1-Learn how to perform general and local anesthesia.
- 2-Knowing how to care for the patient in intensive care rooms.
- .3-Knowing the patient’s normal vital signs inside the intensive care room
- 4-Knowledge of anesthesia and intensive care medications·

Skills

- 1-Teamwork skills.
- 2- Computer and Internet skills
- 3-Communication skills such as English
- .4-Leadership skills and taking responsibility
- 5-The student qualifies to pass recruitment interviews.

Value

- 1-The student acquires the concepts and basics of anesthesia and intensive care
- 2-Analyzing the problems facing its employees and how to develop the necessary solutions.
- 3-Evaluating the proposed solutions and choosing the best ones.

9-Teaching and learning strategies

The teacher explains the theoretical material on the blackboard using a slide projector, paper lectures, educational packages, and methodological and summer training in hospitals.

10-Evaluation methods

Daily, quarterly and final tests, submitting weekly reports

11-The teaching staff

Faculty members

Academic rank	specialization		Special requirements/skills (if any)		preparation of the teaching staff	
	general	Specialized			lecturer	staff
Ass.prof	Biology	Zoology			staff	
Ass.prof	Sciences	Plasma			staff	
lecturer	Biology	Biology			staff	
lecturer	Biology	heredity			staff	
lecturer	Sciences	Solid state			staff	
Ass. lecturer	Sciences	Microbiology			staff	
Ass. lecturer	Sciences	Microbiology			staff	
Ass. lecturer	Computer sciences	Information technology			staff	
Ass. lecturer	Medical instrumentation engineering	Biomedical engineering			staff	
doctor	Nursing	Community health			lecturer	
doctor	Medical instrumentation engineering	Biomedical engineering			lecturer	
doctor	Medicine and Surgery	X-rays and sonar			lecturer	

12-Professional development

Orienting new faculty members

Professional development

Professional development for faculty members

13-Acceptance criterion

- The student's admission criterion is determined according to the central admission plan within the plan of the Ministry and the student's preparatory branch, his grade point average and his desire. After that, the student is interviewed in a special interview at the institute

14- The most important sources of information about the program

- External sources (the Internet)
- Scientific research and its latest developments
- Methodological books

15-Program development plan

- 1- Access to modern scientific literature.
- 2- Participation in relevant scientific conferences.
- 3- Sending workers for training inside and outside the country.
- 4- Hosting specialized professors.
- 5- Academic pairing with other universities and corresponding colleges.

Program skills chart

				Learning outcomes required from the program											
Year/level	Course code	Course name	Essential or optional	Knowledge				skills				values			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2023-2024/1 st .	NTU 100	Democracy and Human Rights	Essential	*				*				*	*		
	NTU 101	English language 1	Essential	*		*									
	NTU 102	Computer 1	Essential	*	*			*	*						
	NTU 103	Arabic language 1	Essential	*	*										
	NTU 104	Physical Activity	optional					*	*						
	NTU105	French Language	optional												
	TIMM 106	Physiology	Essential	*				*				*	*		
	TIMM 107	Anatomy	Essential	*	*	*			*			*			
	TIMM 108	Safety in lab. & workshop	Essential	*	*			*			*				
	TIMM 109	Medical terminology	Essential	*	*	*		*	*			*	*		
	RADT110	Principles of Nursing	Essential	*	*			*	*			*	*		
RADT111	Principle of Radiography	Essential	*	*			*	*			*	*			
RADT112	Radiation Physics	Essential	*	*			*	*			*	*			
RADT113	Radiation Protection	Essential	*	*			*	*			*	*			

	RADT114	X-Ray Machines Techniques 1	Essential	*	*			*	*			*	*		
	RADT115	Medical Biology	Essential	*	*			*	*						
	RADT116	Medical Physics	Optional	*	*	*		*	*	*	*				
	RADT117	Radiobiology	Optional	*	*	*		*	*		*	*	*	*	
2023-2024/2ed.	NTU201	Computer 2	Essential	*	*	*		*	*	*	*		*		
	NTU 202	Arabic language 2	Essential	*	*	*	*	*			*	*	*		
	NTU 203	Crimes of the Baath regime in Iraq	Essential	*	*	*	*		*		*		*	*	
	NTU204	Professional Ethics	Essential	*	*		*		*	*	*		*	*	
	TIMM202	Biostatistics	Essential	*	*	*			*	*	*	*	*	*	
	RADT209	Principle Community Health	Optional	*	*	*			*			*	*		
	RADT210	Pharmacology	Optional	*	*		*	*		*		*			
	RADT203	Radiography	Essential	*	*	*		*	*			*	*		
	RADT204	Radiological Procedures	Essential	*	*	*		*		*		*	*		
	RADT205	Radiological Anatomy	Essential	*	*	*		*	*	*		*	*		
	RADT206	Radiology Equipment Techniques 2	Essential	*	*	*		*		*			*		
	RADT207	Surgical internal medicine	Essential	*		*		*	*		*	*	*	*	
	RADT208	Research project	Essential	*		*		*	*			*	*		

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Democracy and Human Rights NTU100
4. Programme (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical) * Scientific discussions, seminars, other activities
6. Semester/Year	Annual
7. Number of hours tuition (total)	30
8. Date of production/revision of this specification	8 / 1 / 2024
9. Aims of the Course 1 - Providing students with basic concepts related to democracy and human rights. 2- Knowledge of political systems, methods of elections and public freedoms. 3- Developing the legal and constitutional culture among students.	
10. Course outcomes and teaching, learning and evaluation methods	
A.Cognitive objectives 1- Enabling students to understand the concept of democracy and the rights to be implemented in the field of human rights. 2- Developing the knowledge aspects of the constitution, the legal state and human rights guarantees.	
B - The skills objectives of the course. Enable students to understand the concept of democracy and the rights to be done in the field of human rights and how to defend these rights. And know the guarantees related to them.	
Teaching and learning methods ((Theoretical lectures / interactive lectures))	
Evaluation methods ((Oral tests / written tests / weekly reports / daily attendance / participation and interaction in lectures / semester and final exams))	
C- Emotional and value goals Carrying out duties in the workplace with professional motives	
Teaching and learning methods ((Theoretical lectures / seminars / debate work between students))	
Evaluation methods ((Oral Tests / Written Tests / Observation / Student Cumulative Record))	
D - Transferable general and qualifying skills (other skills related to employability and personal development). Understand the concept of democracy and the rights to be implemented in the field of human rights.	

11. Course Structure

Week	Hours	Unit/Module or Topic Title	ILOs	Teaching Method	Assessment Method
1	2	Human rights, definition, objectives Human rights in ancient civilizations / Human rights in heavenly laws	Knowledge and application	Theoretical	Tests & Reports
2	2	Human Rights in Contemporary and Modern History (International Recognition of Human Rights since the First World War and the League of the United Nations) / Regional Recognition of Human Rights: European Convention on Human Rights 1950, American Convention on Human Rights 1969, African Charter on Human Rights 1981, Arab Charter on Human Rights 1994	Knowledge and application	Theoretical	Tests & Reports
3	2	NGOs and human rights (ICRC, Amnesty International, Human Rights Watch, National Human Rights Organizations)	Knowledge and application	Theoretical	Tests & Reports
4	2	Human rights in Iraqi constitutions between theory and reality / the relationship between :human rights and public freedoms In the Universal Declaration of Human -1 .Rights In regional charters and national -2 .constitutions	Knowledge and application	Theoretical	Tests & Reports
5	2	Economic, social and cultural human rights , Civil and political human rights / Modern human rights : Facts in development , Right to clean environment , Right to solidarity , Right to religion	Knowledge and application	Theoretical	Tests & Reports
6	2	Guarantees of respect and protection of human rights at the national level, guarantees in the Constitution and laws, guarantees in the principle of the rule of law, guarantees in constitutional oversight, guarantees in freedom of the press and public opinion, the role of non-governmental organizations in respecting and protecting human rights / guarantees, respect and protection of human :rights at the international level Role of the United Nations and its .1 specialized agencies in providing safeguards The role of regional organizations (Arab -2 League, European Union, African Union, Role of international, regional non- .3 governmental organizations and public opinion in respecting and protecting human rights	Knowledge and application	Theoretical	Tests & Reports

7	2	The general theory of freedoms: the origin of rights and freedoms, the legislator's position on public rights and freedoms, the use of the term public freedoms	Knowledge and application	Theoretical	Tests & Reports
8	2	Organizing public freedoms from the previousness of equality: the historical development of the concept of equality The modern development of the idea of equality Gender equality- Equality between individuals according to - their beliefs and race to public authorities	Knowledge and application	Theoretical	Tests & Reports
9	2	Freedom of learning , freedom of the press , freedom of assembly Freedom of association, freedom of work Right of ownership	Knowledge and application	Theoretical	Tests & Reports
10	2	Freedom of trade and industry Freedom of security and a sense of security Freedom to go and return Freedom of trade and industry Women's freedom	Knowledge and application	Theoretical	Tests & Reports
11	2	Scientific and technical progress and public freedoms The future of public freedoms	Knowledge and application	Theoretical	Tests & Reports
12	2	The crime of genocide	Knowledge and application	Theoretical	Tests & Reports
13	2	Democracy, its characteristics and types	Knowledge and application	Theoretical	Tests & Reports
14	2	Elections, their definition and types	Knowledge and application	Theoretical	Tests & Reports
15	2	Contemporary political systems	Knowledge and application	Theoretical	Tests & Reports

12. Infrastructure	
Required reading:	Available in free education and institute library
Main references (sources)	Available in free education and institute library
B - Electronic references, Internet sites...	Internet

13. Course development plan
1- Developing curricula appropriate to human rights developments. 2- Dividing the article into two parts, the first related to human rights and the second to democracy.

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	English Language NTU101
4. Programme (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Annual
7. Number of hours tuition (total)	30
8. Date of production/revision of this specification	8 / 1 / 2024
9. Aims of the Course	
1- Introducing the student to the basics of the English language with regard to the development of the four language skills (speaking, listening, reading and writing).	
2- Introducing the student to the vocabulary of communication and academic writing English.	
3- Developing students' skills to use and practice communication in English.	
10. Course outcomes and teaching, learning and evaluation methods	
A.Cognitive objectives	
A1- Introduce the student to the basics of the English language in terms of developing the four language skills (speaking, listening, reading and writing).	
B - The skills objectives of the course.	
B1 - Introducing the student to the vocabulary of communication and academic writing in English.	
Teaching and learning methods	
((Theoretical lectures / listening lectures / conversation lectures / interactive lectures / research in libraries and the Internet on specific topics)).	
Evaluation methods	
((Oral tests / written tests / weekly reports / daily attendance / participation and interaction in lectures / semester and final exams))	
C- Emotional and value goals	
C1- Develop students' skills to use and practice communication in English.C6- Training on how to deal with patients who have injuries resulting from traffic collisions and exposure to gunfire.	
Teaching and learning methods	
((Theoretical lectures / seminars / debate work between students / making reports in English))	
Evaluation methods	
((Oral Tests / Written Tests / Observation / Student Cumulative Record))	
D - Transferable general and qualifying skills (other skills related to employability and personal	

development).

D1- Improving students' discussion skills in English

D2- Raising students' research perceptions in writing reports, research and university theses using the English language

11. Course Structure

Week	Hours	Unit/Module or Topic Title	ILOs	Teaching Method	Assessment Method
1	2	Grammar/ Vocabulary/ Skills Work/ Everyday English	Unit 1 / Hello	Theoretical	Tests & Discussion
2	2	Grammar/ Vocabulary/ Skills Work/ Everyday English	Unit 2 / Your world	Theoretical	practical tes
3	2	Grammar/ Vocabulary/ Skills Work/ Everyday English	Unit 3 / All about you	Theoretical	Tests & Discussion
4	2	Grammar/ Vocabulary/ Skills Work/ Everyday English	Unit 4 / Family and Friends	Theoretical	Test
5	2	Grammar/ Vocabulary/ Skills Work/ Everyday English	Unit 5 / The way I live	Theoretical	Tests & Discussion
6	2	Grammar/ Vocabulary/ Skills Work/ Everyday English	Unit 6 / Every day	Theoretical	practical tes
7	2	Grammar/ Vocabulary/ Skills Work/ Everyday English	Unit 7 / My favourite	Theoretical	Tests & Discussion
8	2	Grammar/ Vocabulary/ Skills Work/ Everyday English	Unit 8 / Where I live	Theoretical	practical tes
9	2	Grammar/ Vocabulary/ Skills Work/ Everyday English	Unit 9 / Times past	Theoretical	Tests & Discussion
10	2	Grammar/ Vocabulary/ Skills Work/ Everyday English	Unit 10 / We had a great time!	Theoretical	practical tes
11	2	Grammar/ Vocabulary/ Skills Work/ Everyday English	Unit 11 / I can do that	Theoretical	Tests & Discussion
12	2	Grammar/ Vocabulary/ Skills Work/ Everyday English	Unit 12 / Please and Thank you	Theoretical	practical tes
13	2	Grammar/ Vocabulary/ Skills Work/ Everyday English	Unit 13 / Here and now	Theoretical	practical tes
14	2	Grammar/ Vocabulary/ Skills Work/ Everyday English	Unit 14 / It's time to go	Theoretical	practical tes
15	2	Review	Review	Theoretical	Discussion

12. Infrastructure	
Required reading:	New Headway Plus / Beginner/ John and Liz Soars / Oxford University Press / 2014
Main references (sources)	<ol style="list-style-type: none"> 1. An A-Z of English Grammar & Usage / Geoffrey Leech / Longman / 1990 2. Common Mistakes in English / T.J. Fitikides / Longman 2002 3. English Grammar in Use / Raymond Murphy / Cambridge University Press 2004
Recommended books and references (scientific journals, reports,...)	Express English / Omer Al- Hourani / Jordan
B - Electronic references, Internet sites...	Express English / Omer Al- Hourani / Jordan

13. Course development plan
<ol style="list-style-type: none"> 1- Developing appropriate curricula for university graduates 2- Holding seminars and conferences aimed at updating school curricula

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Computier1 NTU102
4. Programme (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Annual
7. Number of hours tuition (total)	30
8. Date of production/revision of this specification	8 / 1 / 2024
9. Aims of the Course	
1- Teaching the student the skills of working on the computer and the use of ready-made applications and the principles of the Internet in the field of specialization.	
2- Teaching the student the skills of working on the computer and the use of ready-made applications and the principles of the Internet in the field of specialization.	
3. Perform his duties at the workplace for professional motives.	
10. Course outcomes and teaching, learning and evaluation methods	
A.Cognitive objectives	
A1- Teaching the student the skills of working on the computer and the use of ready-made applications and the principles of the Internet in the field of specialization.	
B - The skills objectives of the course.	
B1 - Teaching the student the skills of working on the computer and the use of ready-made applications and the principles of the Internet in the field of specialization.	
Teaching and learning methods	
((Theoretical lectures / practical lectures / field visits / solving examples / seminars / summer training))	
Evaluation methods	
((Oral exams / written tests / weekly reports / daily attendance / semester and final exams))	
C- Emotional and value goals	
C1- Perform his duties at the workplace for professional motives.	
Teaching and learning methods	
((Theoretical lectures / practical lectures / field visits / solving examples / seminars / summer training))	
Evaluation methods	

((Oral Tests / Written Tests / Observation / Student Cumulative Record))

D - Transferable general and qualifying skills (other skills related to employability and personal development).

D1- Improve their discussion skills.

D2- Raising their research perceptions and transferring the student from the stage of teaching to learning.

11. Course Structure

Week	Hours	Unit/Module or Topic Title	ILOs	Teaching Method	Assessment Method
2&1	2	Introduction to the computer / computer system / information technology / types of computers / input units / central processing unit / output units / main memory and its types / data storage in memory / factors affecting computer performance Definition of software and its types / systems software: operating systems / programming languages and software systems / applied software.	Knowledge and practical application	Practical + Theoretical	Tests & Discussion
3	2	Introduction to Windows / its features / operating the device / shutting down the device / using the mouse / windows screen components: taskbar: icons: and their types (standard and general.(Knowledge and practical application	Practical + Theoretical	Tests & Discussion
4	2	Control Panel / Desktop Control / Screen Saver / Window Colors and Lines / Screen Settings / Adjust Screen Colors / Modify Time and Date / Volume / Change Between Mouse Buttons / Double-Click Speed Control / Change Mouse Pointer / Control Mouse Speed / Install and Uninstall Programs	Knowledge and practical application	Practical + Theoretical	Tests & Discussion
5	2	Minimize and enlarge the window / final closure / temporary closure / move the window / control the capacity of the window / ways to run applications and programs	Knowledge and practical application	Practical + Theoretical	Tests & Discussion
6	2	Order start menu items / delete start menu items / add submenu to start menus / add new button to start menu	Knowledge and practical application	Practical + Theoretical	Tests & Discussion
7	2	Basic System Information / Stop Unwanted Applications Windows explorer window finder / My computer icon / my computer window parts	Knowledge and practical application	Practical + Theoretical	Tests & Discussion
9&8	2	Recycle Bin (delete, retrieve and empty the basket) / My Document icon	Knowledge and practical application	Practical + Theoretical	Tests & Discussion
11&10	2	Definition of files and folders / Identification of files and folders / Properties of files Definition	Knowledge and practical	Practical + Theoretical	Tests & Discussion

		of folders / Create files and folders / Change the name of files and folders / Move file or folder / Copy file or folder / Search for file or folder / Create a shortcut icon for an application or file	application		
13&12	2	Calculator / Notepad / WordPad / Use the memo to edit and create the file Paint / Screen components / Create drawings / Select front and background colors / Choose brush font size / Select and select the drawing tool / Save drawing / Make drawing desktop background / Quit Paint Entertainment programs Media player	Knowledge and practical application	Practical + Theoretical	Tests & Discussion
15&14	2	Viruses / Reason for naming / Definition / Ways of spreading the virus / Symptoms of infection with the virus / Protection methods / Types of viruses Computer crimes / theft / hackers	Knowledge and practical application	Practical + Theoretical	Tests & Discussion

12. Infrastructure	
Required reading:	Available in the free department and library of the institute
Main references (sources)	Available in the free department and library of the institute
Recommended books and references (scientific journals, reports,...)	Internet

13. Course development plan
1- Developing curricula adapted to the labor market 2- Holding seminars and scientific conferences aimed at updating the curricula 3- Follow-up scientific developments in the field of specialization

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Arabic Language NTU103
4. Programme (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical) * Discussions and reports
6. Semester/Year	Annual
7. Number of hours tuition (total)	30
8. Date of production/revision of this specification	8 / 1 / 2024
9. Aims of the Course 1- Enabling the student to read correctly. 2- Enabling the student to write correctly and use punctuation marks. 3- The student should acquire the ability to use the Arabic language correctly. 4- Introducing the student to the correct Arabic language words, structures and words in an interesting way. 5- Accustom the student to sound and clear expressions of his ideas. 6- Helping the student to understand complex structures and mysterious methods.	
10. Course outcomes and teaching, learning and evaluation methods	
A.Cognitive objectives A- The student should recognize common mistakes in writing Arabic in order to avoid them B - The student should recognize the punctuation marks and use them correctly C - The student should distinguish between the solar lam and the lunar lam, which helps to pronounce it correctly D - The student differentiates between Dhad and Zaa, and this is what helps him to avoid falling into a spelling error E - To distinguish between the verb, the noun and the letter, as this is what his Arabic speech is based on. F- He must be able to write the hamza in its correct position correctly.	
B - The skills objectives of the course. B1 – Providing the student with a linguistic wealth that makes him more able to correctly express what he wants. B2- Correcting the student's tongue and preventing it from error	
Teaching and learning methods ((Theoretical lectures / listening lectures / conversation lectures / interactive lectures / research in libraries and the Internet on specific topics)).	
Evaluation methods ((Oral tests / written tests / weekly reports / daily attendance / participation and interaction in lectures / semester and final exams))	
C- Emotional and value goals C1- Thinking, activation and organization development	

C2- Working to make the student's imagination fertile imagination by highlighting the aesthetics of the language and thus enabling him to express the essence of the soul in a proper way.
Teaching and learning methods
((Theoretical lectures / seminars / conducting debates between students / making reports))
Evaluation methods
((Oral Tests / Written Tests / Observation / Student Cumulative Record))
D - Transferable general and qualifying skills (other skills related to employability and personal development).
D1- The ability to develop and develop his expressive skills such as poetry and story.
D2- The ability to communicate with the outside world properly.

11. Course Structure

Week	Hours	Unit/Module or Topic Title	ILOs	Teaching Method	Assessment Method
1	2	Introduction to linguistic errors – Taa Al-Marbouta and Al-Taa Al-Maktaba	1. Identify the types of linguistic errors. 2. Differentiate between open Taa and Taa tethered	Discussion method, lecture method	Oral test
2	2	Rules for writing the elongated and compartment thousand – solar and lunar letters	1. Differentiate between the writing of the extended thousand and the compartment and the positions of the writing of the two thousand 2. Differentiate between solar letters and lunar letters	Discussion method, lecture method	Oral test
3	2	Al-Daad and Al-Zaa	Differentiate between Dhad and Z	Discussion method, lecture method	Oral test
4	2	Hamza writing	Enable the student to write the hamza correctly	Discussion method, lecture method	Oral test
5	2	Punctuation	Recognize	Discussion method,	Oral test

			punctuation and write it in the correct location	lecture method	
6	2	Noun and verb and differentiate between them	1. Recognize the noun and verb and indicate the sign of each 2. Differentiate between noun and verb 3. Indication of the types of verb 4. Differentiate between types of verbs	Discussion method, lecture method	Oral test
7	2	Effects	identify the types of effects and differentiate between them	Discussion method, lecture method	Oral test
8	2	Number	Enable the student to write numbers correctly	Discussion method, lecture method	Oral test
9	2	Applications of common linguistic errors	Recognize and avoid common language errors	Discussion method, lecture method	Oral test
10	2	Applications of common linguistic errors	Recognize and avoid common language errors	Discussion method, lecture method	Oral test
11	2	Noon and Tanween meanings of prepositions	1. Differentiate between Nun and Tanween 2. Recognize the meanings of prepositions	Discussion method, lecture method	Oral test
12	2	Formal aspects of administrative discourse	Identify the formal aspects of administrative discourse	Discussion method, lecture method	Oral test
13	2	The language of administrative discourse	Recognize the language of administrative discourse	Discussion method, lecture method	Oral test
14	2	The language of administrative discourse	Recognize the language of administrative discourse	Discussion method, lecture method	Oral test
15	2	Samples of administrative correspondence	Identify samples of administrative	Discussion method,	Oral test

			correspondence	lecture method	
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12. Infrastructure	
Required reading:	Textbooks: General Arabic Language Binding for Technical Universities by (Dr. Safaa Kazem Makki and Dr. Lama Muhammad Younis
Main references (sources)	<p>1- Clear dictation: Abdul Majeed Al-Nuaimi, Daham Al-Kayyal, Dar Al-Mutanabbi Library, Baghdad, 6th edition, 1987 AD.</p> <p>2- Lessons in language, grammar and spelling for state employees: Ismail Hammoud Atwan and others, Ministry of Education Press No. (3), Baghdad, 2nd edition, 1984.</p> <p>3- Arabic language for the third intermediate grade: Fatima Nazem Al-Attabi, et al., 1st edition, 2018.</p> <p>4 - General Arabic language for sections other than specialization: Abdul Qadir Hassan Amin and others, Ministry of Higher Education and Scientific Research, 2nd Edition, 2000.</p> <p>5- Inspired by Arabic literature: Haval Muhammad Amin, Al-Saadoun Press, Baghdad.</p>
Electronic references, Internet sites...	World Wide Web

13.Course development plan
Correcting the linguistic errors that occurred in the manual to be taught and trying to add a definition to some of the terms contained in the fascicle, especially since the Arabic language fascicle was prepared for non-specialists in the Arabic language, and this leads to making the prescribed vocabulary more accurate and clear.

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Physical activity NTU104
4. Programme (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Sports discussions and activities
6. Semester/Year	Annual
7. Number of hours tuition (total)	30
8. Date of production/revision of this specification	8 / 1 / 2024
9. Aims of the Course 1- The student should be able to identify the most important types of sports and the laws and skills of some sports 2- Identify the motor mechanism of the human body and what are the common injuries that occur in the human body. 3. Perform his duties at the workplace for professional motives.	
10. Course outcomes and teaching, learning and evaluation methods	
A.Cognitive objectives A1- The student should be able to identify the most important types of sports and what are the laws and skills of some sports	
B - The skills objectives of the course. B1- Identify the motor mechanism of the human body and what are the common injuries that occur in the human body.	
Teaching and learning methods ((Theoretical lectures / practical lectures / field visits / solving examples / seminars))	
Evaluation methods ((Oral exams / written tests / weekly reports / daily attendance / semester and final exams))	
C- Emotional and value goals C1- Perform his duties at the workplace for professional motives.	
Teaching and learning methods ((Theoretical lectures / practical lectures / field visits / solving examples / seminars))	
Evaluation methods ((Oral Tests / Written Tests / Observation / Student Cumulative Record))	
D - Transferable general and qualifying skills (other skills related to employability and personal development). D1- Improve their discussion skills. D2- Raising their research perceptions and transferring the student from the stage of teaching to learning.	

11. Course Structure					
Week	Hours	Unit/Module or Topic Title	ILOs	Teaching Method	Assessment Method
1	2	Sport definition, importance and types	Knowledge and practical application	theoretical and practical	Tests & Reports
2	2	The mechanism of movement of the human body	Knowledge and practical application	theoretical and practical	Tests & Reports
3	2	Common sports injuries	Knowledge and practical application	theoretical and practical	Tests & Reports
4	2	Basic skills of the game of basketball	Knowledge and practical application	theoretical and practical	Tests & Reports
5	2	International Basketball Law	Knowledge and practical application	theoretical and practical	Tests & Reports
6	2	Basic skills of table tennis and its international law	Knowledge and practical application	theoretical and practical	Tests & Reports
7	2	Basic skills of volleyball and its international law	Knowledge and practical application	theoretical and practical	Tests & Reports
8	2	Swimming sport	Knowledge and practical application	theoretical and practical	Tests & Reports
9	2	Basic skills of tennis and its international law	Knowledge and practical application	theoretical and practical	Tests & Reports
10	2	Basic skills of handball	Knowledge and practical application	theoretical and practical	Tests & Reports
11	2	International Handball Law	Knowledge and practical application	theoretical and practical	Tests & Reports
12	2	Arena and field games (types, international law of the game)	Knowledge and practical application	theoretical and practical	Tests & Reports
13	2	Basic Football Skills	Knowledge and practical application	theoretical and practical	Tests & Reports
14	2	Management of sports competitions and competitions	Knowledge and practical application	theoretical and practical	Tests & Reports
15	2	Sports Laws and Legislations	Knowledge and practical application	theoretical and practical	Tests & Reports

12. Infrastructure	
Required reading:	Available in the free department and library of the institute
Main references (sources)	Available in the free department and library of the institute
Electronic references, Internet	Internet

13. Course development plan

- 1- Developing curricula adapted to the labor market
- 2- Holding seminars and scientific conferences aimed at updating the curricula
- 3- Follow-up scientific developments in the field of specialization

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Nursing Techniques Department
3. Course title/code	Anatomy / TIMM 107
4. Program (s) to which it contributes	Technical Diploma in Nursing
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Modules
7. Number of hours tuition (total)	60
8. Date of production/revision of this specification	8 / 4 / 2024
9. Aims of the Course	
The student will be able to:	
<ul style="list-style-type: none"> • Identify the human body's systems. • Identify the relationship between devices. 	
10. Course outcomes and teaching, learning and evaluation methods	
A. <u>Cognitive objectives</u> :	
A1. Identify the organs of each system of the human body.	
A2. Identify the location of each organ in the human body.	
B - <u>Skills objectives</u> :	
<ul style="list-style-type: none"> • Training students on the general anatomical positions of the human body 	
C- <u>Emotional and Value-Based objectives</u> :	

<ul style="list-style-type: none"> • Respecting the patient's sanctity, customs and traditions.
<p>D - <u>General and qualifying skills:</u> D1- Field visits to gain experience from others. D2- Access to scientific developments in the field of specialization (educational videos). D3- Practical training in hospitals.</p>
Teaching and learning methods
Traditional lecture, Writing reports, Seminar conduct, Practical training in the laboratory, Practical training in the hospital, and End of the course training.
Evaluation methods
Daily written and oral tests, Applied tests, Seminars, Semester and final exams, Commitments to assignments, Attendance and commitment, Feedback (Linking the current topic to the previous topic), Self-evaluation, Reports on scientific developments in the field of specialization, Asking analytical and deductive questions.

11. Course Structure				
Week	Hours	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	4	Anatomical Directions: Explain all directions of the human body. Surface anatomy of the heart: Describe the position of the heart according to the chest wall and the number of the rib .	Lecture, discussion, presentation of videos	test
2	4	Surface Anatomy of lungs: Describe the position of the lungs according to the chest wall and the number of the rib. Anatomy of the abdomen surface: Drawing the regions of the abdominal surface according to the horizontally & vertically lines .	Lecture, discussion, presentation of videos	test
3	4	Anatomy of stomach: Demonstration the relation of the stomach to the other organs to the abdomen.	Lecture, discussion, presentation of videos	test

		Anatomy of the liver & spleen: Explain the regions of liver & spleen according to the surface anatomy of abdomen .		
4	4	Anatomy of Intestine: Demonstrate the relation of the Intestine to the other organs to the abdomen. Anatomy of the Appendix: Determine the region of the appendix at the right iliac region .	Lecture, discussion, presentation of videos, Display models	Test
5	4	Anatomy of the gall bladder: Determine the region of gall bladder at the right sub – costal region. Define the region of the uterus at the supra – pubic region .	Lecture, discussion, presentation of videos, Display models	practical test
6	4	Anatomy of the skeleton: Describe the center skeleton: Skull – vertebral column & the peripheral. Bones of the shoulder: Show the bones of the shoulder on the skeleton which are the scapula and the clavicle.	Lecture, discussion, presentation videos, Display models	practical test
7	4	Bones of the arm: Show the bones of the arm (Humerus). Bones of the forearm: Show the bones of Ulna and Radius.	Lecture, discussion, presentation videos, Display models	practical test
8	4	Bones of the hand: Demonstrate the bones of the hand: (carpal bones and metacarpal and phalanx). Bones of the pelvis: Define the bones of the pelvis which are: (Iliac and Ischium and sacrum).	Lecture, discussion, presentation videos, Display models	practical test
9	4	Bones of the thigh: Demonstrate of the skeleton the femur bone with the lower and upper ends. Bones of the leg: Show the bones which are: (Tibia & fibula), and extension to the femur and the foot .	Lecture, discussion, presentation videos, Display models	practical test
10	4	Bones of the foot: Describe the bones which are : (Tarsal & metatarsal & phalanges). Bones of the skull: Name the numbers of the bones on all at surfaces of the skull .	Lecture, discussion, presentation videos, Display models	practical test
11	4	Bones of vertebral column: Show	Lecture, discussion,	practical test

		the student the types of the vertebrae column and the numbers. Muscle of the shoulder: Show them on the model all the muscles of the shoulder.	presentation videos, Display models	
12	4	Anatomy of the chest wall: Give the types and numbers of the ribs and explain the sternum. Muscles of the chest & abdomen: Give the name of the muscles of the chest wall and abdominal wall.	Lecture, discussion, presentation videos, Display models	practical test
13	4	Muscles of the back & gluteal region: Show the student muscles of the back and gluteal muscles. Anatomy of the digestive system: Show the organs of the digestive system .	Lecture, discussion, presentation videos, Display models	practical test
14	4	Anatomy of the cardio-muscular system: Show them the model of the organs which is the heart and big vessels. Respiratory system: Demonstrate the lungs and bronchus and bronchi..	Lecture, discussion, presentation videos, Display models	practical test
15	4	The uro-genetal system: Show the kidney and urinary bladder with exaltation to the uterus & prostate. The central nervous system: Describe the brain – cerebellum – medulla oblongata and the spinal cord.	Lecture, discussion, presentation videos, Display models	practical test

12.Infrastructure	
Required reading:	Anatomy
Main references (sources)	1- مبادئ علم التشريح لطلبة معاهد المهن الصحية، الدكتور عبد الرحمن محمود، الرحيم / وزارة الصحة 1983
Recommended books and references (scientific journals, reports,...)	Atlas of anatomy (Grantes) / 1998. Kingham anatomy – Oxford – London / 1987 .
B - Electronic references, Internet sites...	

13.Course development plan

Access to modern scientific literature through:

- 1- Participation in relevant scientific conferences
- 2- The teaching and training staff is partially devoted to applying and working in hospitals
- 3- Hosting specialized professors
- 4- Academic pairing with other universities and corresponding colleges

Course description

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Safety in lab &workshop TIMM108
4. Programme (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	1 -Weekly lesson schedule (theoretical) 2- Discussions
6. Semester/Year	First semester/first level
7. Number of hours tuition (total)	30 hours (the number of theoretical hours during the 15 weeks)
8. Date of production/revision of this specification	8/1/2024
1. Course objectives	<p>At the end of the course, the student learns about the basic laboratory equipment and what precautions are taken to ensure safety.</p> <p>Protects workers from chemical, radiological, biological, and fire hazards through knowledge of personal equipment.</p> <p>These must be available in laboratories and knowledge of first aid for every accident that may occur. As he recognizes</p> <p>The student learns about the most important environmental factors that have an impact on</p>

<p>the health and safety of laboratory workers, such as light., Noise, temperature, and humidity</p> <p>1-</p>
<p>2. Course outcomes and teaching, learning and evaluation methods</p>
<p>A- Cognitive objectives</p> <p>a1- Identify the basic equipment in laboratories.</p> <p>a2- Identify the precautions that provide safety for laboratory workers</p> <p>a3- Identify chemical, radiological and biological risks</p> <p>a4- Identify the types of diagnostic equipment and how to deal with them</p>
<p>B - The skills objectives of the course.</p> <p>The course is limited to theoretical hours and no practical hours are allocated to enhance the student's skills.</p>
<p>Teaching and learning methods</p>
<p>1 Adopting the screen to display the lecture enhanced with illustrative pictures.</p> <p>-2 Adopting the discussion method and involving the largest number of students because of their prior knowledge of the topic of the lecture that was prepared for them.</p> <p>In a binding manner</p>
<p>Evaluation methods</p>
<p>1- Monthly evaluation by conducting the examination stipulated in the instructions.</p> <p>2- To evaluate the activities required of students</p>
<p>C- Emotional and value goals</p> <p>C1- Be careful when dealing with any substance in the laboratory.</p> <p>C2- He knows the importance of wearing personal protective equipment when entering the laboratory.</p> <p>C3- It protects laboratory equipment, especially chemicals, from being wasted or spilled, because they represent a danger as well.</p> <p>About her loss.</p> <p>-C4- Adhere to the instructions for use and cautionary instructions before starting any experiment or work in the laboratory.</p>
<p>Teaching and learning methods</p>
<p>1- Adopting the screen to display the lecture supported by illustrative pictures.</p> <p>-2 Adopting the discussion method and involving the largest number of students because of their prior knowledge of the topic of the lecture that was prepared for them.</p> <p>In a binding manner</p>
<p>Evaluation methods</p>

1- Monthly evaluation by conducting the examination stipulated in the instructions.
2- Evaluation related to the activities required of students
D - Transferable general and qualifying skills (other skills related to employability and personal development). Dr1- The student's ability to evaluate laboratories according to his knowledge of the conditions that must be met in the laboratory.

3. Course structure					
Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week
Feedback Through guidance questions	Method Discussion	Basic equipment that must be available in the laboratory (laboratory arrangement)	The student gets to know the basic equipment Must be available in Laboratory	2	1
Feedback Through guidance questions	Method Discussion	Safety precautions when dealing with laboratory tools and chemicals	The student understands safety precautions When dealing with Laboratory tools /Chemical materials	2	2
Feedback Through guidance questions	Method Discussion	Safety precautions when completing laboratory work and storing and preserving materials	Teaching students how to work and safety precautions Upon completion of work Laboratory and storage materials and their preservation)	2	3
Feedback Through guidance questions	Method Discussion	Fires and their types. And means of extinguishing it	The student should distinguish between fires and their types And means of extinguishing it	2	4&5
Feedback	Method	Personal	For students to become	2	6

Through guidance questions	Discussion	protective equipment	familiar with protective equipment Personality		
Feedback Through guidance questions	Method Discussion	Chemical hazards, and how to deal with them	For students to know the types of chemical hazards And how to deal with it	2	7
Feedback Through guidance questions	Method Discussion	Radiation hazards	For students to know the types of radiation hazards	2	8
Feedback Through guidance questions	Method Discussion	Biological hazards	For students to know the types of biological hazards	2	9
Feedback Through guidance questions	Method Discussion	Disposal of laboratory (medical) waste. Use of warning signs in the laboratory	For students to know the types of laboratory waste (Medical)	2	10&11
Feedback Through guidance questions	Method Discussion	First aid in laboratories	For students to know the types of accidents and first aid	2	12&13
Feedback Through guidance questions	Method Discussion	Other environmental factors and their impact on safety and health (light, noise, heat and humidity)	The student gets to know the physical factors harmful to the work environment	2	14
Feedback Through guidance questions	Method Discussion	Safety in field studies	For students to become familiar with the types of field studies	2	15

4. Infrastructure	
1- Required prescribed books	There are no textbooks prescribed for this course
2- Main references (sources)	<p>1Korkis Abdel Adam_Youssef Zora Youssef, Chemical Hazards and Safety, University of Basra, College of Science.1980</p> <p>-2Abdul Rahman Nayef Al Abri - Hussein Ahmed Al Sharif, security and safety conditions in... Chemical warehouses, Civil Defense Directorate, Kingdom of Saudi Arabia.2013</p> <p>-3A.D. Ahmed Lotfy, Guide to Security and Safety Precautions in Chemical Laboratories, Damietta University, .2015</p> <p>-4World Health Organization, ionizing radiation, its health effects and prevention measures, .2005</p> <p>-5World Health Organization, biological risks, .</p>
Recommended books and references (scientific journals, reports,...)	Occupational health and safety books
B - Electronic references, Internet sites...	

5. Course development plan
<p>1- Access to modern scientific literature</p> <p>2- addition side practical to The decision For a purpose Consolidation Ideas I have Students</p> <p>3- Deleting the topic of field studies from the curriculum because there is no relationship between it and the safety of laboratories and workshops.</p>

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Medical Terminology TIMM109
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Courses
7. Number of study hour (total)	30 hour
8. Date of production/revision of this specification	8 / 1 / 2024
9. Aims of the Course	
<p>1- Teaching and training the student on how to pronounce letters correctly.</p> <p>2- Teaching and training the student on how to communicate with others.</p> <p>3- Teaching and training the student to know the tenses and their structure.</p> <p>4- Teaching and training the student to know how to make a question and a negation.</p> <p>5- Teaching and training the student on how to use punctuation and definition tools.</p> <p>6- Teaching and training the student on how to know information about himself and others as well.</p>	
Course outcomes and teaching, learning and evaluation methods	
A. Cognitive objectives	
<p>A1- Identify tenses (present simple, past simple, and future simple) .</p> <p>A2- Learn how to pronounce correctly .</p> <p>A3- Learn how to provide a personal biography for an individual.</p> <p>A4- Focus on grammar.</p> <p>A5- Clear vocabulary approach.</p> <p>A6- Work on integrated skills.</p>	
B - The skills objectives of the course.	
<p>B1- Training in identifying correct sentences from incorrect sentences and explaining the reason.</p> <p>B2 - Training students on how to tell the time.</p> <p>B3 - Training on some countries, nationalities, and languages.</p> <p>B4 - Training on introduction, getting to know each other, and bidding farewell.</p>	
Teaching and learning methods	
Traditional lecture, writing reports, conducting seminars, systematic training in the classroom, and the use of technology in modern education, self-learning, feedback, deductive and analytical thinking questions, systematic training in laboratories.	

Evaluation methods

Daily written and oral tests, applied tests, seminars, semester and final exams, obligations to assignments, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are set for the student by the teacher and the student answers the questions, and the teacher also answers the same questions and asks The student is asked to evaluate himself in light of the teacher's answers, and ask analytical and deductive questions.

C- Emotional and value goals

C1- Training on how to deal with incorrect sentences.

C2- Training on how to improve your skills to use the English language more effectively and perform well in your studies.

C3- Training on how to proceed at work and communicate in English in your free time. .

C4- Training on how to deal with native speakers.

C5- Training on how to benefit from acquired skills.

C6- Instilling a love of knowledge in the student by encouraging him to learn.

D - Transferable general and qualifying skills (other skills related to employability and personal development).

D1-Encouraging reading of texts in English.

D2- Access to scientific developments in the field of specialization (educational videos).

11. Course Structure

Week	Hours	Required learning outcomes	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	Introducing students to the importance of the medical terminology course and its nature	Introduction To Medical Terminology	Lecture, discussion, pairs of students to conduct dialogues, representation by drawing on the blackboard, PowerPoint	Oral Test
2	2	Identify the structure of	Basic Word Structure	Lecture, discussion,	Oral Test

		the medical term and its basic parts		video presentation, and PowerPoint	
3	2	Identify the root word of the medical term	Root	Lecture, discussion, PowerPoint presentation, acting pairs	Oral Test
4	2	Identify the syllables that are added to the beginnings of a medical term	The Prefix	Lecture, discussion, video presentation, and pair acting	Oral and Practical Test
5	2	Identify the syllables that are added to the ends of a medical term	The Suffix	Lecture, discussion, video and photo presentation	Practical and Oral Test
6	2	Learn how to connect medical terms	Rules For Combining Vowels	Lecture, discussion, video and photo presentation	Practical Test
7	2	Identify the types of association related to medical terms	Combining Form	Lecture, discussion, slide show	Practical and Oral Test
8	2	Learn about the most important medical terms and concepts of pathology	Medical terminology and pathology	Lecture, discussion, video and photo presentation	Practical Test
9	2	Identify the most important	Terms of Cardiovascular system Terms of Nervous	Lecture, discussion, showing videos	Practical Test

		medical terms related to the heart, circulatory, and nervous systems, its component parts, and the most important common diseases	system	and photo	
10	2	Identify the most important medical terms related to the digestive and urinary systems, their component parts, and the most common diseases	Terms of Digestive system Terms of Urinary system	Lecture, discussion, presentation of videos and photos	Practical Test
11	2	Identify the most important medical terms related to the blood and lymphatic system, its component parts, and the most important common	Terms of Blood and Lymphatic system	Lecture, discussion, presentation of videos and photos	Practical Test

		diseases			
12	2	Identify the most important medical terms related to the respiratory system, its component parts, and the most common diseases	Terms of Respiratory system	Lecture, discussion, presentation of videos and photos	Practical Test
13	2	Identify the most important medical terms related to teeth, face and jaws	Terms Of Teeth And Oral Facial Regio	Lecture, discussion, presentation of videos and photos	Practical Test
14	2	Identify the most important medical terms related to conditions and trends	Positional and directional terms	Lecture, discussion, presentation of radiological videos and films	Practical Test
15	2	Identify the most important medical terms related to the musculoskeletal system, its component parts, and the most common	Musculoskeletal System	Lecture, discussion, presentation of videos and photos	Practical and Oral Test

		diseases			
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12. Infrastructure	
Main references (sources)	
Recommended books and references (scientific journals, reports,...)	
B - Electronic references, Internet sites...	

13. Course development plan
<p>Access to modern scientific literature</p> <ol style="list-style-type: none"> 1- Access to modern scientific literature. 2- Participation in relevant scientific conferences. 3- Devoting the teaching and training staff to apply and work in places to apply what has been learned. 4- Hosting specialized professors. 5- Academic pairing with other universities and corresponding colleges.

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Principle of nursing RADT110
4. Programme (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Course
7. Number of hours tuition (total)	60
8. Date of production/revision of this specification	2024
9. Aims of the Course	
<p>1- Enable students to recognize the signs and symptoms of common medical conditions</p> <p>2- Teach students how to measure basic vital signs</p> <p>3- Providing students with practical skills to care for patients</p> <p>4- Enhancing practical understanding of the foundations of hygiene and sterilization:</p> <p>5- Educating students about the importance of self-care and disease prevention</p> <p>6. Teaching students about methods of preparing and distributing medications</p> <p>7. Enhancing knowledge of first aid methods for various emergency situations</p> <p>8. Encouraging students to develop effective communication skills with patients and colleagues in health work</p>	
10. Course outcomes and teaching, learning and evaluation methods	
<p>A.Cognitive objectives</p> <p>1. Understanding health care concepts: Achieving a deep understanding of the concepts of health, illness, primary health care, and self-care.</p>	

2. Learn about vital signs and their interpretation: Understand the concept of vital signs such as temperature, blood pressure, and heart rate, and interpret the meanings of normal and different values for them.

3. Learn about first aid procedures: Understand how to provide first aid for emergency situations such as burns, bleeding, and trauma.

4. Identify the types of medications and their uses: Understand the different types of medications, their effects, and how to distribute and store them correctly.

5. Develop communication and interaction skills with patients and the medical team: Learn how to communicate effectively with patients and colleagues to improve the quality of care and enhance understanding and collaboration.

6. Understanding the principles of hygiene, sterilization and safety in health care: Achieving a deep understanding of the importance of hygiene and sterilization techniques to prevent infection and protect the health of patients and health workers.

7. Develop clinical assessment and analysis skills: Learn how to evaluate a patient's condition and analyze signs and symptoms to provide the necessary care appropriately.

8. Develop the ability to think critically and solve problems: Develop the ability to think logically and solve problems related to health care and first aid.

B - The skills objectives of the course.

1. Developing primary health care provision skills: enabling students to provide first aid in a safe and effective manner in various medical emergencies.

2. Learn first aid for common injuries: Training students to deal with injuries such as burns, wounds, fractures, and bleeding in a proper and safe manner.

3. Develop vital signs measurement skills: Teach students how to accurately measure and record basic vital signs, such as temperature, blood pressure, and heartbeat.

4. Enhancing communication and interaction skills with patients: Developing the ability to communicate effectively with patients, provide emotional support, and help understand treatment and treatment plans.

5. Learn the skills of clinical assessment and initial diagnosis: Train students to comprehensively evaluate the patient's condition, determine priorities, and develop an initial treatment plan.

6. Develop critical thinking and problem-solving skills: Learn how to think logically and use mental skills to solve problems related to health care situations.

7. Enhancing teamwork and cooperation skills in the medical team: Training

<p>students to work effectively as part of an integrated medical team to achieve the best care outcomes for patients.</p> <p>8. Developing skills in dealing with medical technology: Learn how to use and interpret the results of various medical examinations and analyzes correctly and effectively.</p>
<p>Teaching and learning methods</p>
<p>Traditional lecturing, writing reports, conducting seminars, practical applications</p>
<p>Evaluation methods</p>
<p>Daily written, practical and oral tests and practical applications, seminars, semester and final exams, commitments to assignments, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are put to the student by the teacher and the student answers the questions, and the teacher also answers the same questions and asks the the student evaluates himself in light of the teacher's answers, reports on scientific developments in the field of specialization, and asks analytical and deductive questions.</p>
<p>C- Emotional and value goals</p> <ol style="list-style-type: none"> 1. Promoting health awareness: The course aims to increase awareness of the importance of public health and disease prevention among students and society. 2. Encouraging healthy behaviors: The course aims to promote healthy and preventive behaviors among individuals, such as personal hygiene, proper nutrition, and physical fitness. 3. Directing attention to public health problems: The course highlights various public health problems and encourages thinking about their solutions and participating in efforts to combat them. 4. Promoting human values: The course contributes to promoting human values such as cooperation, care, and equality by focusing on the health and well-being of society. 5. Enhancing communication and interaction: The course helps enhance communication and interaction between students and the community on important and inspiring health topics. 6. Promoting a sense of social responsibility: The course encourages students to volunteer in disease prevention efforts and participate in charitable work for the benefit of public health.
<p>Teaching and learning methods</p>
<p>Traditional lecture, self-learning, feedback, deductive and analytical thinking</p>

questions, and practical applications
Evaluation methods
Written, oral, and practical tests, semester and final exams, daily tests, and commitments to assignments such as making reports in the field of specialization and then discussing the reports, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are put to the student by the teacher and the student responds to Questions: The teacher also answers the same questions and asks the student to evaluate himself in light of the teacher's answers. Deductive and deductive questions.
D - Transferable general and qualifying skills (other skills related to employability and personal development). 1- Field visits to gain experience from others. 2- Access to scientific developments in the field of specialization (educational videos). 3- Practical training in hospitals.

11. Course Structure					
Assessment Method	Teaching Method	ILOs	Unit/Module or Topic Title	Hours	Week
test	Lecture, discussion, video presentation and description	Understand the concepts of health and illness, know the types of diseases and their symptoms, and understand the function of hospitals and other medical facilities	Definitions of health, patient, .disease, hospital	4	1
test	Lecture, discussion, video presentation and	Understand the importance of hygiene in health care, understand the importance of	Patient basic need, (hygiene, nutrition)	4	2

	description	proper nutrition in treatment, be able to assess the nutritional status of the patient and provide personal care and empathy to the patient.			
practical test	Lecture, discussion, video presentation, illustrations and practical application	Understanding the importance of measuring body temperature, knowledge of different methods of measuring temperature, ability to accurately estimate results, understanding the causes of changes in temperature, ability to provide sound instructions to patients and families	Vital signs, temperature	4	3
practical test	Lecture, discussion, video presentation, illustrations and practical application	Understanding the importance of measuring blood pressure, knowledge of methods of measuring blood pressure, understanding medical readings and reports related to blood pressure, understanding the causes of changes in blood pressure and the ability to guide patients and families regarding blood pressure.	Vital signs, blood pressure	4	4

practical test	Lecture, discussion, video presentation, illustrations and practical application	Understanding the importance of measuring respiration and pulse, the ability to measure respiration and pulse accurately, understanding medical readings and reports related to respiration and pulse, and understanding the causes of changes in respiration and pulse.	Vital signs, respiration and pulse	4	5
test	Lecture, discussion, video presentation and description	Understanding the importance of sterilization in preventing infection, knowing the types of disinfectants and their appropriate uses, understanding effective sterilization methods, the ability to evaluate the effectiveness of sterilization, understanding safety and quality standards in sterilization, and the ability to guide others about correct sterilization.	Sterilization, types of antiseptic, Aseptic technique	4	6
practical	Lecture,	Understanding the	Dressing, hand washing	4	7

test	discussion, video presentation, illustrations and practical application	importance of changing dressings and washing hands in preventing infection, knowledge of techniques for changing dressings correctly, being able to properly clean and disinfect wounds, understanding the importance of washing hands properly and being able to follow personal hygiene procedures appropriately.			
test	Lecture, discussion, video presentation and description	Treatment, knowledge of the types of medications and their uses, understanding doses and schedules for taking medications, skills for administering medications correctly, skills for supervision and follow-up of taking medications, understanding the symptoms of side effects and drug interactions, and adherence to ethical foundations and health laws in administering medications.	Medication, ways of drug administration	4	8

practical test	Lecture, discussion, video presentation, illustrations and practical application	Understanding the types of injections and their uses, knowing the techniques for giving injections correctly and being able to choose the appropriate type of injection and the appropriate site to administer it based on the patient's condition, type of medication and dose.	Injection, type of parenteral	4	9
practical test	Lecture, discussion, video presentation, illustrations and practical application	Understanding the causes of loss of consciousness, knowing the initial steps for action, case assessment skills, the ability to apply cardiopulmonary resuscitation and artificial respiration techniques, and understanding appropriate case management.	First Aid, unconscious.	4	10
practical test	Lecture, discussion, video presentation, illustrations and practical application	Understanding the types and degrees of burns, knowing the initial steps for action, skills for assessing the severity of the burn and the area of damage, understanding the correct use of medical tools and materials, the	First aid, burns	4	11

		ability to provide the necessary care and pain management, and understanding and dealing with potential risks.			
practical test	Lecture, discussion, video presentation, illustrations and practical application	Understanding the types of bleeding and its sources, knowing the initial steps for action, skills in using bandages and compressions, understanding the use of compressive and inflatable bandages, the ability to assess the situation and react quickly, and understand potential risks and deal with them.	First aid, bleeding	4	12
practical test	Lecture, discussion, video presentation, illustrations and practical application	Understanding the types of fractures and their causes, knowing the initial steps for action, skills in assessing the severity of fractures and the area of damage, understanding the use of prosthetics and supports, the ability to provide the necessary care and transport the injury safely, and understanding and dealing with potential risks.	First aid, fractures	4	13

Test	Lecture, discussion, video presentation and description	Understanding the symptoms and causes of shock, knowing the initial steps for action, skills to assess the severity of shock, heart rate and breathing, understanding the use of emergency medications and the ability to provide the necessary care and transport the injury safely.	Shock	4	14
practical test	Lecture, discussion, video presentation and description	Understanding the causes of secretion accumulation, knowledge of secretion suctioning techniques, skills to provide correct care, understanding potential risks and complications, and the ability to communicate and deal with the patient.	Suction secretion	4	15

12. Infrastructure

Required reading:	Fundamental of Nursing - Salwa Abbas - 1981
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<p>Main references (sources)</p>	<p>Filter , H.H Evaluation on objective approach</p> <p>Report of the 1971. In Workshop of the Council of Diploma Program.N.L.N Pub .16.1446-1971</p> <p>Liwack,L.Sakata,R.and Wnkle :</p> <p>Consulting,evaluation and studies developmentin nursing Education .1972 W.B.Saunders company .Philadelphia .</p> <p>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 . 2 nd ed. , New York .Appleton-Century. Cropts,1981 . Meisenhelder, J.B. Clinical evaluation on instruments dilma . Nursing out look .1982 . 30 6 348 -35</p>
<p>Recommended books and references (scientific journals, reports,...)</p>	
<p>B - Electronic references, Internet sites...</p>	

<p>13.Course development plan</p>	
<p>1- Participation in relevant scientific conferences</p> <p>2- The teaching and training staff is partially devoted to applying and working in</p>	<p>Access to modern scientific literature</p>

hospitals

3- Hosting specialized professors

4- Academic pairing with other universities and corresponding colleges

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Principle of Radiography RADT111
4. Programme (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Annual
7. Number of hours tuition (total)	120
8. Date of production/revision of this specification	8 / 1 / 2024
9. Aims of the Course 1- Teaching and training the student on how to receive the patient. 2- Teaching and training the student to take the appropriate position for the patient. 3- Teaching and training the student to prepare the patient to take the x-ray. 4- Teaching and training students to develop video cassettes. 5- Teaching and training the student on how to perform color examinations. Teaching and training female students on how to handle the mammography device (breast screening device) and take mammograms.	
10. Course outcomes and teaching, learning and evaluation methods	
A. Cognitive objectives A1- Identify the risks of radiation exposure. A2- Identify the nature of the materials used in color radiological examinations, such as staining the kidneys and the digestive system. A3- Identifying the presence of some metals inside the body, such as shrapnel and platinum, during an MRI examination.	
B - The skills objectives of the course. B1 - Training in determining the appropriate position for x-ray imaging of the	

<p>patient.</p> <p>B2 - Training students on how to deal with radiological equipment.</p> <p>B3 - Training the patient in the appropriate position for x-ray imaging.</p> <p>B4 - Training on developing the patient's imaging cassette to display the radiograph.</p>
<p>Teaching and learning methods</p>
<p>Traditional lecture, report writing, seminar conduct, practical training in the laboratory, methodological training in the hospital, and summer training.</p>
<p>Evaluation methods</p>
<p>Daily written and oral tests, applied tests, seminars, semester and final exams, obligations to assignments, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are set for the student by the teacher and the student answers the questions, and the teacher also answers the same questions and asks The student is asked to evaluate himself in light of the teacher's answers, reports on scientific developments in the field of specialization, and asks analytical and deductive questions.</p>
<p>C- Emotional and value goals</p> <p>C1- Training on how to deal with premature babies and newborns.</p> <p>C2- Training on how to deal with pregnant women.</p> <p>C3- Training on how to deal with unconscious patients.</p> <p>C4- Training on how to deal with elderly patients.</p> <p>C5- Training on how to deal with paralyzed patients.</p> <p>C6- Training on how to deal with patients who have injuries resulting from traffic collisions and exposure to gunfire.</p>
<p>Teaching and learning methods</p>
<p>Traditional lecture, self-learning, feedback, deductive and analytical thinking questions, methodological training in laboratories, applied training in hospitals, and summer training.</p>
<p>Evaluation methods</p>
<p>Simulating the medical condition, written, oral, and applied tests, semester and final exams, daily tests, and commitments to assignments such as making reports in the field of specialization and then discussing the reports, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are put to the student by the teacher The student answers the questions, and the teacher also answers the same questions. The student is asked to evaluate himself in light of the teacher's answers) and deductive and deductive questions.</p>
<p>D - Transferable general and qualifying skills (other skills related to employability and personal development).</p> <p>D1- Field visits to gain experience from others.</p>

D2- Access to scientific developments in the field of specialization (educational videos).

D3- Practical training in hospitals.

11. Course Structure					
Week	Hours	Unit/Module or Topic Title	ILOs	Teaching Method	Assessment Method
1	6	Introducing students to the discovery of X-rays, Explaining the difference between it and visible light, identifying the main positions in radiography	Lecture, discussion, presentation of radiological videos and films	6	test
2	6	Explain positions antero-posterior – PA – Oblique decubitus – Prone – supine – recumbent – Erect – Medially – Laterally – Terndlunburg – and Axial. Radiographing the hand and thumb.	Lecture, discussion, presentation of radiological videos and films	6	practical test
3	6	Radiographing the Wrist in the AP , oblique and PA with ulner deviation. Radiographing the forearm in AP and Lateral positions	Lecture, discussion, presentation of radiological videos and films	6	test
4	6	Radiographing the elbow joint in AP, lateral , obliques and axial. Radiographing the elbow joint in special position.	Lecture, discussion, presentation of radiological videos and films	6	Test
5	6	Radiographing the arm (humerus) in erect and decubitus Radiographing the humerus in lateral semi lateral , and lateral through the chest.	Lecture, discussion, presentation of radiological videos and films	6	practical test
6	6	Radiographing the shoulder joint in the AP , lateral , with patient in erect, recumbent through the chest positions. Radiographing the shoulder joint in special position with rotate the hand medially and	Lecture, discussion, presentation of radiological videos and films	6	practical test

		laterally.			
7	6	Radiographing the foot in AP , lateral , medial oblique, lateral oblique , medio lateral and latero medial . Radiographing the calcaneus bone in the lateral, planto-dorsal and dorso planter position.	Lecture, discussion, presentation of radiological videos and films	6	practical test
8	6	Radiographing the ankle joint in the AP and lateral position. Radiographing the ankle joint in the oblique positions, latero medial , medio lateral and special positions.	Lecture, discussion, presentation of radiological videos and films	6	practical test
9	6	Radiographing the leg in AP, lateral and special positions. Radiographing the knee joint in the AP, lateral, sky line or sunshine and special positions.	Lecture, discussion, presentation of radiological videos and films	6	practical test
10	6	Radiographing the upper and lower femur in AP, lateral and special positions . Radiographing the hip joint in AP , lateral and AP position for bilateral hip.	Lecture, discussion, presentation of radiological videos and films	6	practical test
11	6	Radiographing the hip joint in frog legs position with rotate the legs medially and laterally, special positions and axial positions. Radiographing the sacro-iliac joints in AP, PA and oblique.	Lecture, discussion, presentation of radiological videos and films	6	practical test
12	6	Radiographing the pelvis in AP, lateral, semi lateral and oblique. Radiographing the cervical vertebrae in AP, lateral and AP the chest.	Lecture, discussion, presentation of radiological videos and films	6	practical test
13	6	Radiographing the cervical vertebrae in oblique and pending position. Radiographing the thoracic vertebrae in AP, lateral and semi lateral.	Lecture, discussion, presentation of radiological videos and films	6	practical test
14	6	Radiographing the lumbo-sacral vertebrae in AP, lateral and oblique positions.	Lecture, discussion, presentation of radiological videos and films	6	practical test
15	6	Radiographing the coccygeal in AP, lateral and special positions and back.	Lecture, discussion, presentation of	6	practical test

			radiological videos and films		
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12. Infrastructure	
Required reading:	Radiography
Main references (sources)	<p>-1 Radiography - Dr. Adnan Shaker - Hobi Razouki Mustafa.</p> <p>-2 A book project on radiography - Hobi Razouki.</p> <p>-3 A methodological binder in the English language - Hobi Razouki Mustafa.</p> <p>Roentgenographic positions. Vinting Merrill Part I, II, 1965 -</p> <p>- Positioning in Radiography for K.C Clark. London 1975.</p> <p>- Normal Radiographic Anatomy for Dr. Meschan 1976 U.S.A.</p>
Recommended books and references (scientific journals, reports,...)	
B - Electronic references, Internet sites...	

13. Course development plan	
	Access to modern scientific literature
1- Participation in relevant scientific conferences	
2- The teaching and training staff is partially devoted to applying and working in hospitals	
3- Hosting specialized professors	
4- Academic pairing with other universities and corresponding colleges	

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Radiology Techniques Department
3. Course title/code	Radiation Physics (RADT112)
4. Programme (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Annual
7. Number of hours tuition (total)	60
8. Date of production/revision of this specification	8 / 1 / 2024
9. Aims of the Course 1- Teaching and training the student what do we mean by physics- and what are the most important basic units used in measuring some variables . 2- Teaching and training the student what are electric and magnetic circuits and how are they used in X-ray circuits. 3- Teaching and training the student types of electromagnetic waves and the most important experiments conducted in this field. 4- Teaching and training students electrical circuit for generating diagnostic X-rays. 5- Teaching and training the student characteristics of X-rays and types of tubes that are used to generate these X-rays.	
10. Course outcomes and teaching, learning and evaluation methods	
A.Cognitive objectives A1- Identify the risks of radiation exposure. A2- Identify the nature of the materials used in color radiological examinations, such as staining the kidneys and the digestive system. A3- Identifying the presence of some metals inside the body, such as shrapnel and platinum, during an MRI examination.	
B - The skills objectives of the course. B1 - Training in determining the appropriate position for x-ray imaging of the patient. B2 - Training students on how to deal with radiological equipment. B3 - Training the patient in the appropriate position for x-ray imaging.	

B4 - Training on developing the patient's imaging cassette to display the radiograph.
Teaching and learning methods
Traditional lecture, report writing, seminar conduct, practical training in the laboratory, methodological training in the hospital, and summer training.
Evaluation methods
Daily written and oral tests, applied tests, seminars, semester and final exams, obligations to assignments, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are set for the student by the teacher and the student answers the questions, and the teacher also answers the same questions and asks The student is asked to evaluate himself in light of the teacher's answers, reports on scientific developments in the field of specialization, and asks analytical and deductive questions.
C- Emotional and value goals C1- Training on how to deal with premature babies and newborns. C2- Training on how to deal with pregnant women. C3- Training on how to deal with unconscious patients. C4- Training on how to deal with elderly patients. C5- Training on how to deal with paralyzed patients. C6- Training on how to deal with patients who have injuries resulting from traffic collisions and exposure to gunfire.
Teaching and learning methods
Traditional lecture, self-learning, feedback, deductive and analytical thinking questions, methodological training in laboratories, applied training in hospitals, and summer training.
Evaluation methods
Simulating the medical condition, written, oral, and applied tests, semester and final exams, daily tests, and commitments to assignments such as making reports in the field of specialization and then discussing the reports, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are put to the student by the teacher The student answers the questions, and the teacher also answers the same questions. The student is asked to evaluate himself in light of the teacher's answers) and deductive and deductive questions.
D - Transferable general and qualifying skills (other skills related to employability and personal development). D1- Field visits to gain experience from others. D2- Access to scientific developments in the field of specialization (educational videos). D3- Practical training in hospitals.

11. Course Structure

Week	Hours	Unit/Module or Topic Title	ILOs	Teaching Method	Assessment Method
1	2	Electricity – Coulom"s law – electric field	Lecture, discussion,	2	Test
2	2	The meaning of magnetism and magnetization- Classification of magnetic materials	Lecture, discussion,	2	Test
3	2	Laws of magnetism- magnetic flux- magnetic field	Lecture, discussion,	2	Test
4	2	Problems to solve	Lecture, discussion,	2	Test
5	2	Induced emf.	Lecture, discussion,	2	Test
6	2	Electromagnetic waves	Lecture, discussion,	2	Test
7	2	History of X-rays	Lecture, discussion,	2	Test
8	2	Measurement of the intensity of X-rays	Lecture, discussion,	2	Test
9	2	X-ray spectrum –X-ray absorption	Lecture, discussion,	2	Test
10	2	X-ray properties –X-ray scattering – Compton effect	Lecture, discussion,	2	Test
11	2	Photoelectric effect	Lecture, discussion,	2	Test
12	2	Problems to solve	Lecture, discussion,	2	Test
13	2	X-ray production –X-ray tube	Lecture, discussion,	2	Test
14	2	The electrical circuit of the X-ray tube	Lecture, discussion,	2	Test
15	2	Improving radiation quality- using a fixed –moving grid	Lecture, discussion,	2	Test

14.Infrastructure

Required reading:		Radiation Physics
Main references (sources)		1- M.Radhi Al-Qurayshi and H.Qasim.AL-Mosawi "Radiation Physics and its applications in

	<p>diagnostic radiological techniques", Middle Technical University (MTU),Iraq,(2015).</p> <p>2- RF Farr and PJ Allisy- Roberts " Physics for Medical Imaging" , Saunders, 4th edition (2001).</p> <p>3-Stewart Carlyle Bushong , "Radiologic Science for Technologists Physics, Biology ,and Protection" Elsevier,Inc.,7th edition,(2017).</p>
Recommended books and references (scientific journals, reports,...)	
B - Electronic references, Internet sites...	

15.Course development plan

Access to modern scientific literature

- 5- Participation in relevant scientific conferences
- 6- The teaching and training staff is partially devoted to applying and working in hospitals
- 7- Hosting specialized professors
- 8- Academic pairing with other universities and corresponding colleges

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Radiation Protection (RADT113)
4. Programme (s) to which it contributes	Radiology Technician Diploma
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Courses
7. Number of hours tuition (total)	45
8. Date of production/revision of this specification	8 / 1 / 2024
9. Aims of the Course 1- Teaching and training the student about the types of radiation discovered and used in medicine. 2- The student learns how to benefit from radiation in medicine. 3- The student learns the difference between using radiology in diagnosis and treatment. 4- The student learns how to identify radioactive isotopes suitable for radiation therapy. 5- The student learns how to determine the appropriate dose of radiation for treatment with the least possible harm. 6- The student learns how to protect against radiation.	
10. Course outcomes and teaching, learning and evaluation methods	
A. Cognitive objectives A1- Identify the risks of radiation exposure. A2- Identify the nature of radioactive materials, types of radiation, and the difference between them. A3- Identify how to use radiation and radioactive materials in diagnosis and treatment with minimal harm.	
B - The skills objectives of the course. B1 - Training in choosing the appropriate type of radiation for the patient's x-ray. B2 - Training students on how to protect themselves from radiation while dealing with radiological devices. B3 - Training the student to determine the appropriate and safe intensity of	

radiography. B4 - Training in determining the appropriate radiation dose for treatment with the least harm.
Teaching and learning methods
Traditional lecture, report writing, seminar conduct, practical training in the laboratory, methodological training in the hospital, and summer training.
Evaluation methods
Daily written and oral tests, applied tests, seminars, semester and final exams, obligations to assignments, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are set for the student by the teacher and the student answers the questions, and the teacher also answers the same questions and asks The student is asked to evaluate himself in light of the teacher's answers, reports on scientific developments in the field of specialization, and asks analytical and deductive questions.
C- Emotional and value goals C1- Training on how to determine the intensity of radiation while dealing with parts of the body of a child or boy. C2- Training on how to determine the intensity of radiation while dealing with parts of a pregnant woman's body. C3- Training on how to determine the intensity of radiation while dealing with parts of the body of young male patients C4- Training on how to determine the intensity of radiation while dealing with parts of the body of young female patients C5- Training on how to determine the intensity of radiation while dealing with body parts of elderly patients.
Teaching and learning methods
Traditional lecture, self-learning, feedback, deductive and analytical thinking questions, methodological training in laboratories, applied training in hospitals, and summer training.
Evaluation methods
Simulating the medical condition, written, oral, and applied tests, semester and final exams, daily tests, and commitments to assignments such as making reports in the field of specialization and then discussing the reports, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are put to the student by the teacher The student answers the questions, and the teacher also answers the same questions. The student is asked to evaluate himself in light of the teacher's answers) and deductive and deductive questions.

D - Transferable general and qualifying skills (other skills related to employability and personal development).

D1- Field visits to gain experience from others.

D2- Access to scientific developments in the field of specialization (educational videos).

D3- Practical training in hospitals.

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	/Mosul Medical Technical Institute Radiology Techniques Department
3. Course title/code	Radiological Equipment Techniques1 / RADT114
4. Program (s) to which it contributes	Technical Diploma in Radiology Techniques
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Semester
7. Number of hours tuition (total)	4
8. Date of production/revision of this specification	8 / 4 / 2024
9. Aims of the Course	
<p style="text-align: right;">The student will be able to:</p> <ul style="list-style-type: none"> • Identify the x- ray machine parts <p style="text-align: right;">Identify the x- ray machine parts with</p> <p style="text-align: right;">Identify the x- ray machine parts maintenance</p>	
10. Course outcomes and teaching, learning and evaluation methods	
<u>Cognitive objectives:</u> .B A1. Identify the part of each medical x-ray instrumentation. A2. Identify the location of each parts.	
<u>B - Skills objectives:</u> • Training students on all types of x-ray instruments.	
Teaching and learning methods	
Traditional lecture, Writing reports, Seminar conduct, Practical training in the laboratory, Practical training in the hospital, and End of the course training.	
Evaluation methods	

Daily written and oral tests, Applied tests, Seminars, Semester and final exams, Commitments to assignments, Attendance and commitment, Feedback (Linking the current topic to the previous topic), Self-evaluation, Reports on scientific developments in the field of specialization, Asking analytical and deductive questions.

11. Course Structure				
Assessment Method	Teaching Method	Unit/Module or Topic Title	Hours	Week
Oral test	Lecture, discussion, presentation of videos	History of x-ray and properties	4	1
Test	Lecture, discussion, presentation of videos	Types of the medical imaging instruments and there uses.(conventional X-ray, fluoroscopy, mammography, CT scan, Ultrasound, Angiography and interventional, Magnetic Resonance imaging)	4	2
Test	Lecture, discussion, presentation of videos	Properties of the X-ray	4	3
Oral Test	Lecture, discussion, presentation of videos, Display models	Protection from the X-ray (protection of the operators, protection of the patient, protection of the environment).	4	4
Test	Lecture, discussion, presentation of videos, Display models	Maine properties to determine the X-ray exposure .	4	5
practical test	Lecture, discussion, presentation videos, Display models	The main parts of the X-ray instrument. (cont.)	4	6
practical test	Lecture, discussion, presentation videos, Display models	The main parts of the X-ray instrument. (cont.)	4	7
practical test	Lecture, discussion, presentation videos, Display models	The main parts of the X-ray instrument.	4	8
Test	Lecture, discussion, presentation videos, Display models	Fluoroscopy in imaging. (aim of the technique , main parts of the fluoroscopy instrument).	4	9
Test	Lecture, discussion,	Computed Radiography.	4	10

	presentation videos, Display models			
oral test	Lecture, discussion, presentation videos, Display models	X-ray film processor.(principle, physics,)	4	11
Test	Lecture, discussion, presentation videos, Display models	Photographic film (the layers and materials, the processes).	4	12
oral test	Lecture, discussion, presentation videos, Display models	Intensifying screens and Fluoroscope.	4	13
oral test	Lecture, discussion, presentation videos, Display models	Storage of the photographic film	4	14
practical test	Lecture, discussion, presentation videos, Display models	Automatic film processor.	4	15

12.Infrastructure	
Required reading:	Radiological Equipment Techniques
Main references (sources)	<p>1- ESSENTIAL PHYSICS IN IMAGING FOR RADIOGRAPHERS , Ken Holmes Marcus Elkington and Phil Harris ,2019</p> <p>2 - Radiology PHY , D.A.SAIA, 2018</p> <p>3- Radiographic Imaging and Exposure , TERRIL. FAUBER , 2020.</p> <p>4- X-RAY diffraction , Structure , principles and Applications , Kaimin Shih ,2020 .</p> <p>5- 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.</p>
Recommended books and references (scientific journals, reports,...)	<p>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</p>

	Medical Physics. 2014.
B - Electronic references, Internet sites...	X-RAY diffraction , Structure , principles and Applications , Kaimin Shih ,2020 .

13.Course development plan

Access to modern scientific literature through:

- 1- Participation in relevant scientific conferences
- 2- The teaching and training staff is partially devoted to applying and working in hospitals
- 3- Hosting specialized professors
- 4- Academic pairing with other universities and corresponding colleges

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Medical biology/RADT 115
4. Programme (s) to which it contributes	دبلوم تقني اشعاعي (حسب مخرجات كل قسم)
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Annual
7. Number of hours tuition (total)	60
8. Date of production/revision of this specification	14 /4 / 2024
9. Aims of the Course <ol style="list-style-type: none"> 1. To know the animal cell , types , functions and its internal structures. 2. To compare between the bacterial cell animal cell. 3. To know the infection and its types, sources and methods of transmission. 	
10. Course outcomes and teaching, learning and evaluation methods	
A- Cognitive objectives	

<p>A1- Identify the risks of infectious exposure.</p> <p>A2- Identify the nature of disinfectants and sterilizers and methods of using them</p> <p>A3- Identify the most important pathogenic parasitic species and know their prevention.</p>
<p>B - The skills objectives of the course.</p> <p>B1 - Training in bacteria cultivation.</p> <p>B2 - Training students on how to use Gram stain.</p> <p>B3 - Training students on the most important methods for pure bacterial isolation.</p>
<p>Teaching and learning methods</p>
<p>Traditional lecture, report writing, seminar conduct, practical training in the laboratory, methodological training in the hospital, and summer training.</p>
<p>Evaluation methods</p>
<p>Daily written and oral tests, applied tests, seminars, semester and final exams, obligations to assignments, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are set for the student by the teacher and the student answers the questions, and the teacher also answers the same questions and asks The student is asked to evaluate himself in light of the teacher's answers, reports on scientific developments in the field of specialization, and asks analytical and deductive questions.</p>
<p>C- Emotional and value goals</p> <p>C1- Training students on the correct methods for taking samples.</p> <p>C2- Training on how to handle samples correctly and safely.</p> <p>C3- Training on how to deal with patients who have serious bacterial infections..</p>
<p>Teaching and learning methods</p>
<p>Traditional lecture, self-learning, feedback, deductive and analytical thinking questions, methodological training in laboratories, applied training in hospitals, and summer training.</p>
<p>Evaluation methods</p>
<p>Simulating the medical condition, written, oral, and applied tests, semester and final exams, daily tests, and commitments to assignments such as making reports in the field of specialization and then discussing the reports, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are put to the student by the teacher The student answers the questions, and the teacher also answers the same questions. The student is asked to evaluate himself in light of the teacher's answers) and deductive and deductive questions.</p>
<p>D - Transferable general and qualifying skills (other skills related to employability and personal development).</p> <p>D1- Field visits to gain experience from others.</p>

D2- Access to scientific developments in the field of specialization (educational videos).

D3- Practical training in hospitals.

11. Course Structure					
Week	Hours	Unit/Module or Topic Title	ILOs	Teaching Method	Assessment Method
1	4	Introduction to the science of life , cell theory-cell ,primitive nucleus-eukaryotic cells. Animal cells-forms-size-the overall structure.	Introducing students to an introduction to the science of life and the history of its emergence, learning about the term cell, and then comparing prokaryotic and eukaryotic cells.	4	test
2	4	Formal appearance of bacteria-shape-size. Nuclear content of bacteria-the nucleus of animal cells.	Identify the shapes and sizes of various bacterial cells, and the nuclear content of animal and plant cells	4	practical test
3	4	Cell wall and membrane of bacteria. Cytoplasm of bacteria-cytoplasm of animal cells.	Identify the cytoplasmic membrane and cell wall of the bacterial cell, and the cytoplasm of the animal cell	4	test
4	4	Animal cells living:-1- Mitochondria-cosmetic-structure and function, complex kolchi-cosmetic-chemical composition – secretion of the cell.	Identify the structure and function of mitochondria, the Golgi complex, and their location within the cell	4	Test

5	4	Endoplasmic reticulum-coarse and smooth-function . Ribosome and its role in protein synthesis . Radiation effects nuclear components of the cell, mitotic cell division.	Introducing the student to the structure and function of the smooth and rough endoplasmic reticulum, protein synthesis by ribosomes, and mitosis.	4	practical test
6	4	Meiotic cell division , genetic and heterogeneity – the laws of Mendels first and second in succession –to inherit genetic mns of bacteria.	Identifying meiosis, and the importance of Mendel’s first and second laws for genetic concepts	4	practical test
7	4	Culture media-component-methods of sterilization.	Introducing the student to the culture medium, its components, and the most important methods of sterilization	4	practical test
8	4	Principles isolate bacteria-methods of isolation- the importance of clean circles.	Learn about the basics of bacterial isolation and isolation methods	4	practical test
9	4	Bacteria positive character traits .Recipes negative bacteria dye.	Identify the characteristics of bacteria positive and negative for the Ikram stain	4	practical test
10	4	Proliferative of bacteria. Metabolic events-Growth and death of bacteria.	Identify the most important requirements for bacterial growth	4	practical test
11	4	Anti-bacteria used for treatment of injury. The immune system naturally.	Identify the antibacterial agents used in treatments and the natural immune system	4	practical test
12	4	Antibody reactions and antigen. Cell phagocytosis deadly microbiology-types.	Identify the interactions of antibodies and antigens, and the	4	practical test

			process of phagocytosis of foreign bodies		
13	4	Protozoa – cosmetic-Physiology- the movement and reproduction. Parasites- The primary characteristic of amoeba-the life cycle	Identify the movement and methods of transmission of protozoa, and the life cycle of amoeba	4	practical test
14	4	. Flagellate-qualities-the life cycle. Cilitia- qualities-their life cycle. Tramatoda - cosmetic-the life cycle.	Life cycle of dinoflagellates and ciliates	4	practical test
15	4	Hookworm-cosmetic-life cycle .Hookworm and its relationship with host immunity. Public review and discussion.	Learn about the life cycle of worms	4	practical test

16.Infrastructure	
Required reading:	Radiography
Main references (sources)	1.Al-Maamouri, Abdel Nabi Guiro (2016). Diagnostic microbiology. First edition 2.Al-Marjani, Muhammad Kharj (2011). Antibiotics, bacterial resistance to antibiotics. First edition. 3.Al-Sammak, Mahidi (1981). Medical microbiology for students of higher health professions institutes. 4. Dr. Walid Khudair, Introduction to Genetics.
Recommended books and references (scientific journals, reports,...)	

B - Electronic references, Internet sites...	
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17. Course development plan	
	Access to modern scientific literature
9-	Participation in relevant scientific conferences
10-	The teaching and training staff is partially devoted to applying and working in hospitals
11-	Hosting specialized professors
12-	Academic pairing with other universities and corresponding colleges

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	/Mosul Medical Technical Institute Radiology Techniques Department
3. Course title/code	Radiobiology / RADT 117
4. Programme (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theore * Scientific discussions, seminars, other activities
6. Semester/Year	Annual
7. Number of hours tuition (total)	30
8. Date of production/revision of this specification	14 / 4 / 2024
9. Aims of the Course	
<p>What do we mean by Radiobiology - and what are the most important basic units used to measure some biological and physical cha</p> <p>2- The student must be able to handle the x-ray machine, and understand the methods of protection against radiation.</p> <p>3- Methods of dealing with patients and citizens, developing awareness in the field of exposure to radiation, and protecting them from exposure to high concentrations of radiation.</p>	
10. Course outcomes and teaching, learning and evaluation methods	

A.Cognitive objectives
A1- What happens to the human body when it is exposed to radiation? A2- Identify the risks of radiation exposure. A3- Knowing the methods of protection from radiation.
B - The skills objectives of the course.
B1 - Training in determining the appropriate position for x-ray imaging of the patient. B2 - Training students on how to deal with radiological equipment. B3 - Training the patient in the appropriate position for x-ray imaging.
Teaching and learning methods
Traditional lecture, report writing, seminar conduct, practical training in the laboratory, methodological training in the hospital, and summer training.
Evaluation methods
Daily written and oral tests, applied tests, seminars, semester and final exams, obligations to assignments, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are set for the student by the teacher and the student answers the questions, and the teacher also answers the same questions and asks The student is asked to evaluate himself in light of the teacher's answers, reports on scientific developments in the field of specialization, and asks analytical and deductive questions.
C- Emotional and value goals
C1- Training on how to deal with premature babies and newborns. C2- Training on how to deal with pregnant women. C3- Training on how to deal with unconscious patients. C4- Training on how to deal with elderly patients. C5- Training on how to deal with paralyzed patients. C6- Training on how to deal with patients who have injuries resulting from traffic collisions and exposure to gunfire.
Teaching and learning methods
Traditional lecture, self-learning, feedback, deductive and analytical thinking questions, methodological training in laboratories, applied training in hospitals, and summer training.
Evaluation methods
Simulating the medical condition, written, oral, and applied tests, semester and final exams, daily tests, and commitments to assignments such as making reports in the field of specialization and then discussing the reports, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are put to the student by the teacher The student answers the questions, and the teacher also answers the same questions. The student is

asked to evaluate himself in light of the teacher's answers) and deductive and deductive questions.
D - Transferable general and qualifying skills (other skills related to employability and personal development). D1- Field visits to gain experience from others. D2- Access to scientific developments in the field of specialization (educational videos). D3- Practical training in hospitals.

11. Course Structure					
Assessment Method	Teaching Method	ILOs	Unit/Module or Topic Title	Hours	Week
test	Lecture, discussion, video presentation	The relationship between the basic principles of physics and biology and is concerned with the action of ionizing radiation on biological tissues and living organisms.	Introduction of Radiobiology	2	1
practical test	Lecture, discussion	Radiation is classified into two main categories: Non-ionizing radiation (cannot ionize matter) Ionizing radiation (can ionize matter)	Classification of radiation in radiation biology	2	2
test	Lecture, discussion	Cell proliferation cycle is defined by two time periods: •Mitosis M, where division takes place. •The period of DNA synthesis S.	Cell cycle and cell death	2	3
Test	Lecture,	Lecture, When	Irradiation of cells	2	4

	discussion, video presentation	cells are exposed to ionizing radiation			
practical test	Lecture, discussion, video presentation	Lecture, discussion, In direct action the radiation interacts directly with the critical target in the cell.	Direct action in cell damage by radiation	2	5
practical test	Lecture, discussion, video presentation	Lecture, discussion, In indirect action the radiation interacts with other molecules and atoms	Indirect action in cell damage by radiation	2	6
practical test	Lecture, discussion, video presentation	Lecture, discussion, Possible outcomes of cell irradiation	Fate of irradiated cells	2	7
practical test	Lecture, discussion, video presentation	Lecture, discussion, presentation of radiological videos and films	Timescale	2	8
practical test	Lecture, discussion, video presentation	Lecture, discussion, Radiation damage to mammalian cells is divided into three categories	Classification of radiation damage	2	9
practical test	Lecture, discussion, video presentation	Lecture, discussion, Effects of radiation on the human population can be classified as either somatic or genetic	Somatic and genetic effects	2	10
practical test	Lecture, discussion, video presentation	Harmful effects of radiation may be classified into two general categories: stochastic and deterministic	Stochastic and deterministic (non-stochastic) effect	2	11

practical test	Lecture, discussion, video presentation	Organ or tissue expresses response to radiation damage either as an acute effect or as a late .(chronic) effect	Acute versus late tissue or organ effects	2	12
practical test	Lecture, discussion, video presentation	Response of an organism to acute total body irradiation exposure is influenced by the combined response to radiation of all organs constituting .the organism	Total body radiation exposure	2	13
practical test	Lecture, discussion, video presentation	Between conception and birth the foetus passes through three basic stages of development	Foetal irradiation	2	14
practical test	Lecture, discussion, video presentation	Plot of a biological effect observed (e.g., tumour induction or tissue response) against the dose given is called a dose response curve	Dose response curves	2	15

12.Infrastructure	
Required reading:	Radiobiology
Main references (sources)	<p>Basic clinical Radiobiology – Michael Joiner and Albert van der Kogel</p> <p>Radiobiology for the Radiologist – Eric J. Hall and Amato J. Giaccia</p>

Recommended books and references (scientific journals, reports,...)	
B - Electronic references, Internet sites...	

13.Course development plan

Access to modern scientific literature

- 1- Participation in relevant scientific conferences
- 2- The teaching and training staff is partially devoted to applying and working in hospitals
- 3- Hosting specialized professors
- 4- Academic pairing with other universities and corresponding colleges

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Computier2 NTU201
4. Programme (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Annual
7. Number of hours tuition (total)	30
8. Date of production/revision of this specification	8 / 1 / 2024
9. Aims of the Course 1- Teaching the student the skills of working on the computer and the use of ready-made applications and the principles of the Internet in the field of specialization. 2- Teaching the student the skills of working on the computer and the use of ready-made applications and the principles of the Internet in the field of specialization. 3. Perform his duties at the workplace for professional motives.	
10. Course outcomes and teaching, learning and evaluation methods	
A.Cognitive objectives A1- Teaching the student the skills of working on the computer and the use of ready-made applications and the principles of the Internet in the field of specialization.	
B - The skills objectives of the course. B1 - Teaching the student the skills of working on the computer and the use of ready-made applications and the principles of the Internet in the field of specialization.	
Teaching and learning methods ((Theoretical lectures / practical lectures / field visits / solving examples / seminars / summer training))	
Evaluation methods ((Oral exams / written tests / weekly reports / daily attendance / semester and final exams))	
C- Emotional and value goals C1- Perform his duties at the workplace for professional motives.	

Teaching and learning methods
((Theoretical lectures / practical lectures / field visits / solving examples / seminars / summer training))
Evaluation methods
((Oral Tests / Written Tests / Observation / Student Cumulative Record))
D - Transferable general and qualifying skills (other skills related to employability and personal development).
D1- Improve their discussion skills.
D2- Raising their research perceptions and transferring the student from the stage of teaching to learning.

11. Course Structure					
Week	Hours	Unit/Module or Topic Title	ILOs	Teaching Method	Assessment Method
2&1	2	Features of the word processor / running the word / the basic elements of the word window / flipping the language / definition of the paragraph / merging and splitting the paragraph / selecting (shading) the text.	Knowledge and practical application	Practical + Theoretical	Tests & Discussion
3	2	New / Open Inventory File / Close Document / Save New Document / Save Existing Document / Preview Before Printing / Close Document / End Word	Knowledge and practical application	Practical + Theoretical	Tests & Discussion
4	2	Clipboard: Cut / Copy / Paste / Copy Format Font: Change font / font size / enlarge and reduce font / clear formatting / change font color / text highlight color / subscript / superscript text / change case / underline style / effects / character spacing Paragraph: Numbering / Bullets / Create a bulleted list to existing text / Cancel bullets / Indent / Paragraph spacing / Line spacing / Text direction / Alignment / Borders & Shading Styles: Normal / No Spacing / Heading 1 / Heading 2 / Subtitle / Change Styles / Show Preview / Disable Linked Styles / Options Edit: Find/Go/Replace/Select	Knowledge and practical application	Practical + Theoretical	Tests & Discussion
5	2	Pages: Blank Page / Cover Page / Page Break Table: Insert Table / Draw Table / Convert Text to Table / Excel Data Table / Quick Tables / Table Styles / Draw Table Borders Illustrations: Picture / Clip Art / Prepared Shapes / Smart Art Drawing / Chart	Knowledge and practical application	Practical + Theoretical	Tests & Discussion
6	2	Header and footer: header / footer / page number Text: text box / ornate text Word art / signature line / date and time / object / equation	Knowledge and practical application	Practical + Theoretical	Tests & Discussion

		/ symbol.			
7	2	Features: Themes / Colors / Fonts / Effects.	Knowledge and practical application	Practical + Theoretical	Tests & Discussion
9&8	2	Attributes : Themes / Colors / Fonts / Effects Page Setup: Margins / Page Size / Orientation Page Background: Watermark / Page Color / Page Borders Order: Position / Bring Forward / Send to Background / Wrap Text / Align / Group / Rotate.	Knowledge and practical application	Practical + Theoretical	Tests & Discussion
11&10	2	Table of Contents / Add Text / Update Table Footnotes: Insert footnote / Insert endnote / Next footnote / Show notes References and citation: insert quote / source management / style Captions: Insert Caption Index: Index Insertion / Mark Entry / Update Index	Knowledge and practical application	Practical + Theoretical	Tests & Discussion
13&12	2	Creation: Envelopes / Labels Proofreading: Spelling & Grammar / Research / Thesaurus / Translation / Translation ScreenTip / Language Set / Word Count Comments: New Comment / Delete / Previous/Next Tracker: Track Changes/Balloons/Final Appearance Tag/Show Tags/Review Pane Changes: Accept/Reject/Previous/Next Protection: Protect your document Document views: Print layout / Full screen reading / Web layout / Outline / Draft Show and hide: ruler / gridlines / document map / thumbnail Zoom in and out: 100% / one page / two pages / page view Frame: New Frame / All Order / Split / Switch Tire Microsoft office word Help	Knowledge and practical application	Practical + Theoretical	Tests & Discussion
15&14	2	Networks and their types / forms of networks / network protocols / Internet and its development / Internet and intranet / firewalls / some basic Internet concepts / Internet connection / open Internet browser / components of the Internet browsing window / browser icons / web addresses / browser use / change the start page / toolbars / close the browser and disconnect the Internet / archives / store favorite pages / search engines / how to search for information on the Internet / copy text and images to any application / download files from the Internet / prepare for printing /Print	Knowledge and practical application	Practical + Theoretical	Tests & Discussion

12. Infrastructure	
Required reading:	Available in the free department and library of the institute
Main references (sources)	Available in the free department and library of the institute
Recommended books and references (scientific journals, reports,...)	Internet

13. Course development plan
1- Developing curricula adapted to the labor market 2- Holding seminars and scientific conferences aimed at updating the curricula 3- Follow-up scientific developments in the field of specialization

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Crimes of the Baath regime in Iraq NTU203
4. Programme (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical) * Scientific discussions
6. Semester/Year	Annual
7. Number of hours tuition (total)	30
8. Date of production/revision of this specification	8 / 1 / 2024
9. Aims of the Course 1- Providing students with basic concepts related to the definition of crimes, their types and divisions. 2- Definition of crimes and violations of the former regime and types of international crimes	

- 3- Introducing mass grave crimes and violations of Iraqi laws
- 4- Addressing environmental crimes, the destruction of cities, policies of demographic change and extrajudicial detention
- 5- Explaining the role of the Supreme Criminal Court in dealing with the crimes of the Baath regime

10. Course outcomes and teaching, learning and evaluation methods

A. Cognitive objectives

- A1- Enabling students to understand the concept of crime and the types of national and international crimes.
- A2- Developing the knowledge aspects of the protection and guarantees of human rights.
- A3- Developing students' ability to distinguish between crimes and human rights violations and how to confront them

B - The skills objectives of the course.

- B1 – Enable students to understand the concept of national and international crime.
- B2 - Enable students to know human rights and how to defend these rights. And know the guarantees related to them.

Teaching and learning methods

((Theoretical lectures, periodic reports / periodic tests / practical case studies)).

Evaluation methods

((Periodic exams / direct questions / preparation of special reports))

C- Emotional and value goals

- C1- Development of legal culture
- C2- Carrying out his duties in the workplace with professional motives.
- C3- Instilling the values of tolerance and cooperation in society.

Teaching and learning methods

((Student groups / case studies / preparation of special reports))

Evaluation methods

((Periodic exams / direct questions / preparation of special reports))

D - Transferable general and qualifying skills (other skills related to employability and personal development).

- D1- Developing the skills of students in the field of public service or the private sector.
- D2- Developing personal skills to develop students' legal culture.

11. Course Structure

Week	Hours	Unit/Module or Topic Title	ILOs	Teaching Method	Assessment Method
1	2	-Crimes of the Baath regime under the Law of the Supreme Iraqi Criminal	Knowledge and practical application	theoretical	Tests & Discussion

		Tribunal in 2005 -The concept of crimes and their divisions -Definition of crime linguistically and idiomatically			
2	2	-Crime sections -Crimes of the Baath regime as documented in the Law of the Supreme Iraqi Criminal Tribunal in 2005	Knowledge and practical application	theoretical	Tests & Discussion
3	2	- Types of international crimes - Decisions issued by the Supreme Criminal Court	Knowledge and practical application	theoretical	Tests & Discussion
4	2	- Psychological and social crimes and their effects. - Mental Crimes - Mechanisms of psychological crimes - Effects of mental crimes	Knowledge and practical application	theoretical	Tests & Discussion
5	2	- Social crimes - Militarization of society - The position of the Baath regime on religion	Knowledge and practical application	theoretical	Tests & Discussion
6	2	- Violations of Iraqi laws - Photos of human rights violations and crimes of the authority	Knowledge and practical application	theoretical	Tests & Discussion
7	2	- Some decisions on political and military violations of the Baath regime	Knowledge and practical application	theoretical	Tests & Discussion
8	2	- Places of Prisons and Detention of the Baath Regime	Knowledge and practical application	theoretical	Tests & Discussion
9	2	- Environmental crimes of the Baath regime in Iraq	Knowledge and practical application	theoretical	Tests & Discussion
10	2	- War and radioactive contamination and mine explosions	Knowledge and practical application	theoretical	Tests & Discussion
11	2	- Destruction of towns and villages - Scorched earth policy	Knowledge and practical application	theoretical	Tests & Discussion
12	2	- Drainage of marshes - Dredging palm groves, trees and plantings	Knowledge and practical application	theoretical	Tests & Discussion
13	2	- Mass grave crimes - Mass graves	Knowledge and practical application	theoretical	Tests & Discussion
14	2	- Mass graves and genocide committed by the Baathist regime	Knowledge and practical application	theoretical	Tests & Discussion
15	2	- Chronological classification of genocide graves in Iraq	Knowledge and practical application	theoretical	Tests & Discussion

18. Infrastructure

1 Required textbooks	General Books
2 Main references (sources)	Literature on crimes, penal law and human rights available in the college library and the central library of the university
3 Electronic references, websites	Human rights websites.

19.Course development plan
Access to modern scientific literature
There are no proposals because the subject is taught in the current academic year for the first time

Course description

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Professional Ethics NTU204
4. programmer (s) to which it contributes	Radiology Tech Diploma
5. Modes of Attendance offered	1 -Weekly lesson schedule (theoretical) 2- Discussions
6. Semester/Year	Second semester/second level
7. Number of hours tuition (total)	30 hours (the number of theoretical hours during the 15 weeks)

8. Date of production/revision of this specification	5/1/2024
Course objectives	
1- Teaching students that their commitment to the ethics of their professions is an integral part of the correct practice of them, and this commitment is their duty toward	
2- Teaching the professional ethics course is considered the cornerstone of preparing future generations professionally and ethically.	
3- Teaching a professional ethics course to institute students represents the right beginning for any society that seeks to raise the level of ethical practice among professionals.	
Course outcomes and teaching, learning and evaluation methods	
<p>A- Cognitive objectives</p> <p>a1- Identify the principles of ethical analysis and thinking In various professional situations.</p> <p>a2- Know the difference between Work and profession</p> <p>a3-.Recognition Patient rights</p>	
<p>B - The skills objectives of the course.</p> <p>B1 –Brainstorming skill inside the hall.</p> <p>B2 -Give examples and modern applications to enhance understanding.</p>	
Teaching and learning methods	
Traditional lecture, report writing, discussion	
Evaluation methods	
Daily written and oral tests, semester and final exams, commitment to assignments, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are set for the student by the teacher and the student answers the questions, and the teacher also answers the same questions and asks the student to evaluate himself in light of Teacher's answers (analytical and deductive questions).	
<p>C- Emotional and value goals</p> <p>C1-The student understands the meaning of the basic terms of the curriculum.</p> <p>C2- That the student understands Characteristics and duties of a medical technician.</p> <p>C3- That The student distinguishes the importance of ethics for the individual</p>	

and society.

C4- That The student compares the concept of work, profession and craft.

Teaching and learning methods

Traditional lecture, feedback, deductive and analytical thinking questions.

Evaluation methods

Written tests, semester and final exams, daily tests, and commitments to assignments such as making reports and then discussing the reports, attendance and commitment.

D - Transferable general and qualifying skills (other skills related to employability and personal development).

Dr1- Skills of modern interactive teaching methods among students.

Dr2- Scientific competition skills among students through asking questions.

Course structure.3

Evaluati on method	Teachin g method	Name of the unit/topic	Required learning outcomes	h o u r s	the week
Duties Quizzes Reports	Theoreti cal lectures Group discussi ons	Moral.	identification requester Concept Moral	2	1
Duties Quizzes Reports	Theoreti cal lectures Group discussi	Work and profession.	Define the student the difference between work and profession	2	2

	ons				
Duties Quizzes Reports	Theoretical lectures Group discussions	Professional ethics.	The student understands the nature of professional ethics	2	3
Duties Quizzes Reports	Theoretical lectures Group discussions	Values and professional ethics.	Introducing the student to the values and ethics of the profession	2	45&
Duties Quizzes Reports	Theoretical lectures Group discussions	Patterns of unethical behavior In the profession.	Introducing the student to patterns of unethical behavior Administrative corruption + bribery + fraud at work	2	6&7
Duties Quizzes Reports	Theoretical lectures Group discussions	Means and methods of consolidating professional ethics.	Understand the means of consolidating values	2	8
Duties Quizzes Reports	Theoretical lectures Group discussions	Ethics of practicing medical professions Characteristics and duties of a medical technician.	Introducing the student to the duties of medical staff	2	9
Duties Quizzes Reports	Theoretical lectures Group discussions	Patient rights. .1	Introducing the student to patient rights	2	10
Duties Quizzes Reports	Theoretical lectures Group discussions	The medical technician's .2 relationship with society and his responsibility towards the environment and public safety.	Introducing the student to the role of the medical technician in society	2	11&12
Duties Quizzes Reports	Theoretical lectures	Professional relations (the .3 medical technician's relationship	Clarifying the medical technician's relationship with his co-workers and	2	13&14

	Group discussions	with his colleagues in the health institution.	his subordinates		
Duties	Theoretical lectures Group discussions	Ethics of teaching and learning for patients. .4	Understand and explain the ethics of teaching and learning to patients	2	15

Infrastructure.	
Unified curriculum for technical universities in Iraq	1- Required prescribed books
<p>Abu Al-Khair, Muhammad Saeed (B.T): • Guide to Professional Ethics, Faculty of Arts, Zagazig University.</p> <p>Hassan, Abdul Mahdi Abdul Reda (bt): • Rules of professional ethics for nurses and midwives in Iraq, website. www.uobabylon.edu.iq/eprints/pubdoc_10_6984_150.doc</p> <p>Al-Hourani, Ghaleb Saleh Watanash, Salama Youssef (2007): Academic ethics for university professors from Faculty members' point of view University of Jordan Studies Journal, Educational Sciences, Vol.34), Issue (2), Jordan.</p> <p>Rabhi, Israa (2018): The concept of bribery, Internet site. https://mawdoo3.com</p> <p>Mohamed Ahmed (2018): What is the difference between a gift and a</p>	2- Main references (sources)

bribe?<https://mawdoo3.com/>

National Center for Developing Faculty and Leadership Capabilities (2011): Ethics of Scientific Research, Program Series, Egypt. •

Mishal, Talal (2018): What is the importance of ethics, website. •
<https://mawdoo3.com/>

Al-Mashharawi, Ahmed Hussein (2014):The role of professional ethics in promoting social responsibility in Palestinian government hospitals (Al-Shifa Medical Complex as an example), Master's thesis in the program Saudi Commission for Health Specialties (2012): Health Practitioner Ethics, 3rd edition, p. 44. •

Quality Assurance Unit (2017): Guide to Professional Ethics, Faculty of Arabic Language, Al-Azhar University, Cairo. •

Iraqi Ministry of Health (2018): Code of Medical Research Ethics, National Center for Training and Human Development. •

Iraqi Ministry of Health (2017): Principles of medical ethics in Iraqi health

institutions.	
	Recommended books and references (scientific journals, reports,...)
Modern sources via the Internet	B - Electronic references, Internet sites...

Course development plan.	
Access to modern scientific literature	-1
Periodic review of the course	-2

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Bio-Statistic / TIMM202
4. Program (s) to which it contributes	Technical Diploma in radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Modules
7. Number of hours tuition (total)	30 Hour
8. Date of production/revision of this specification	8 /1 / 2024
9. Aims of the Course	
The student will be able to:	
<ul style="list-style-type: none"> • Processing and analyzing statistical data, arriving at correct conclusions and preparing statistical forms. 	
10. Course outcomes and teaching, learning and evaluation methods	
A. <u>Cognitive objectives</u> : The student will be able to:	
A1. Deal with statistical data.	
A2. Deal with and knowing life and health statistics.	
A3. Organize the statistical form and health form related to daily incidents such as births, deaths and diseases	
B - <u>Skills and Behavioral objectives</u> : The student will be able to:	
<ul style="list-style-type: none"> • Analyze statistical data. 	
C- <u>Emotional and Value-Based objectives</u> : The student will be able to:	
<ul style="list-style-type: none"> • Explain the community's need to learn statistics and its applications at work 	
D - <u>General and qualifying skills</u> :	
D1. Access to scientific developments in the field of specialization.	
D2. Communication skills with others.	
D3. Self-reliance skills.	
D4. Teamwork skills.	
Teaching and learning methods	
Traditional lecturing, report writing, conducting seminars, group learning training.	

Evaluation methods

Daily written and oral tests, Applied tests, Seminars, Semester and final exams, Commitments to assignments, Attendance and commitment, Feedback (Linking the current topic to the previous topic), Self-evaluation, Reports on scientific developments in the field of specialization, Asking analytical and deductive questions.

11. Course Structure

Week	Hours	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	Definition of statistics. Data collection methods. Presentation and description of statistical data, preparation of a questionnaire (unclassified data) form.	Traditional lecture, seminars, group discussion	test
2	2	Representing frequency distributions for "classified data" Tabular display "Frequency distribution tables"	Traditional lecture, seminars, group discussion	test
3	2	Graphical display - inscribed histogram, curved histogram, histogram, polygon histogram	Traditional lecture, seminars, group discussion	test
4	2	measures of central tendency, Arithmetic mean .	Traditional lecture, seminars, group discussion	Test
5	2	The median, Mode	Traditional lecture, seminars, group discussion	Test
6	2	Introduction to sampling theory, "its meaning and reasons for choosing it."	Traditional lecture, seminars, group discussion	Test
7	2	Life statistics, ratio and rate, death statistics	Traditional lecture, seminars, group discussion	Test
8	2	Fertility statistics	Traditional lecture, seminars, group discussion	Test
9	2	Disease statistics, Life tables	Traditional lecture, seminars, group discussion	Test
10	2	Definition of health statistics and its sources	Traditional lecture, seminars, group discussion	Test
11	2	Fields that the health statistics address	Traditional lecture, seminars, group discussion	Test
12	2	Statistics of causes of death (medical certificate, cause, death, death	Traditional lecture, seminars, group discussion	Test

		certificate).		
13	2	Statistics of health institutions	Traditional lecture, seminars, group discussion	Test
14	2	The most appropriate rates for hospitals and patients. Treatment days. Length of stay (average days of stay)	Traditional lecture, seminars, group discussion	Test
15	2	Family occupancy rate, Admission rate.	Traditional lecture, seminars, group discussion	Test

12. Infrastructure

Required reading:

W. Dixon and F. Massey – Introduction to statistical analysis

* علي عبد الأمير – طب نسائية وتوليد – وزارة الصحة – مطبعة العمال المركزية / 1985 .
* علي عبد الأمير – الأمراض النسائية والتوليد - وزارة الصحة – مطبعة العمال المركزية / 1985 .

Banderfort Hill, Fundament in Biosciences.

B - Electronic references, Internet sites...

13. Course development plan

Access to modern scientific literature through:

- 1- Participation in relevant scientific conferences
- 2- The teaching and training staff is partially devoted to applying and working in hospitals
- 3- Hosting specialized professors
- 4- Academic twinning with other universities and corresponding colleges

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	community Health RADT209
4. Programme (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Course
7. Number of hours tuition (total)	30
8. Date of production/revision of this specification	2024
9. Aims of the Course	
<p>1. Understanding the concepts of health and disease, health factors and various causes of diseases.</p> <p>2- Learn about preventive measures, disease prevention, and public health preservation.</p> <p>3- Explaining the importance of epidemiology in understanding and controlling diseases and analyzing their spread.</p> <p>4- Study of communicable diseases, knowledge of their sources, methods of transmission, and appropriate preventive measures to limit their spread.</p> <p>5- Identify the different types of diseases, such as diseases that are transmitted through the respiratory system, the digestive system, and through pricks, as well as diseases caused by bacteria and viruses.</p> <p>6- Understanding the concept of immunity and immunization and the importance of vaccines in preventing diseases.</p> <p>7- Identify the impact of environmental and radioactive pollution on public health and</p>	

move towards preventing it

10. Course outcomes and teaching, learning and evaluation methods

A.Cognitive objectives

- 1.Understand the concept of health and its importance
2. Identify the factors that affect health
3. Learn about preventive measures
4. Identify health metrics and indicators
5. Understand epidemiology
6. Identify pathogens
7. Understand the importance of immunization and vaccines
8. Identify environmental pollution and ways to prevent it

B - The skills objectives of the course.

1. Critical thinking. Develop students' ability to evaluate public health information to inform decisions based on rational analysis.
2. Effective Communication Enhance students' logical, critical, and oral and written communication skills, including the ability to communicate with different groups of the community on public health issues.
3. Collaboration and teamwork Enhancing teamwork skills and cooperation with colleagues and the community to achieve public health goals, including planning, implementing and evaluating health programs.
4. Research and analysis: Developing students' research and analysis skills, including the ability to collect and analyze data and present results in a systematic and accurate manner.
- 5.Planning and Organization Develop students' planning and organization skills in implementing health activities and managing resources efficiently.
- 6.Social interaction: Enhancing social interaction skills, dealing with diverse groups of individuals, and understanding their needs and aspirations regarding health.
- 7.Leadership and Change: Develop students' leadership and change skills, including the ability to motivate others and encourage positive change in communities and institutions to improve public health.

Teaching and learning methods

Traditional lecture, report writing, seminar conduct

Evaluation methods

Daily written and oral tests, seminars, semester and final exams, commitments to assignments, attendance and commitment, feedback (testing the student on the

previous subject), self-evaluation (questions are put to the student by the teacher and the student answers the questions, and the teacher also answers the same questions and asks the student to evaluate The same in light of the teacher's answers), reports on scientific developments in the field of specialization, asking analytical and deductive questions.

C- Emotional and value goals

1. Promoting health awareness: The course aims to increase awareness of the importance of public health and disease prevention among students and society.
2. Encouraging healthy behaviors: The course aims to promote healthy and preventive behaviors among individuals, such as personal hygiene, proper nutrition, and physical fitness.
3. Directing attention to public health problems: The course highlights various public health problems and encourages thinking about their solutions and participating in efforts to combat them.
4. Promoting human values: The course contributes to promoting human values such as cooperation, care, and equality by focusing on the health and well-being of society.
5. Enhancing communication and interaction: The course helps enhance communication and interaction between students and the community on important and inspiring health topics.
6. Promoting a sense of social responsibility: The course encourages students to volunteer in disease prevention efforts and participate in charitable work for the benefit of public health.

Teaching and learning methods

Traditional lecture, self-learning, feedback, deductive and analytical thinking questions

Evaluation methods

Written and oral tests, semester and final exams, daily tests, and commitments to assignments such as making reports in the field of specialization and then discussing the reports, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are put to the student by the teacher and the student answers the questions, as well as The teacher answers the same questions and asks the student to evaluate himself in light of the teacher's answers) and deductive and deductive questions.

D - Transferable general and qualifying skills (other skills related to employability and personal development).

- 1- Field visits to gain experience from others.
- 2- Access to scientific developments in the field of specialization (educational videos).

11. Course Structure

Week	Hours	Unit/Module or Topic Title	ILOs	Teaching Method	Assessment Method
1	2	Definitions of health, patient, disease, hospital.	Understanding the basics of public health: These outcomes include understanding the factors affecting health and diseases and how to raise awareness of healthy behaviors.	Lecture, discussion, video presentation and illustrations	test
2	2	Patient basic need, (hygiene, nutrition)	Know and apply preventive measures Participation in prevention and education efforts	Lecture, discussion, video presentation and illustrations	test
3	2	Vital signs, temperature	Apply concepts of epidemiology: Students should be able to apply concepts of epidemiology to analyze and understand the spread and development of diseases.	Lecture, discussion, video presentation and illustrations	test
4	2	Vital signs, blood pressure	Analysis of propagation conditions	Lecture, discussion, video	Test

			Participate in disease control efforts	presentation and illustrations	
5	2	Vital signs, respiration and pulse	Identify the sources of disease and apply preventive behaviors	Lecture, discussion, video presentation and illustrations	test
6	2	Sterilization, antiseptic, types of Aseptic technique	Recognizing the distinctive symptoms and signs, understanding methods of transmission and prevention, prevention and treatment strategies, and applying preventive behaviors	Lecture, discussion, video presentation and illustrations	practical test
7	2	Dressing, hand washing	Knowing the ways viruses are transmitted, understanding symptoms, learning about preventive measures, exploring the latest developments in treatment and vaccines, and evaluating the global impacts of outbreaks of these diseases.	Lecture, discussion, video presentation and illustrations	test

8	2	Medication, ways of drug administration	Learn about the methods of transmission of infection, know the common symptoms, study methods of preventing the aforementioned diseases, and explore the latest developments in the treatment of diseases and research related to them.	Lecture, discussion, video presentation and illustrations	test
9	2	Injection, type of parenteral	Identifying the ways of transmission of infection, learning about the prevention of these diseases, familiarity with the available therapeutic and preventive methods against these diseases, and learning about global and national efforts in combating these diseases.	Lecture, discussion, video presentation and illustrations	test
10	2	First Aid, unconscious.	Knowledge of the methods of transmission of viruses that cause these diseases, recognition of the distinctive symptoms,	Lecture, discussion, video presentation and illustrations	test

			identification of available preventive methods, and familiarity with international and local efforts to combat and respond to both viral hepatitis and polio.		
11	2	First aid, burns	Understanding the microorganisms that cause these diseases, learning about the methods of transmission of infection, knowing the common symptoms, learning about the prevention of these diseases and being familiar with the treatments available for each of the diseases and their importance, and how to deal with cases of infection.	Lecture, discussion, video presentation and illustrations	test
12	2	First aid, bleeding	Identifying the types of immunity, understanding how the immune system works, learning about the immunization process, learning about the importance of mass immunization,	Lecture, discussion, video presentation and illustrations	test

			understanding the potential side effects of immunization and how to deal with them effectively		
13	2	First aid, fractures	Identifying the types of vaccines available in the Expanded Immunization Program in Iraq, learning about the objectives of the immunization program, understanding the process of distributing vaccines and organizing vaccination campaigns, understanding the potential side effects of vaccines and how to deal with them effectively.	Lecture, discussion, video presentation and illustrations	test
14	2	Shock	Understanding the concept of environmental pollution and its various types, identifying the sources of environmental pollution and the factors that	Lecture, discussion, video presentation and illustrations	test

			aggravate it, understanding radioactive pollution and its sources, identifying methods of preventing environmental pollution.		
15	2	Suction secretion	Identifying the concept of health and its various dimensions, developing communication and social interaction skills, the ability to analyze health information and make sound health decisions, contributing to the development and implementation of health policies and health awareness and education programmes.	Lecture, discussion, video presentation and illustrations	test

12. Infrastructure

Required reading:

Public Health

<p>Main references (sources)</p>	<p>1- Public Health and Health Services - Dr. Fawzi Jadallah - Dr. Felix Jarji - Dr. Abdul-Wadud Al-Mufti - Dr. Saad Tawfiq Al-Mukhtar - Mr. Adnan Al-Rubaie 1983, Spring Part.</p> <p>2- Public Health and Health Services - Dr. Felix Jarji - Dr. Jaafar Al-Hassani - Dr. Muzaffar Al-Samarrai - Dr. Faleh Matar - Dr. Amjad Niazi - Dr. Mohsen Al-Khafaji - Dr. Fawzi Jadallah, Engineer Nima Al-Shukarji, 1983, Part Two</p> <p>3- Public Health-Dr. Khader Daoud Salman - Dr. Muhammad Youssef Al-Mukhtar in 1988</p>
<p>Recommended books and references (scientific journals, reports,...)</p>	
<p>B - Electronic references, Internet sites...</p>	

<p>13.Course development plan</p>
<p>Access to modern scientific literature</p> <ol style="list-style-type: none"> 1- Participation in relevant scientific conferences 2- The teaching and training staff is partially devoted to applying and working in hospitals 3- Hosting specialized professors 4- Academic pairing with other universities and corresponding colleges

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Pharmacology RADT210
4. Programme (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Annual
7. Number of hours tuition (total)	135 hr.
8. Date of production/revision of this specification	8/ 1 / 2024
9. Aims of the Course	
1- Teaching and training the student on the types of medications used according to the patient's condition.	
2- Teaching and training the student on methods of administering medications.	
3- Teaching and training students on drug interactions and drug cautions.	
4- Teaching and training the student about the side effects of each medication.	
10. Course outcomes and teaching, learning and evaluation methods	
A- Cognitive objectives	
A1- Identify pharmaceutical terminology.	
A2- Identify the nature of the action of drugs within the body, including absorption, digestion, and excretion.	
A3- Identify the types of medications for each system within the body.	
B - The skills objectives of the course.	
B1 - Training on how to inject medication.	
B2 - Training students on how to handle medications	
B3 - Training the student to read medical prescriptions	
Teaching and learning methods	
Traditional lecture, report writing, seminar conduct, practical training in the laboratory, methodological training in the hospital, and summer training.	
Evaluation methods	
Daily written and oral tests, applied tests, seminars, semester and final exams, obligations to assignments, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are set for the student by the teacher and the student answers the questions, and the teacher also answers the same	

questions and asks The student is asked to evaluate himself in light of the teacher's answers, reports on scientific developments in the field of specialization, and asks analytical and deductive questions.

C- Emotional and value goals

C1- Training on how to deal with therapeutic medications

C2- Training on methods of administering medications.

C3- Training on how to deal with the side effects of medications.

C4- Training on how to give medications to elderly patients.

C5- Training on how to give medications to paralyzed patients.

C6- Training on how to deal with patients who have cases of allergy or poisoning as a result of taking incorrect doses.

Teaching and learning methods

Traditional lecture, self-learning, feedback, deductive and analytical thinking questions, methodological training in laboratories, applied training in hospitals, and summer training.

Evaluation methods

Simulating the medical condition, written, oral, and applied tests, semester and final exams, daily tests, and commitments to assignments such as making reports in the field of specialization and then discussing the reports, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are put to the student by the teacher The student answers the questions, and the teacher also answers the same questions. The student is asked to evaluate himself in light of the teacher's answers) and deductive and deductive questions.

D - Transferable general and qualifying skills (other skills related to employability and personal development).

D1- Field visits to gain experience from others.

D2- Access to scientific developments in the field of specialization (educational videos).

D3- Practical training in hospitals.

11. Course Structure

Week	Hours	Unit/Module or Topic Title	ILOs	Teaching Method	Assessment Method
1	2	Introduction to pharmacology, drug definition, drug kinetics and pharmacodynamics, drug receptors	Introduction to pharmacology, drug definition, drug kinetics and pharmacodynamics, drug receptors	Theoretical lectures, educational videos	Daily test, daily posts, quarterly and final exams, weekly reports
2	2	Types of doses, antagonists and antagonists	Introducing the types of medicinal doses, and knowing the antagonists and antagonists	Theoretical lectures, educational videos	Daily test, daily posts, quarterly and final exams, weekly reports
3	2	Medicines that affect the autonomic nervous system Parasympathetic stimulants and narcotics Acetylcholine mimics, anticholinergics	Introducing medications that affect the central nervous system, acetylcholine and similar medications, carbachol and its group.	Theoretical lectures, educational videos	Daily test, daily posts, quarterly and final exams, weekly reports
4	2	Sympathetic nervous system, adrenergic, stimulants, adrenal gland, anti-adrenaline drugs.	Introduction to sympathetic nervous system medications: epinephrine, dopamine, norepinephrine, and adrenaline.	Theoretical lectures, educational videos	Daily test, daily posts, quarterly and final exams, weekly reports
5	2	Digestive system, antacid, antiulcer Antiemetic, antidiarrheal, laxative	Introduction to digestive system medications, ulcer medications, the three-year plan for treating ulcers, antidepressants, natural and synthetic laxatives, and antidiarrheals.	Theoretical lectures, educational videos	Daily test, daily posts, quarterly and final exams, weekly reports
6	2	Urinary system, diuretics, total body fluids and Balance of mineral salts, acid and basic factors	Introduction to urinary system medications, mechanism of action, uses, and side effects	Theoretical lectures, educational videos	Daily test, daily posts, quarterly and final exams, weekly reports
7	2	cardiovascular system, anti-heart disorder medications. Antianginal, antihypertensive, anticoagulant, drugs	Introduction to cardiovascular system medications, blood pressure regulators, heart pacemakers, angina medications, warfarin, heparin,	Theoretical lectures, educational videos	Daily test, daily posts, quarterly and final exams, weekly reports
8	2	Cardiotonics, digitalis glycoside, antiplatelet agents, Aspirin	Knowledge of heart strengthening medications, digitalis glycoside, and antiplatelet medications, their uses, side effects, and mechanism of action.	Theoretical lectures, educational videos	Daily test, daily posts, quarterly and final exams, weekly reports
9	2	Respiratory system, expectorants, antitussives, bronchodilators, sputum analyzers	Knowledge of respiratory medications, mechanism of action, uses, and side effects.	Theoretical lectures, educational videos	Daily test, daily posts, quarterly and final exams, weekly reports

10	2	Drugs that act on the central nervous system, analgesic, opioid analgesic, sedative and hypnotic, narcotic.	Introduction to narcotic drugs, their types, their mechanism of action, their uses and side effects	Theoretical lectures, educational videos	Daily test, daily posts, quarterly and final exams, weekly reports
11	2	Antidepressant, neuroleptic & antianxiety , drugs used to treat epilepsy & convulsion	Introduction to antidepressants and anti-anxiety medications, what medications are used to treat epilepsy, their mechanism of action, and side effects	Theoretical lectures, educational videos	Daily test, daily posts, quarterly and final exams, weekly reports
12	2	Antibiotic, Antibacterial, Antifungal,	Introducing anti-inflammatories and antifungals and the mechanism of action of each of them.	Theoretical lectures, educational videos	Daily test, daily posts, quarterly and final exams, weekly reports
13	2	Antiviral, Amoebicidal & Trichomonacidal	Introduction to antivirals and trichomocides, their mechanism of action and therapeutic uses	Theoretical lectures, educational videos	Daily test, daily posts, quarterly and final exams, weekly reports
14	2	Anti-inflammation, steroidal & non-steroidal anti-inflammatory drug, antihistamine agents	Introduction to steroidal and non-steroidal anti-inflammatory drugs and antihistamines.	Theoretical lectures, educational videos	Daily test, daily posts, quarterly and final exams, weekly reports
15	2	Toxicology, heavy metal toxicity, Mercury , Silver, Lead, Barbiturate, Acetaminophen	Knowledge of toxins and toxicity of heavy metals, mercury, silver, lead, barbiturates, and acetaminophen	Theoretical lectures, educational videos	Daily test, daily posts, quarterly and final exams, weekly reports

12. Infrastructure

Required reading:	
Main references (sources)	1-adams 4th Edition Michael patrick adams Carol Quamurban Rebecca E. Sutter

	2- Coodman & Gilman's 14th Edition 2022 Laurance L. Brunton Bjorn c. knollmann
Recommended books and references (scientific journals, reports,...)	
B - Electronic references, Internet sites...	

13.Course development plan

Access to modern scientific literature

- 1- Participation in relevant scientific conferences
- 2- The teaching and training staff is partially devoted to applying and working in hospitals
- 3- Hosting specialized professors
- 4- Academic pairing with other universities and corresponding colleges

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Radiography RADT203
4. Programme (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Annual
7. Number of hours tuition (total)	120
8. Date of production/revision of this specification	8 / 1 / 2024
9. Aims of the Course	
<ol style="list-style-type: none"> 1. How do you taken the student radiography examination. 2. Radiography is full and student the way of the processing and it stages. 3. The necessary cases must be taken and how do you treatment with patient and equipage. 	
10. Course outcomes and teaching, learning and evaluation methods	
A.Cognitive objectives A1- Identify the risks of radiation exposure. A2- Identify the nature of the materials used in color radiological examinations, such as staining the kidneys and the digestive system. A3- Identifying the presence of some metals inside the body, such as shrapnel and platinum, during an MRI examination.	
B - The skills objectives of the course. B1 - Training in determining the appropriate position for x-ray imaging of the patient. B2 - Training students on how to deal with radiological equipment. B3 - Training the patient in the appropriate position for x-ray imaging. B4 - Training on developing the patient's imaging cassette to display the radiograph.	
Teaching and learning methods	
Traditional lecture, report writing, seminar conduct, practical training in the laboratory, methodological training in the hospital, and summer training.	
Evaluation methods	
Daily written and oral tests, applied tests, seminars, semester and final exams, obligations to assignments, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are set for the student	

<p>by the teacher and the student answers the questions, and the teacher also answers the same questions and asks The student is asked to evaluate himself in light of the teacher's answers, reports on scientific developments in the field of specialization, and asks analytical and deductive questions.</p>
<p>C- Emotional and value goals C1- Training on how to deal with premature babies and newborns. C2- Training on how to deal with pregnant women. C3- Training on how to deal with unconscious patients. C4- Training on how to deal with elderly patients. C5- Training on how to deal with paralyzed patients. C6- Training on how to deal with patients who have injuries resulting from traffic collisions and exposure to gunfire.</p>
<p>Teaching and learning methods</p>
<p>Traditional lecture, self-learning, feedback, deductive and analytical thinking questions, methodological training in laboratories, applied training in hospitals, and summer training.</p>
<p>Evaluation methods</p>
<p>Simulating the medical condition, written, oral, and applied tests, semester and final exams, daily tests, and commitments to assignments such as making reports in the field of specialization and then discussing the reports, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are put to the student by the teacher The student answers the questions, and the teacher also answers the same questions. The student is asked to evaluate himself in light of the teacher's answers) and deductive and deductive questions.</p>
<p>D - Transferable general and qualifying skills (other skills related to employability and personal development). D1- Field visits to gain experience from others. D2- Access to scientific developments in the field of specialization (educational videos). D3- Practical training in hospitals.</p>

11. Course Structure

Week	Hours	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	6	<p>*Progress about treatment with patient and equipage radiography in the Centre of the work and how do you treatment with friend during take the picture X-ray.</p> <p>*X-ray bony of the skull in the multiple position (anterior, posterior, lateral, base of the skull, Town's).</p>	Lecture, discussion, presentation of radiological videos and films	test
2	6	<p>*X-ray sinuses in the (prone and erect) position.</p> <p>*X-ray sinuses appear frontal (anterior and lateral) position *X-ray sinuses appear ethmoid and sphenoid.</p>	Lecture, discussion, presentation of radiological videos and films	practical test
3	6	<p>*X-ray mastoid process (stenver's position) in lateral anterior oblique, posterior oblique.</p> <p>*X-ray mastoid (internal auditory meatus) through the orbit and appear it in Town's and base of the skull position.</p>	Lecture, discussion, presentation of radiological videos and films	test
4	6	<p>*X-ray mastoid (internal auditory meatus) by Tomography.</p> <p>*X-ray upper jaw mandible normal position with occlusal film.</p>	Lecture, discussion, presentation of radiological videos and films	Test
5	6	<p>*X-ray lower jaw mandible (anterior, lateral oblique) position.</p> <p>*X-ray nasal bone in the lateral position used 8x10 inch film and lateral position by occlusal film.</p>	Lecture, discussion, presentation of radiological videos and films	practical test
6	6	<p>*X-ray zygomatic arch by base of the skull, lateral, Town's position.</p>	Lecture, discussion, presentation of	practical test

		*X-ray or optic foramen.	radiological videos and films	
7	6	*X-ray Sella turcica in (lateral, Town's) position by Tomography. *X-ray orbital cavity with angulation of the tube.	Lecture, discussion, presentation of radiological videos and films	practical test
8	6	*X-ray facial bone with multiple angulations of the tube. *X-ray salivary gland (anterior, lateral, oblique) position and with used occlusal film.	Lecture, discussion, presentation of radiological videos and films	practical test
9	6	*X-ray chest in the lungs (anterior, lateral, oblique) position. *X-ray lordotic position in the apex of the lungs.	Lecture, discussion, presentation of radiological videos and films	practical test
10	6	*X-ray heart in the (anterior, left lateral) right oblique with taken the barium swallow. *X-ray ribs upper and lower part anterior and oblique position.	Lecture, discussion, presentation of radiological videos and films	practical test
11	6	*X-ray sternum (lateral, internal oblique) position and with by tomography. *X-ray clavico-sternum joint anterior oblique and with by tomography.	Lecture, discussion, presentation of radiological videos and films	practical test
12	6	*X-ray chest in the children (Erect-supine) position. *X-ray scapula bone anterior and lateral position.	Lecture, discussion, presentation of radiological videos and films	practical test
13	6	*X-ray chest and bony by tomography. *X-ray clavicle bony (anterior, lordotic) position.	Lecture, discussion, presentation of radiological videos and films	practical test

14	6	*X-ray breast anterior, medial later, external lateral) position. *Dark room process manual and change the film.	Lecture, discussion, presentation of radiological videos and films	practical test
15	6	*Dark room process automatic and change the fluid process. *Dark room and artifact of the film.	Lecture, discussion, presentation of radiological videos and films	practical test

12. Infrastructure	
Required reading:	Radiography
Main references (sources)	<ul style="list-style-type: none"> -1 Radiography - Dr. Adnan Shaker - Hobi Razouki Mustafa. -2 A book project on radiography - Hobi Razouki. -3 A methodological binder in the English language - Hobi Razouki Mustafa. <p>Roentgenographic positions. Vinting Merrill Part I, II, 1965 -</p> <ul style="list-style-type: none"> - Positioning in Radiography for K.C Clark. London 1975. - Normal Radiographic Anatomy for Dr. Meschan 1976 U.S.A.
Recommended books and references (scientific journals, reports,...)	

B - Electronic references, Internet sites...

13. Course development plan

Access to modern scientific literature

- 1- Participation in relevant scientific conferences
- 2- The teaching and training staff is partially devoted to applying and working in hospitals
- 3- Hosting specialized professors
- 4- Academic pairing with other universities and corresponding colleges

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Bio-Statistic / TIMM202
4. Program (s) to which it contributes	Technical Diploma in radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Modules
7. Number of hours tuition (total)	30 Hour
8. Date of production/revision of this specification	9 / 4 / 2024
9. Aims of the Course	
The student will be able to: <ul style="list-style-type: none">• Processing and analyzing statistical data, arriving at correct conclusions and preparing statistical forms.	
10. Course outcomes and teaching, learning and evaluation methods	
A. <u>Cognitive objectives</u> : The student will be able to: <ul style="list-style-type: none">A1. Deal with statistical data.A2. Deal with and knowing life and health statistics.A3. Organize the statistical form and health form related to daily incidents such as births, deaths and diseases	

B - <u>Skills and Behavioral objectives</u> : The student will be able to: <ul style="list-style-type: none"> Analyze statistical data.
C- <u>Emotional and Value-Based objectives</u> : The student will be able to: <ul style="list-style-type: none"> Explain the community's need to learn statistics and its applications at work
D - <u>General and qualifying skills</u> : <ul style="list-style-type: none"> D1. Access to scientific developments in the field of specialization. D2. Communication skills with others. D3. Self-reliance skills. D4. Teamwork skills.
Teaching and learning methods
Traditional lecturing, report writing, conducting seminars, group learning training.
Evaluation methods
Daily written and oral tests, Applied tests, Seminars, Semester and final exams, Commitments to assignments, Attendance and commitment, Feedback (Linking the current topic to the previous topic), Self-evaluation, Reports on scientific developments in the field of specialization, Asking analytical and deductive questions.

11. Course Structure				
Week	Hours	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	Definition of statistics. Data collection methods. Presentation and description of statistical data, preparation of a questionnaire (unclassified data) form.	Traditional lecture, seminars, group discussion	test
2	2	Representing frequency distributions for "classified data" Tabular display "Frequency distribution tables"	Traditional lecture, seminars, group discussion	test
3	2	Graphical display - inscribed histogram, curved histogram, histogram, polygon histogram	Traditional lecture, seminars, group discussion	test
4	2	measures of central tendency, Arithmetic mean .	Traditional lecture, seminars, group discussion	Test

5	2	The median, Mode	Traditional lecture, seminars, group discussion	Test
6	2	Introduction to sampling theory, “its meaning and reasons for choosing it.”	Traditional lecture, seminars, group discussion	Test
7	2	Life statistics, ratio and rate, death statistics	Traditional lecture, seminars, group discussion	Test
8	2	Fertility statistics	Traditional lecture, seminars, group discussion	Test
9	2	Disease statistics, Life tables	Traditional lecture, seminars, group discussion	Test
10	2	Definition of health statistics and its sources	Traditional lecture, seminars, group discussion	Test
11	2	Fields that the health statistics address	Traditional lecture, seminars, group discussion	Test
12	2	Statistics of causes of death (medical certificate, cause, death, death certificate).	Traditional lecture, seminars, group discussion	Test
13	2	Statistics of health institutions	Traditional lecture, seminars, group discussion	Test
14	2	The most appropriate rates for hospitals and patients. Treatment days. Length of stay (average days of stay)	Traditional lecture, seminars, group discussion	Test
15	2	Family occupancy rate, Admission rate.	Traditional lecture, seminars, group discussion	Test

20. Infrastructure

Required reading:

W. Dixon and F. Massey – Introduction to statistical analysis

Banderfort Hill, Fundament in Biosciences.

B - Electronic references, Internet sites...

21. Course development plan

Access to modern scientific literature through:

13- Participation in relevant scientific conferences

14- The teaching and training staff is partially devoted to applying and working in hospitals

15- Hosting specialized professors

16- Academic twinning with other universities and corresponding colleges

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Special radiographic procedure RADT204
4. Programme (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Annual
7. Number of hours tuition (total)	120
8. Date of production/revision of this specification	8 / 1 / 2024
9. Aims of the Course 1- Teaching and training the student on how to receive the patient. 2- Teaching and training the student to take the appropriate position for the patient. 3- Teaching and training the student to prepare the patient to take the x-ray. 4- Teaching and training students to develop video cassettes. 5- Teaching and training the student on how to perform color examinations. Teaching and training female students on how to handle the mammography device (breast screening device) and take mammograms.	
10. Course outcomes and teaching, learning and evaluation methods	
A.Cognitive objectives A1- Identify the risks of radiation exposure. A2- Identify the nature of the materials used in color radiological examinations, such as staining the kidneys and the digestive system. A3- Identifying the presence of some metals inside the body, such as shrapnel and platinum, during an MRI examination.	
B - The skills objectives of the course. B1 - Training in determining the appropriate position for x-ray imaging of the patient. B2 - Training students on how to deal with radiological equipment. B3 - Training the patient in the appropriate position for x-ray imaging.	

B4 - Training on developing the patient's imaging cassette to display the radiograph.
Teaching and learning methods
Traditional lecture, report writing, seminar conduct, practical training in the laboratory, methodological training in the hospital, and summer training.
Evaluation methods
Daily written and oral tests, applied tests, seminars, semester and final exams, obligations to assignments, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are set for the student by the teacher and the student answers the questions, and the teacher also answers the same questions and asks The student is asked to evaluate himself in light of the teacher's answers, reports on scientific developments in the field of specialization, and asks analytical and deductive questions.
C- Emotional and value goals C1- Training on how to deal with premature babies and newborns. C2- Training on how to deal with pregnant women. C3- Training on how to deal with unconscious patients. C4- Training on how to deal with elderly patients. C5- Training on how to deal with paralyzed patients. C6- Training on how to deal with patients who have injuries resulting from traffic collisions and exposure to gunfire.
Teaching and learning methods
Traditional lecture, self-learning, feedback, deductive and analytical thinking questions, methodological training in laboratories, applied training in hospitals, and summer training.
Evaluation methods
Simulating the medical condition, written, oral, and applied tests, semester and final exams, daily tests, and commitments to assignments such as making reports in the field of specialization and then discussing the reports, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are put to the student by the teacher The student answers the questions, and the teacher also answers the same questions. The student is asked to evaluate himself in light of the teacher's answers) and deductive and deductive questions.
D - Transferable general and qualifying skills (other skills related to employability and personal development). D1- Field visits to gain experience from others. D2- Access to scientific developments in the field of specialization (educational videos). D3- Practical training in hospitals.

11. Course Structure

Week	Hours	Unit/Module or Topic Title	ILOs	Teaching Method	Assessment Method
1	6	Progress about taken the contrast medium in the urinary tract and Urinary tract examination I.V.U.	Lecture, discussion, presentation of radiological videos and films	6	test
2	6	Extra picture in kidney, ureter, bladder and extra picture in ascending retrograde pyelography.	Lecture, discussion, presentation of radiological videos and films	6	practical test
3	6	Urinary tract in contrast medium by distilled & The contrast medium gall bladder by oral and I.V.C. in the position.	Lecture, discussion, presentation of radiological videos and films	6	test
4	6	Preparation in the biliary tract. The position (anterior, oblique) before and after eating the oil and multiple position (Erect, supine and tomography).	Lecture, discussion, presentation of radiological videos and films	6	Test
5	6	Biliary tract contrast medium during operative in the T. tube and Biliary tract in contrast medium multiple position and tomography.	Lecture, discussion, presentation of radiological videos and films	6	practical test
6	6	Barium swallow during fluoroscopy& Barium meal in the radiologist in fluoroscopy.	Lecture, discussion, presentation of radiological videos and films	6	practical test
7	6	Stomach and duodenum by barium examination anterior, lateral oblique and tranduling berg position (in the Hiatus hernia).	Lecture, discussion, presentation of radiological videos and films	6	practical test
8	6	Stomach and duodenum by barium without fluoroscopy (supine, prone, erect position) & Barium follow	Lecture, discussion, presentation of	6	practical test

		through explain pass the barium during it and importing the position taken.	radiological videos and films		
9	6	Barium enema by fluoroscopy or without fluoroscopy in the anterior, oblique position	Lecture, discussion, presentation of radiological videos and films	6	practical test
10	6	Barium enema double contrast before and after evacuation & Barium enema in rectum by erect, oblique, lateral position.	Lecture, discussion, presentation of radiological videos and films	6	practical test
11	6	Bronchography in the lung multiple position (anterior, lateral, oblique) & Bronchography in the lung (supine, prone, oblique position).	Lecture, discussion, presentation of radiological videos and films	6	practical test
12	6	Preparation the patient in the examination of the lymphoid gland in the first day taken foot, leg, femur, pelvis & Second day taken the picture in the examination the lymphoid gland in pelvis, abdomen, chest, shoulder, arm.	Lecture, discussion, presentation of radiological videos and films	6	practical test
13	6	Preparation the patient in examination hystrosalpingiography during push first and second contrast in uterus & Hystrosalpingiography taken position third after 20 minute	Lecture, discussion, presentation of radiological videos and films	6	practical test
14	6	Salivary gland in the position & Examination the appendix by oral.	Lecture, discussion, presentation of radiological videos and films	6	practical test
15	6	Cerebral angiography, Cardiac angiography, Cystography by fluoroscopy & Cystography by fluoroscopy after and before the push the contrast medium in the posterior, lateral, oblique position.	Lecture, discussion, presentation of radiological videos and films	6	practical test

12. Infrastructure	
Required reading:	Radiography
Main references (sources)	<p>-1 Radiography - Dr. Adnan Shaker - Hobi Razouki Mustafa.</p> <p>-2 A book project on radiography - Hobi Razouki.</p> <p>-3 A methodological binder in the English language - Hobi Razouki Mustafa.</p> <p>Roentgenographic positions. Vinting Merrill Part I, II, 1965 -</p> <p>-Positioning in Radiography for K.C Clark. London 1975.</p> <p>-Normal Radiographic Anatomy for Dr. Meschan 1976 U.S.A.</p>
Recommended books and references (scientific journals, reports,...)	
B - Electronic references, Internet sites...	

13. Course development plan	
	Access to modern scientific literature
<ol style="list-style-type: none"> 1- Participation in relevant scientific conferences 2- The teaching and training staff is partially devoted to applying and working in hospitals 3- Hosting specialized professors 4- Academic pairing with other universities and corresponding colleges 	

11. Course Structure

Week	Hours	Unit/Module or Topic Title	ILOs	Teaching Method	Assessment Method
1	3	Types of radiation and isotopes in medicine	Identify radioactive isotopes	Lecture, discussion, presentation	practical test
2	3	Units used in prevention - rad - roentkin - rem - sievert - cry - dose	Identify the units of radiation measurement	Lecture, discussion, presentation	practical test
3	3	Radiation sources - open sources, external radiation, internal radiation, critical organs, equitable layer of value, Curie, radioactive contamination	Identify methods of administering radiation doses and radioactive contamination	Lecture, discussion, presentation	practical test
4	3	Closed sources - X-ray generators - ionizing radiation	Identify X-ray generators, ionizing radiation, and ionizing radiation	Lecture, discussion, presentation	practical test
5	3	Ionizing radiation – radioactive plate	Recognize the difference between different ionizing radiation	Lecture, discussion, presentation	practical test
6	3	Radiation sources - the first type	Identify the first type of radiation sources	Lecture, discussion, presentation	practical test
7	3	Alpha rays - neutrons - mesons - electron beams	Identify the beams of different	Lecture, discussion, presentation	practical test

			nuclear particles		
8	3	The second type of radiation sources - X-rays	Identify the second type of radiation sources	Lecture, discussion, presentation	practical test
9	3	Gamma rays - ultraviolet rays	Identify different electromagnetic rays	Lecture, discussion, presentation	practical test
10	3	Biological effects - theory of direct and indirect effects, chemical effects, physical effects, relative biological effect and factors influencing it (solving questions), equivalent dose	Identify the different biological effects of radiation	Lecture, discussion, presentation	practical test
11	3	Units used in radiation protection - exposure unit Exposure rate, absorption dose, absorption dose rate	Identify the units of measurement used in radiation protection	Lecture, discussion, presentation	practical test
12	3	External radiation protection – exposure time	Learn about ways to protect against external radiation	Lecture, discussion, presentation	practical test
13	3	Gamma ray barriers - X-ray barriers Radiation detectors, radiation dosimeters, ionization chamber, harmonic counter, Kicker counter	Learn about radiation protection methods using barriers and radiation detectors	Lecture, discussion, presentation	practical test
14	3	Efficiency of gas detectors, bag film, pocket dosimeter, Workplace design	Identify gaseous and solid radiation detectors	Lecture, discussion, presentation	practical test
15	3	Medical examinations	Learn about	Lecture,	practical test

			radiation medical examinations	discussion, presentation	
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12. Infrastructure	
Required reading:	Radiological Physics Book - Written by Amira Salim - Maysoon Faraj - Farqad Abdul Latif.
Main references (sources)	<p>Anderson E.W. and Trethowan W. it</p> <p>Psychiatry London bailliere tindall 1973</p> <p>Pollitt .J. psyohological medicine for students Edinhursh-london1973.</p>
Recommended books and references (scientific journals, reports,...)	
B - Electronic references, Internet sites...	

13. Course development plan
Access to modern scientific literature
<ol style="list-style-type: none"> 1- Participation in relevant scientific conferences 2- The teaching and training staff is partially devoted to applying and working in hospitals 3- Hosting specialized professors 4- Academic pairing with other universities and corresponding colleges

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Radiological Anatomy / RADT205
4. Program (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Modules
7. Number of hours tuition (total)	60
8. Date of production/revision of this specification	8 / 1 / 2024
9. Aims of the Course	
The student will be able to:	
<ul style="list-style-type: none"> • Identify the human body's systems. • Identify the relationship between devices. 	
10. Course outcomes and teaching, learning and evaluation methods	
A. <u>Cognitive objectives:</u>	
A1 The student will learn to synthesize x-ray anatomy	
A2 Study of the complete structure of the human body system, which appears in the normal radiograph and by contrast for multiple locations.	
B - <u>Skills objectives:</u>	
<ul style="list-style-type: none"> • Training students on the general anatomical positions of the human body 	
C- <u>Emotional and Value-Based objectives:</u>	
<ul style="list-style-type: none"> • Respecting the patient's sanctity, customs and traditions. 	
D - <u>General and qualifying skills:</u>	
D1- Field visits to gain experience from others.	
D2- Access to scientific developments in the field of specialization (educational videos).	
D3- Practical training in hospitals.	
Teaching and learning methods	
Traditional lecture, Writing reports, Seminar conduct, Practical training in the laboratory, Practical training in the hospital, and End of the course training.	
Evaluation methods	
Daily written and oral tests, Applied tests, Seminars, Semester and final exams, Commitments to assignments, Attendance and commitment, Feedback (Linking the	

current topic to the previous topic), Self-evaluation, Reports on scientific developments in the field of specialization, Asking analytical and deductive questions.

11. Course Structure				
Assessment Method	Teaching Method	Unit/Module or Topic Title	Hours	Week
test	Lecture, discussion, presentation of videos	Growth and development of bones, limitation of bone age, and anatomy of the skeletal structure of the body	4	1
test	Lecture, discussion, presentation of videos	The upper limb bone, the shoulder joint, the scapula, the humerus, and the elbow joint	4	2
test	Lecture, discussion, presentation of videos	Forearm bone and wrist joint	4	3
Test	Lecture, discussion, presentation of videos, Display models	Hand bone (metacarpal, phalanx) .And his growth changed	4	4
practical test	Lecture, discussion, presentation of videos, Display models	Lower limb bone and pelvic bone	4	5
practical test	Lecture, discussion, presentation videos, Display models	.Hip joint and femur	4	6
practical test	Lecture, discussion, presentation videos, Display models	Knee, patella and tibia joint	4	7
practical test	Lecture, discussion, presentation videos, Display models	,ankle joint, tarsal bone Tarsal bone, toes	4	8
practical test	Lecture, discussion, presentation videos, Display models	Study of the structure of the skull .bone	4	9
practical test	Lecture, discussion, presentation videos, Display models	Common diet in the cranial area (nose (sinuses, orbit	4	10
practical test	Lecture, discussion,	the temporal bone and sella turcica	4	11

	presentation videos, Display models			
practical test	Lecture, discussion, presentation videos, Display models	Anatomy of the structure of the spine	4	12
practical test	Lecture, discussion, presentation videos, Display models	Anatomy of the respiratory system (upper passage)	4	13
practical test	Lecture, discussion, presentation videos, Display models	Lungs and pleura And the diaphragm	4	14
practical test	Lecture, discussion, presentation videos, Display models	Anatomy of the lymphatic system	4	15

12.Infrastructure	
Required reading:	Anatomy
Main references (sources)	1 .Anatomy for Diagnostic Stephen Ryan , Michael (MMcN) Sarah, Emma, Jack and Nick (SE).
Recommended books and references (scientific journals, reports,...)	Practical Radiological Anatomy Sarah McWilliams
B - Electronic references, Internet sites...	Pocket Atlas of Sectional Anatomy Computed Tomography and Magnetic Resonance Imaging. Torsten B. Moeller, M.D. Am Caritas Gray s anatomy

13.Course development plan
<p>Access to modern scientific literature through:</p> <ol style="list-style-type: none"> 1- Participation in relevant scientific conferences 2- The teaching and training staff is partially devoted to applying and working in hospitals 3- Hosting specialized professors 4- Academic pairing with other universities and corresponding colleges

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Radiological Anatomy / RADT205
4. Program (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Modules
7. Number of hours tuition (total)	60
8. Date of production/revision of this specification	8 / 4 / 2024
9. Aims of the Course	
The student will be able to:	
<ul style="list-style-type: none"> • Identify the human body's systems. • Identify the relationship between devices. 	
10. Course outcomes and teaching, learning and evaluation methods	
A. <u>Cognitive objectives:</u>	
A1 The student will learn to synthesize x-ray anatomy	
A2 Study of the complete structure of the human body system, which appears in the normal radiograph and by contrast for multiple locations.	
B - <u>Skills objectives:</u>	
<ul style="list-style-type: none"> • Training students on the general anatomical positions of the human body 	
C- <u>Emotional and Value-Based objectives:</u>	
<ul style="list-style-type: none"> • Respecting the patient's sanctity, customs and traditions. 	
D - <u>General and qualifying skills:</u>	
D1- Field visits to gain experience from others.	
D2- Access to scientific developments in the field of specialization (educational videos).	
D3- Practical training in hospitals.	
Teaching and learning methods	
Traditional lecture, Writing reports, Seminar conduct, Practical training in the laboratory, Practical training in the hospital, and End of the course training.	
Evaluation methods	
Daily written and oral tests, Applied tests, Seminars, Semester and final exams, Commitments to assignments, Attendance and commitment, Feedback (Linking the	

current topic to the previous topic), Self-evaluation, Reports on scientific developments in the field of specialization, Asking analytical and deductive questions.

11. Course Structure				
Assessment Method	Teaching Method	Unit/Module or Topic Title	Hours	Week
test	Lecture, discussion, presentation of videos	Growth and development of bones, limitation of bone age, and anatomy of the skeletal structure of the body	4	1
test	Lecture, discussion, presentation of videos	The upper limb bone, the shoulder joint, the scapula, the humerus, and the elbow joint	4	2
test	Lecture, discussion, presentation of videos	Forearm bone and wrist joint	4	3
Test	Lecture, discussion, presentation of videos, Display models	Hand bone (metacarpal, phalanx) .And his growth changed	4	4
practical test	Lecture, discussion, presentation of videos, Display models	Lower limb bone and pelvic bone	4	5
practical test	Lecture, discussion, presentation videos, Display models	.Hip joint and femur	4	6
practical test	Lecture, discussion, presentation videos, Display models	Knee, patella and tibia joint	4	7
practical test	Lecture, discussion, presentation videos, Display models	,ankle joint, tarsal bone Tarsal bone, toes	4	8
practical test	Lecture, discussion, presentation videos, Display models	Study of the structure of the skull .bone	4	9
practical test	Lecture, discussion, presentation videos, Display models	Common diet in the cranial area (nose (sinuses, orbit	4	10
practical test	Lecture, discussion,	the temporal bone and sella turcica	4	11

	presentation videos, Display models			
practical test	Lecture, discussion, presentation videos, Display models	Anatomy of the structure of the spine	4	12
practical test	Lecture, discussion, presentation videos, Display models	Anatomy of the respiratory system (upper passage)	4	13
practical test	Lecture, discussion, presentation videos, Display models	Lungs and pleura And the diaphragm	4	14
practical test	Lecture, discussion, presentation videos, Display models	Anatomy of the lymphatic system	4	15

12.Infrastructure	
Required reading:	Anatomy
Main references (sources)	1 .Anatomy for Diagnostic Stephen Ryan , Michael (MMcN) Sarah, Emma, Jack and Nick (SE).
Recommended books and references (scientific journals, reports,...)	Practical Radiological Anatomy Sarah McWilliams
B - Electronic references, Internet sites...	Pocket Atlas of Sectional Anatomy Computed Tomography and Magnetic Resonance Imaging. Torsten B. Moeller, M.D. Am Caritas Gray s anatomy

13.Course development plan
<p>Access to modern scientific literature through:</p> <ol style="list-style-type: none"> 1- Participation in relevant scientific conferences 2- The teaching and training staff is partially devoted to applying and working in hospitals 3- Hosting specialized professors 4- Academic pairing with other universities and corresponding colleges

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Radiological Equipment Techniques2 / RADT 206
4. Program (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Modules
7. Number of hours tuition (total)	4
8. Date of production/revision of this specification	8 / 4 / 2024
9. Aims of the Course	
<ul style="list-style-type: none"> • The student must be familiar with all types of radiological device • able to work on it and operate it and how to work and operate it • Knowledge of the basic devices for each examination device. 	
10. Course outcomes and teaching, learning and evaluation methods	
C. <u>Cognitive objectives:</u>	
D. Identify familiar with all types of radiological device	
E. able to work on it and operate it and how to work and operate it	
F. Knowledge of the basic devices for each examination device.	
B - <u>Skills objectives:</u>	
• Training students on all types of imaging instruments.	
Teaching and learning methods	
Traditional lecture, Writing reports, Seminar conduct, Practical training in the laboratory, Practical training in the hospital, and End of the course training.	
Evaluation methods	
Daily written and oral tests, Applied tests, Seminars, Semester and final exams, Commitments to assignments, Attendance and commitment, Feedback (Linking the current topic to the previous topic), Self-evaluation, Reports on scientific developments in the field of specialization, Asking analytical and deductive questions.	

11. Course Structure

Week	Hours	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	4	CT Scan (cont.)	Lecture, discussion, presentation of videos	Oral test
2	4	CT Scan (cont.)	Lecture, discussion, presentation of videos	Test
3	4	CT Scan (cont.)	Lecture, discussion, presentation of videos	Test
4	4	Medical linear accelerator (cont.)	Lecture, discussion, presentation of videos, Display models	Oral Test
5	4	Medical linear accelerator (cont.)	Lecture, discussion, presentation of videos, Display models	Test
6	4	Cardiac Catheterization laboratory(cont.)	Lecture, discussion, presentation videos, Display models	practical test
7	4	Cardiac Catheterization laboratory(cont.)	Lecture, discussion, presentation videos, Display models	practical test
8	4	Mammography	Lecture, discussion, presentation videos, Display models	practical test
9	4	Magnetic Resonance Imaging MRI (cont.)	Lecture, discussion, presentation videos, Display models	Test
10	4	Magnetic Resonance Imaging MRI (cont.)	Lecture, discussion, presentation videos, Display models	Test
11	4	Magnetic Resonance Imaging MRI (cont.)	Lecture, discussion, presentation videos, Display models	oral test
12	4	Gamma Camera (cont.)	Lecture, discussion, presentation videos, Display models	Test
13	4	Gamma Camera (cont.)	Lecture, discussion, presentation videos, Display models	oral test
14	4	DEXA (cont.)	Lecture, discussion, presentation videos, Display models	oral test
15	4	DEXA (cont.)	Lecture, discussion,	practical test

			presentation videos, Display models	
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22. Infrastructure	
Required reading:	Radiological Equipment Techniques
Main references (sources)	1- ESSENTIAL PHYSICS IN IMAGING FOR RADIOGRAPHERS , Ken Holmes Marcus Elkington and Phil Harris ,2019 2 - Radiology PHY , D.A.SAIA, 2018 3- Radiographic Imaging and Exposure , TERRIL. FAUBER , 2020. 4- X-RAY diffraction , Structure , principles and Applications , Kaimin Shih ,2020 . 5- 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,...)	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.
B - Electronic references, Internet sites...	X-RAY diffraction , Structure , principles and Applications , Kaimin Shih ,2020 .

23. Course development plan
Access to modern scientific literature through: <ul style="list-style-type: none"> 17- Participation in relevant scientific conferences 18- The teaching and training staff is partially devoted to applying and working in hospitals 19- Hosting specialized professors 20- Academic pairing with other universities and corresponding colleges

COURSE SPECIFICATION

1. Teaching Institution	Ministry of Higher Education and Scientific Research / Northern Technical University
2. University/ Department	Mosul Medical Technical Institute/ Radiology Techniques Department
3. Course title/code	Surgical internal medicine RADT207
4. Programme (s) to which it contributes	Technical Diploma in Radiology
5. Modes of Attendance offered	* Weekly lesson schedule (theoretical and practical) * Scientific discussions, seminars, other activities
6. Semester/Year	Course
7. Number of hours tuition (total)	30
8. Date of production/revision of this specification	2024
9. Aims of the Course	
1-The most important signs and symptoms for each system, for example. Digestive, respiratory, urinary and skeletal systems...etc.	
2 -Methods of diagnosing various medical and surgical diseases, such as: laboratory, applied, or automated radiology, for example. Gastroscopy, cystoscopy...etc.	
3-Methods of treatment and prevention of various diseases (medical + surgical), conservative and surgical treatment.7- Identify the impact of environmental and radioactive pollution on public health and move towards preventing it	
10. Course outcomes and teaching, learning and evaluation methods	
A.Cognitive objectives	
1- The most important signs and symptoms for each system e.g. digestive- Respiratory-Urinary and skeletal system.....etc.	
2-Methods of diagnosis of different medical and surgical diseases	

e.g. Radiological-laboratory- and apparatus or instrumental e.g. gastro-scope, cystoscope.....etc.

3- Methods of treatment and prevention of different diseases (medical+surgical) conservative and surgical treatment.

4- Effects of radiation on different system of body.

B - The skills objectives of the course.

1. Critical thinking. Develop students' ability to evaluate public health information to inform decisions based on rational analysis.

2. Effective Communication Enhance students' logical, critical, and oral and written communication skills, including the ability to communicate with different groups of the community on public health issues.

3. Collaboration and teamwork Enhancing teamwork skills and cooperation with colleagues and the community to achieve public health goals, including planning, implementing and evaluating health programs.

4. Research and analysis: Developing students' research and analysis skills, including the ability to collect and analyze data and present results in a systematic and accurate manner.

5. Planning and Organization Develop students' planning and organization skills in implementing health activities and managing resources efficiently.

6. Social interaction: Enhancing social interaction skills, dealing with diverse groups of individuals, and understanding their needs and aspirations regarding health.

7. Leadership and Change: Develop students' leadership and change skills, including the ability to motivate others and encourage positive change in communities and institutions to improve public health.

Teaching and learning methods

Traditional lecture, report writing, seminar conduct Methodological training in hospitals and X-rays institute.

Evaluation methods

Daily written and oral tests, seminars, semester and final exams, commitments to assignments, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are put to the student by the teacher and the student answers the questions, and the teacher also answers the same questions and asks the student to evaluate The same in light of the teacher's answers), reports on scientific developments in the field of specialization, asking analytical and deductive questions.

C- Emotional and value goals

1. Promoting health awareness: The course aims to increase awareness of the

<p>importance of public health and disease prevention among students and society.</p> <p>2. Encouraging healthy behaviors: The course aims to promote healthy and preventive behaviors among individuals, such as personal hygiene, proper nutrition, and physical fitness.</p> <p>3. Directing attention to public health problems: The course highlights various public health problems and encourages thinking about their solutions and participating in efforts to combat them.</p>
Teaching and learning methods
Traditional lecture, self-learning, feedback, deductive and analytical thinking questions
Evaluation methods
Written and oral tests, semester and final exams, daily tests, and commitments to assignments such as making reports in the field of specialization and then discussing the reports, attendance and commitment, feedback (testing the student on the previous subject), self-evaluation (questions are put to the student by the teacher and the student answers the questions, as well as The teacher answers the same questions and asks the student to evaluate himself in light of the teacher's answers) and deductive and deductive questions.
<p>D - Transferable general and qualifying skills (other skills related to employability and personal development).</p> <p>1- Field visits to gain experience from others.</p> <p>2- Access to scientific developments in the field of specialization (educational videos).</p>

Week	Hours	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	Temperature:-types-measuring(thermometer).	Lecture, discussion, video presentation and illustrations	test
2	2	Food poisoning: types +treatment	Lecture, discussion, video presentation and illustrations	test
3	2	Haematemesis-Melaena causes and treatment. Peptic ulcer of	Lecture, discussion, video presentation and illustrations	test

		stomach(G.U)and duodenum		
4	2	Hernias of diaphragm: causes and treatment.	Lecture, discussion, video presentation and illustrations	Test
5	2	Intestinal obstruction (I.O):Radiological diagnosis. Appendicitis:Ss/Ss+treatment.	Lecture, discussion, video presentation and illustrations	test
6	2	Jaundice: types +causes +investigations. Ascites :types +causes +investigations	Lecture, discussion, video presentation and illustrations	practical test
7	2	Hydatid cyst: in kidney-liver and lungs.	Lecture, discussion, video presentation and illustrations	test
8	2	Bronchial Asthma: causes and treatment. Respiratory diseases: Ss/Ss Haemoptysis:- .Causes+ investigations	Lecture, discussion, video presentation and illustrations	test
9	2	Peumonia + pulmonary Tuberculosis(T.B): Pleural effusion +ca-lung	Lecture, discussion, video presentation and illustrations	test
10	2	Urinary Tract diseases: Ss/Ss Haematuria:- Radiological and lab .examination (Microscopical).	Lecture, discussion, video presentation and illustrations	test
11	2	Allergy in general. Drugs- Allergy:Ss/Ss. Sinusitis	Lecture, discussion, video presentation and illustrations	test
12	2	Wounds: types+ Ss/Ss + treatment in general	Lecture, discussion, video presentation and illustrations	test
13	2	Burns: degrees (percentage on surface) and depth +treatment +complications.	Lecture, discussion, video presentation and illustrations	test

14	2	Gangrene types+ Ss/Ss + treatment in general.	Lecture, discussion, video presentation and illustrations	test
15	2	Shock: types + Ss and Ss +treatment.	Lecture, discussion, video presentation and illustrations	test

24.Infrastructure	
Required reading:	
Main references (sources)	General Surgery Principles and International Practice 2009 Kirby I. Bland, Markus W. Buehler, Attila Csendes, Michael G. Sarr, O. James Garden, John Wong
Recommended books and references (scientific journals, reports,...)	
B - Electronic references, Internet sites...	

25.Course development plan
<p>Access to modern scientific literature</p> <p>21- Participation in relevant scientific conferences</p> <p>22- The teaching and training staff is partially devoted to applying and working in hospitals</p> <p>23- Hosting specialized professors</p> <p>24- Academic pairing with other universities and corresponding colleges</p>