Academic program Description form

For the academic year 202 6_2025

University Name : National University of Science and Technology

College Name : Health and Medical Technologies

Name of academic or professional program : Bachelors

Name of final degree: Bachelor of community health technology

Study system : Courses

Description preparation date : 2025/9/5

File completion date : 15/9/2025

Name of the Dean of the college :

Date : 15/9/2025 **signature :**

Name of the scientific Assistant :

Date : 15/9/2025 **signature:**

File checked by

Quality Assurance and university performance Division

Name of director of Quality Assurance and university performance Division : Ashjan Rashed Neama

Date : 15/9/2025

Signature :

Deans approval

:Program vision

The Community Health Department aims to achieve a sustainable, healthy community environment by promoting health awareness, preventing disease, and improving lifestyles. The department strives to build a community capable of addressing health challenges and engaging with modern technologies to enhance . the health of individuals in a comprehensive manner

:Program message

The Department of Community Health is dedicated to promoting public health through education, research, and community services, with the goal of reducing the burden of disease and promoting community well-being. The department strives to provide educational programs and health initiatives that focus on prevention and promoting healthy lifestyles through innovative and effective scientific methods.

:Program objectives

Improving community health awareness through educational and training programs. Enhancing disease prevention and reducing the spread of epidemics. Enhancing cooperation with governmental and non-governmental health institutions to achieve common health goals. Developing community health programs that include promoting mental and physical health. Contributing to the development of health policies based on scientific research and field studies. Promoting sustainable health practices through environmental and social awareness.

:Program accreditation

Program Name: Bachelor of Community Health
Provider: College of Health and Medical Technologies / Department of Community Health
Program Duration: 4 years (8 semesters)
Language of Instruction: English

:Program structure

Notes	percentage	Study unit	Number of courses	Program structure
essential	%50	22	11	Institutional requirements
essential	29.28 %	140	41	College requirements
essential	32.09 %	162	52	Department requirements
essential	Two months during the summer vacation for the second and third stages			Summer training

:Program Description

First-year curriculum - first semester / 2025-2026								
Number of units	Number of weekly hours			Language of instruction	Its type	Lecture name	Name of the material	T
	total	A	N					
4	6	4	2	English	Specialized / Basic	Techniques for Medical Device	Medical Device Technologies	1
4	6	4	2	English	Specialist/Assistant	Medical Microbiology 1	Medical Microbiology 1	2
4	6	4	2	English	Specialized / Basic	Principles of community health 1	Community Health Principles 1	3
4	6	4	2	English	Specialized / Basic	Clinical Chemistry 1	Clinical Chemistry 1	4
4	6	4	2	English	Specialist/Assistant	General Anatomy 1	General Anatomy 1	5
4	6	4	2	English	Specialized / Basic	Physiology 1	Physiology 1	6
2	2	_	2	English	General	English Language	English language	7
2	2	_	2	Arabic	General	Human rights and Democracy	Human rights and democracy	8
28	40	24	16					

First-year curriculum - second semester / 2025-2026								
Number of units	Number of weekly hours			Language of instruction	Its type	Lecture name	Name of the material	T
	total	A	N					
4	6	4	2	English	Specialist/Assistant	Medical Microbiology 2	Medical Microbiology 2	1

4	6	4	2	English	Specialized / Basic	Principles of community health 2	Community Health Principles 2	2
4	6	4	2	English	Specialized / Basic	Clinical Chemistry 2	Clinical Chemistry 2	3
4	6	4	2	English	Specialist/Assistant	General Anatomy 2	General Anatomy 2	4
4	6	4	2	English	Specialized / Basic	Physiology 2	Physiology 2	5
2	2	-	2	Arabic	General	Arabic Language	Arabic	6
22	32	20	12					

Second-year curriculum - first semester / 2025-2026								
Number of units	Number of weekly hours			Language of instruction	Its type	Lecture name	Name of the material	T
	total	A	N					
4	6	4	2	English	Specialized / Basic	Nutrition 1	Nutrition 1	1
4	6	4	2	English	Specialized / Basic	Communicable diseases 1	Communicable diseases 1	2
3	4	2	2	English	Specialist/Assistant	Pharmacology 1	Pharmacology 1	3
4	6	4	2	English	Specialized / Basic	Epidemiology 1	Epidemiology 1	4
4	6	4	2	English	Specialized / Basic	Environmental Health 1	Environmental Health 1	5
2	3	2	1	Arabic	General	Computer Applications 1	Computer Principles 1	6
2	2	-	2	Arabic	General		Baath regime crimes in Iraq	7
23	33	20	13					

Second-year curriculum - second semester / 2025-2026								
Number of units	Number of weekly hours			Language of instruction	Its type	Lecture name	Name of the material	T
	total	A	N					
4	6	4	2	English	Specialized / Basic	Nutrition 2	Nutrition 2	1
4	6	4	2	English	Specialized / Basic	Communicable diseases 2	Communicable diseases 2	2
3	4	2	2	English	Specialist/Assistant	Pharmacology 2	Pharmacology 2	3
4	6	4	2	English	Specialized / Basic	Epidemiology 2	Epidemiology 2	4
3	4	2	2	English	Specialized / Basic	Biostatistics	Medical statistics of my life	5

4	**6**	**4**	**2**	**English**	**Specialized / Basic**	**Environmental Health 2**	**Environmental Health 2**	**6**
2	**2**	**-**	**2**	**Arabic**	**General**	**Arabic Language**	**Arabic**	**7**
2	**3**	**2**	**1**	**Arabic**	**General**	**Computer Applications 2**	**Computer Principles 2**	**8**
26	**37**	**22**	**15**					

Updated third-year curriculum - first semester								
Number of units	**Number of weekly hours**			**Language of instruction**	**Its type**	**Lecture name**	**Name of the material**	**T**
	total	**A**	**N**					
4	**6**	**4**	**2**	**Arabic**	**Specialized / Basic**	**Health laws and supervision**	**Health laws and regulations**	**1**
4	**6**	**4**	**2**	**English**	**Specialized / Basic**	**Environmental Pollution**	**environmental pollution**	**2**
4	**6**	**4**	**2**	**English**	**Specialist/Assistant**	**Medical Entomology**	**Medical Entomology**	**3**
4	**6**	**4**	**2**	**English**	**Specialized / Basic**	**Advance Vital Statistics 1**	**Advanced Biostatistics 1**	**4**
4	**6**	**4**	**2**	**English**	**Specialist/Assistant**	**Chronic diseases 1**	**Chronic diseases 1**	**5**
2	**3**	**2**	**1**	**Arabic**	**General**	**Computer Applications 1**	**Computer Applications 1**	**6**
22	**33**	**22**	**11**					

Updated Third Year Second Semester Study Vocabulary								
Number of units	**Number of weekly hours**			**Language of instruction**	**Its type**	**Lecture name**	**Name of the material**	**T**
	total	**A**	**N**					
3	**4**	**2**	**2**	**English**	**Specialized / Basic**	**Toxicology**	**Toxicology**	**1**
4	**6**	**4**	**2**	**English**	**Specialized / Basic**	**Methodology**	**Research methods**	**2**
4	6	4	2	English	Specialized / Basic	Health Survey	**Health screening**	**3**
2	**2**	**-**	**2**	**English**	**Specialist/Assistant**	**Health Management**	**Health management**	**4**
4	**6**	**4**	**2**	**English**	**Specialized / Basic**	**Advance Vital Statistics 2**	**Advanced Biostatistics 2**	**5**
4	**6**	**4**	**2**	**English**	**Specialist/Assistant**	**Chronic diseases 2**	**Chronic diseases 2**	**6**
2	**3**	**2**	**1**	**Arabic**	**General**	**Computer Applications 2**	**Computer Applications 2**	**7**
23	**33**	**20**	**13**					

Updated fourth-year curriculum - first semester								
Number of units	Number of weekly hours			Language of instruction	Its type	Lecture name	Name of the material	T
	total	A	N					
4	7	5	2	English	Specialized / Basic	Community health services 1	Community Health Services 1	1
4	6	4	2	English	Specialized / Basic	Occupational Health 1	Occupational Health and Safety 1	2
4	6	4	2	English	Specialized / Basic	Clinical epidemiology 1	Clinical Epidemiology 1	3
4	7	5	2	English	Specialized / Basic	Health Education	Health education	4
4	6	4	2	English	Specialized / Basic	Non-Communicable Diseases 1	Non-communicable diseases 1	5
4	6	4	2	English	Specialist/Assistant	International Health	International Health	6
24	38	26	12					

Updated fourth-year curriculum - second semester								
Number of units	Number of weekly hours			Language of instruction	Its type	Lecture name	Name of the material	T
	total	A	N					
4	7	5	2	English	Specialized / Basic	Community health services 2	Community Health Services 2	1
4	6	4	2	English	Specialized / Basic	Occupational Health 2	Occupational Health and Safety 2	2
4	6	4	2	English	Specialized / Basic	Control of Communicable Diseases	Control of communicable diseases	3
4	6	4	2	English	Specialized / Basic	Clinical epidemiology 2	Clinical Epidemiology 2	4
4	6	4	2	English	Specialized / Basic	Non-Communicable Diseases 2	Non-communicable diseases 2	5
4	6	6	-	English	Specialist/Assistant	Project	Research project	6
2	2	-	2	Arabic	General	Professional ethics	Professional ethics	7
26	39	27	12					

:Expected learning outcomes of the program

:Knowledge	
.Knowledge of devices such as microscopes, centrifuges, blood and ,urine analyzersPCR devices, .etc **.Knowing how each device works adjusting calibration, and performing periodic maintenance.** **.How to clean and sterilize devices to prevent contamination or infection** **.The legal and technical requirements that must be met include:** **Restaurants, factories, grocery stores, health facilities.** **. Familiarity with:** **General hygiene conditions, refrigeration and storage conditions, periodic checks of workers.** **Mechanism for granting health leaves (occupational health certificates) after .conducting certain examinations** **. Familiarity with concepts:** **Preventive health, health promotion, health education.** **. Ability to:** **Tracking disease spread, containing ,epidemicsandusing health statistics .** **Understanding how to respond to epidemic emergencies (such as cholera, COVID-19, measles)**	**Knowing and understanding the types of laboratory equipment and how to operate, use, .maintain and preserve them** **Knowledge and understanding of health control • .requirements and health leave granting** **community Knowledge and understanding of • and dealing with diseases and , health principles .epidemics** **Knowledge and understanding of human • .anatomy and functions** **Knowing and understanding how to use • laboratory materials and avoiding the risks .resulting from them** **Knowledge and understanding of communicable • .diseases and their methods of transmission** **Knowledge and understanding of developments • .in epidemiology and nutrition**
Skills :	
Solve technical problems in a scientific way: **The ability to analyze field or laboratory problems in the field of health or epidemiology,**	**Working to solve technical problems in a • scientific and intellectual manner in his field of .specialization**

and provide solutions based on scientific and logical thinking. **Conducting high-quality epidemiological analyses :** **Proficiency in sample collection, analysis and interpretation of results in the context of epidemiological situations.** **Adherence to quality and infection control procedures during field or laboratory analyses.** **Applying community health principles:** **Ability to link epidemiological data to community context.** **Scientific evaluation of prevalent diseases and identification of risk factors and prevention.** **Disease prevention and control:** **Implementing public safety and biological measures to prevent the spread of diseases.** **Participation in epidemic control and infection control programs in population settings or health facilities**	**• The ability to conduct epidemiological analyses .correctly and with high quality** **• Applying community health principles in .scientific ways and investigating diseases** **• Avoid damage resulting from transmission of the .disease during control**
Values :	
Focus on: **.Academic integrity (e.g., honesty in completing (assignments and exams.** **Professional ethics (mutual respect, honesty, (justice.** **.Building positive relationships in the university .and work environment** **development:** **Self-discipline and commitment.** **Team spirit and cooperation with colleagues.** **Communication skills (verbal and written) with .colleagues, clients and patients** **Manage time efficiently to achieve:** **Academic excellence.** **Success at work.** **Psychological and social comfort.**	**• Promoting integrity, ethics, and mutual respect among students, faculty, and administrative staff in the university environment, and between the .technician and his colleagues** **His subordinates and patients in the work .environment** **• Dedication to hard work, cooperation and .effective communication** **• Achieving balance between academic, .professional and personal life** **• Building self-confidence, personal development, .teamwork, and leadership**

Ability to prioritize and be flexible in dealing with .pressure **Enhance:** **Self-awareness and appreciation of potential.** **Willingness to learn continuously and develop yourself.** **Teamwork** **Take responsibility and leadership in different .situations**	**Respect for diversity, peaceful coexistence, and • .contribution to society**

:Teaching and learning strategies
.Theoretical lectures • **.Practical laboratories •** **.Systematic training at the university and the Department of Public Health •** **.Summer training in government and private hospitals and private clinics •**

:Evaluation methods
.Oral tests • **.Midterm exams •** **.Final exams •** **.Scientific reports •** **Extracurricular activities •**

:Faculty

Faculty members

Faculty preparation		**Special requirements or skills**	**Specialization**		**Academic rank**
lecturer	**angel**		**private**	**general**	
1	**10**	**-**	**-**	**11**	**PhD**
7	**10**	**-**	**-**	**17**	**Master's**

Professional development :
Orientation of new faculty members

New faculty members are guided through a specific orientation program for new faculty members at the :university. This aims to **The program aims to guide and assist them in learning about the work environment, available resources, .policies and procedures** **.Academy. Academic advisors are also appointed to help guide and develop new members**
Professional development for faculty members
Holding many training programs, courses and workshops for new faculty members in the department, :which include **.Training programs in teaching skills, scientific research, academic guidance, and leadership development** **Working on involving them in collaborative research and projects, such as preparing joint research with their colleagues at the university, or in** **Academic conferences to enhance academic skills and expertise, expand knowledge, and develop research .skills**
Acceptance criteria :
Admission criteria are based on the admission criteria of the Ministry of Higher Education and Scientific Research **1. -The student's general average in middle school** **2 .-Student's desire** **3. -Department capacity**

The most important sources of information about the program :
1-The curriculum books prepared by the Ministry of Higher Education and Scientific Research, as the .college will be subject to the twinning program .With the Middle Technical College / Baghdad **2.Updating curricula according to what is adopted by scientific curricula** **Search the Internet to obtain the latest scientific developments**

:Program development plan
1. Reviewing recent developments and using video lectures on the display screen **2. Using the Internet to display old and used methods in the field of laboratory equipment and methods .of conducting analyses with them** **3.Use electronic simulation programs to illustrate methods for conducting laboratory analyses**

4 .Trainingon laboratory equipment

Program Skills Map															
Required learning outcomes of the program															
values				Skills				knowledge				Essential or optional?	Course name	Course code	Year/Level
A 4	Part 3	Part 2	Part 1	B 4	B 3	B 2	B 1	A 4	A 3	A 2 ✓	A 1	General	human rights	1	First stage / First semester
												essential	Medical Device Technologies	2	
			✓				✓				✓	assistant	Medical Microbiology 1	3	
			✓				✓				✓	essential	Community Health Principles 1	4	
			✓				✓				✓	essential	Clinical Chemistry 1	5	
			✓				✓				✓	assistant	General Anatomy 1	6	
			✓				✓				✓	essential	Physiology 1	7	
			✓				✓			✓	✓	General	English language	8	

			✓				✓			✓	✓	assistant	Medical Microbiology 2	1	

			✓				✓			✓	✓	essential	Community Health Principles 2	2	First stage/Semester two
			✓				✓			✓	✓	essential	Clinical Chemistry 2	3	
			✓				✓			✓	✓	assistant	General Anatomy 2	4	
			✓				✓			✓	✓	essential	Physiology 2	5	
			✓				✓			✓	✓	General	Arabic	6	

Program Skills Map															
Required learning outcomes of the program															
values				Skills				knowledge				Essential or optional	Course name	Course code	Year/Level
A 4	Part 3	Part 2	Part 1	B 4	B 3	B 2	B 1	A 4	A 3	A 2 ✓	A 1	essential	Nutrition 1	1	Second stage / First semester
												essential	Communicable diseases 1	2	
			✓				✓				✓	assistant	Pharmacology 1	3	
			✓				✓				✓	essential	Epidemiology 1	4	
			✓				✓				✓	essential	Environmental Health 1	5	
			✓				✓				✓	General	Computer Principles 1	6	
			✓				✓				✓	General	Baath regime crimes in Iraq	7	

			✓				✓			✓	✓	essential	Nutrition 2	1	

			✓				✓			✓	✓	essential	Communicable diseases 2	2	Second stage/Semester two
			✓				✓			✓	✓	assistant	Pharmacology 2	3	
			✓				✓			✓	✓	essential	Epidemiology 2	4	
			✓				✓			✓	✓	essential	Medical statistics of my life	5	
			✓				✓			✓	✓	essential	Environmental Health 2	6	
			✓				✓			✓	✓	General	Arabic	7	
			✓				✓			✓	✓	General	Computer Principles 2	8	

Program Skills Map															
Required learning outcomes of the program															
values				**Skills**				**knowledge**				**Essential or optional?**	**Course name**	**Course code**	**Year/Level**
A 4	**Part 3**	**Part 2**	**Part 1**	**B 4**	**B 3**	**B 2**	**B 1**	**A 4**	**A 3**	**A 2** ✓	**A 1**	essential	Health laws and regulations	1	Stage Three / First Semester
												essential	environmental pollution	2	
			✓				✓				✓	assistant	Medical Entomology	3	
			✓				✓				✓	essential	Advanced Biostatistics 1	4	
			✓				✓				✓	assistant	Chronic diseases 1	5	
			✓				✓				✓	General	Computer Applications 1	6	

			✓				✓			✓	✓	essential	Toxicology	1	Stage Three/Semester Two
			✓				✓			✓	✓	essential	Research methods	2	
			✓				✓			✓	✓	essential	Health screening	3	
			✓				✓			✓	✓	assistant	Health management	4	
			✓				✓			✓	✓	essential	Advanced Biostatistics 2	5	
			✓				✓			✓	✓	assistant	Chronic diseases 2	6	
			✓				✓			✓	✓	General	Computer Applications 2	7	

1. :Course name
General anatomy
2. : Course code
3. :Chapter/Year
2026-2025
4. :Date this description was prepared
15/9/2025
5. : Available attendance forms
Attendance in classrooms and laboratories
6. : Number of study hours (total) / Number of units (total)
hours for theoretical part / 4 hours for practical part 2
7. : Name of the course administrator (if more than one name is mentioned)

youssef.a.assaad@nust.edu.iq	**Ph.D . Youssef Anwar Asaad**

8. Course objectives

1-Understand the structure of the body, the relationship between function and structure, and relate anatomical .knowledge to medical applications

2-Develop practical skills, build a foundation for medical sciences, and improve the ability to communicate .medically and health-wise through communication with colleagues in the medical field

9. :Learning and teaching strategies

Teaching practical general anatomy requires effective strategies to enhance students' understanding of the subject. Here are some important strategies:

1-Model-Based Learning

2-Using technology in teaching

3-Demonstrations

4- Continuous Assessment& Feedback

Course Description Form

10. General Anatomy / Course :Course name Second course (theoretical part) / First (theoretical part)
11. : Course code
12. 2025-Semester/Year: 2026
13. Date this description was prepared: 20/11/2026

14. .Available forms of attendance : theoretical lecture in the classroom	
15. of study hours (total) / Number of units (total) : 30 * 2 semester hours / 15 * 2 units	
16. : Name of the course administrator (if more than one name is mentioned)	
Dr. Youssef Anwar Asaad	**:Emailyoussef.a.assaad@nust.edu.iq**
17. Course objectives	
Course objectives	**1.** The student will be able to identify all parts of the .body anatomically **2.** The student should be able to link the functions . and anatomy of each part of the body **3.** The student should be able to assist the doctor in . diagnosis and treatment in one way or another **4.** Expanding scientific and academic research and trying to create unique and useful scientific research that enables . both students and professors to enter the job market

18. : Learning and teaching strategies

1. Lectures
2. .Brainstorming gave students the opportunity to brainstorm and discuss their ideas
3. .Intellectual questions and discussions
4. Continuous discussion through questions and answers in the classroom and motivating the . student to think independently and critically
5. . Focus on linking lecture ideas to the community
6. Encouraging the adoption of vocabulary in the field of general anatomy of the human body , . which the student needs in his work in the health field

19. Course Structure (Theoretical Part) First Course

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams and discussion and duties	Present the lecture via PowerPoint and discuss with the .students	**Introduction to Human Anatomy**	**:The student should know** The concept of anatomy in gener Directional terms -	2	the first
Exams and discussion	Present the lecture via PowerPoint and discuss	**Surface Anatomy: Planes and Vertical Lines**	**:The student should know** Levels of structural organization Body levels and sections -	2	the second

	with the .students		Body areas - Body cavities -		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Cell and tissue , tissue types**	**:The student should know** The concept of the cell and its components in general The concept of weaving and its four types body cavity membranes	2	the third
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Anatomy of theskull skeleton**	**:The student should know** The bone structure of the head a its functions Neurocranium and viscerocraniu skull bones Cavities and holes in the skull	2	Fourth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Anatomy of the skeleton (spine)**	**:The student should know** The bone structure of the spine a its functions Vertebrae of the spine and their distribution areas Paragraph components Intervertebral discs and curvatur	2	Fifth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Anatomy of the (skeleton (rib cage**	**:The student should know** The bone structure of the rib cag and its functions Ribs, their numbers and types sternum	2	Sixth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Skeletal Anatomy Pelvis, Upper Limb) (and Lower Limb**	**:The student should know** Skeletal structure, function, and clinical significance of the pelvis Skeletal structure, function, and clinical significance of the upper extremity		Seventh

			Skeletal structure, function, and clinical significance of the mandible		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Types of joints, their classification and functions**	**:The student should know** The three types of joints Classification of synovial joints Joint functions (movement, (flexibility, support Joint injuries and diseases	2	The eighth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Joints of the upper and lower extremities**	**:The student should know** The four types of upper limb joi The four types of lower extremit joints Joint injuries and diseases	2	Ninth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Anatomy of the muscular system (head and neck)**	**:The student should know** Head and neck muscles Its structure and function Functions of these muscles Its clinical significance	2	tenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Anatomy of the muscular system upper and lower) (extremities**	**:The student should know** Upper limb muscles (types, (functions Muscles of the lower extremities (types and functions) Structure and function of muscle in the limbs Its clinical significance	2	eleventh
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Anatomy of the muscular system .(pelvis)**	**:The student should know** Types of pelvic muscles and thei functions Structure and function of the muscles in the pelvis Its clinical significance	2	twelfth

Exams and discussion	Presentation of the lecture via PowerPoint and discussion	**Blood vessels and circulation**	**:The student should know** Structure and function of blood vessels Types of blood vessels (arteries, (.veins, etc Greater and lesser circulation Blood vessel and circulatory functions	2	thirteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Anatomy of the cardiovascular system (definition (and classification**	**:The student should know** Structure and function of the cardiovascular system Classification (heart, blood vesse (blood cardiovascular diseases	2	fourteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Anatomy of the heart (covers, layers, chambers, (and valves**	**:The student should know** Heart structure and functions Covers of the heart (pericardium (...parietal pericardium Chambers of the heart (atria and (ventricles Heart valves (mitral, pulmonary.	2	fifteenth

20. Course Structure (Theoretical Part) Second Course

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams and discussion and duties	Present the lecture via PowerPoint and discuss with the .students	**Anatomy of the digestive system mouth, pharynx,) (and esophagus**	**:The student should know** Structure and function of the parts of the - digestive system (mouth, pharynx, esophag Main structures in the mouth- Pharyngeal areas, swallowing process - Parts of the esophagus and the process of peristalsis	2	the first
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**the digestive of system (stomach (and intestines**	**:The student should know** Location and composition of the stomach Anatomical sections of the stomach stomach wall tissue Stomach functions	2	the secon

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**the digestive of system (stomach (and intestines**	**:The student should know** Location and structure of the intestine Small and large intestine (structure and (sections Small and large intestine tissue Functions of the small and large intestine	2	the third
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Anatomy of the genitourinary system**	**:The student should know** Parts of the urinary system (kidneys, ureter bladder, urethra) and their functions Parts of the male and female reproductive system and their functions	2	Fourth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**respiratory system**	**:The student should know** Respiratory system functions Anatomical structure of the upper and lowe parts of the respiratory system Mechanism of breathing Regulating breathing gas exchange process respiratory disorders Maintaining respiratory health	2	Fifth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Anatomy of the central nervous system (brain and spinalcord (**	**:The student should know** Main functions of the central nervous syste Parts of the central nervous system and the anatomical structure of these parts (brain, (spinal cord Meninges and its three layers Some clinical observations (stroke, (meningitis	2	Sixth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**spinal nerves**	**:The student should know** Structure and function of spinal nerves Spinal nerve divisions (anterior and posteri (roots Clinical significance (injuries, diseases)		Seventh
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**spinal nerves**	**:The student should know** Structure and function of spinal nerves Spinal nerve divisions (anterior and posteri (roots Its clinical significance (injuries, diseases)	2	The eight
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Anatomy of the peripheral nervous system (cranial nerves, spinal (nerves**	**:The student should know** General functions of the peripheral nervous system Structure and function of the cranial and spinal nerves Number of cranial nerve pairs and their function Major cranial nerves (optic, facial...) Number of spinal nerve pairs and their function Major spinal nerves (cervical, thoracic...) Clinical significance (injuries, diseases)	2	Ninth

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Anatomy of the peripheral nervous system (cranial nerves, spinalnerves (**	**:The student should know** General functions of the peripheral nervous system Structure and function of the cranial and spinal nerves Number of cranial nerve pairs and their function Major cranial nerves (optic, facial...) Number of spinal nerve pairs and their function Major spinal nerves (cervical, thoracic...) Clinical significance (injuries, diseases)	2	tenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Anatomy of the Endocrine System Definition,) Location, Connections, and (Functions**	**:The student should know** Definition of the endocrine system Structure and function of the endocrine gla Major endocrine glands (pituitary, thyroid, (.etc Communications (hormones, their connecti (to the nervous system Endocrine functions Clinical significance (injuries, diseases)	2	eleventh
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Anatomy of the Endocrine System Definition,) Location, Connections, and (Functions**	**:The student should know** Definition of the endocrine system Structure and function of the endocrine gla Major endocrine glands (pituitary, thyroid, (.etc Communications (hormones, their connecti (to the nervous system Endocrine functions Clinical significance (injuries, diseases)	2	twelfth
Exams and discussion	Presentation of the lecture via PowerPoint and discussion	**Anatomy of the Endocrine System Definition,) Location, Connections, and (Functions**	**:The student should know** Definition of the endocrine system Structure and function of the endocrine gla Major endocrine glands (pituitary, thyroid, (.etc Communications (hormones, their connecti (to the nervous system Endocrine functions Clinical significance (injuries, diseases)	2	thirteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**lymphatic system**	**:The student should know** Definition of the lymphatic system Structure and function Relationship with other systems (immune, (circulatory Clinical significance (diseases, treatment)	2	fourteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**lymphatic system**	**:The student should know** Definition of the lymphatic system Structure and function Relationship with other systems (immune, (circulatory Clinical significance (diseases, treatment)	2	fifteenth

12. Course Evaluation

1. Discussion in the classroom by asking questions

2.) Daily examsquiz)
3. Monthly and final exams for theoretical vocabulary

13. Learning and teaching resources

Ministerial portfolio	**Required textbooks (methodology)**
Verywell Health Teach Me Anatomy	**Main References (Sources)**
	Recommended supporting books and references (scientific journals, reports, (.etc
https://www.verywellhealth.com/intestines-8643603 https://training.seer.cancer.gov/anatomy/muscular/groups/head_neck.html https://teachmeanatomy.info/head/muscles/facial-expression /	**Electronic references, websites**

Course structure (practical part)					
Evaluation method	**Learning method**	**Name of unit or topic**	**Required learning outcomes**	**watches**	**week**
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Demonstration on human body model	**:The student should know** The concept of anatomy in general Directional terms -	2	the first

Daily exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Anatomical position, median plane and types of anatomical study.	**:The student should know** Levels of structural - organization Body levels and sections - Body areas - Body cavities -	2	the second
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Surface anatomy: planes and vertical lines and Surface anatomy of the abdomen	**:The student should know** The concept of the cell and i components in general The concept of weaving and four types body cavity membranes	2	the third
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students		**:The student should know** The bone structure of the hea and its functions Neurocranium and viscerocranium skull bones Cavities and holes in the skull	2	Fourth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Studying Tissues and cells by charts	**:The student should know** The bone structure of the spi and its functions Vertebrae of the spine and their distribution areas Paragraph components Intervertebral discs and curvatures	2	Fifth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Studying Bone and joints by models	**:The student should know** The bone structure of the rib cage and its functions Ribs, their numbers and type sternum	2	Sixth
Exams and discussion	Present the lecture via PowerPoint		**:The student should know**		Seventh

	and discuss with the .students		Skeletal structure, function, and clinical significance of t pelvis Skeletal structure, function, and clinical significance of t upper extremity Skeletal structure, function, and clinical significance of the mandible		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Draw demonstration and draw discussion	**:The student should know** The three types of joints Classification of synovial jo Joint functions (movement, (flexibility, support Joint injuries and diseases	2	The eighth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students		**:The student should know** The four types of upper limb joints The four types of lower extremity joints Joint injuries and diseases	2	Ninth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Studying the general appearance of the skull and lower jaw	**:The student should know** Head and neck muscles Its structure and function Functions of these muscles Its clinical significance	2	tenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students		**:The student should know** Upper limb muscles (types, (functions Muscles of the lower extremities (types and (functions Structure and function of muscles in the limbs Its clinical significance	2	eleventh

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Types of Joints, joints of upper and lower limb and trunk	**:The student should know** Types of pelvic muscles and their functions Structure and function of the muscles in the pelvis Its clinical significance	2	twelfth
Exams and discussion	Presentation of the lecture via PowerPoint and discussion		**:The student should know** Structure and function of blood vessels Types of blood vessels (.arteries, veins, etc) Greater and lesser circulatio Blood vessel and circulatory functions	2	thirteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Muscular system: types of muscles	**:The student should know** Structure and function of the cardiovascular system Classification (heart, blood (vessels, blood cardiovascular diseases	2	fourteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Draw demonstration and draw discussion	**:The student should know** Heart structure and function Covers of the heart pericardium, parietal) (...pericardium Chambers of the heart (atria (and ventricles Heart valves (mitral, (...pulmonary	2	fifteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Blood vessels in general using models and charts	**:The student should know** Structure and function of the parts of the digestive system (mouth, pharynx, esophagus Main structures in the mouth Pharyngeal areas, swallowin process	2	sixteenth

			Parts of the esophagus and the process of peristalsis		
Daily exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Cardio-vascular system using models and charts	**:The student should know** Location and composition of the stomach Anatomical sections of the stomach stomach wall tissue Stomach functions	2	The nineteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Veins and arteries, systemic circulation arteries	**:The student should know** Location and structure of the intestine Small and large intestine (structure and sections) Small and large intestine tiss Functions of the small and large intestine	2	eighteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Studying digestive system using models and charts	**:The student should know** Parts of the urinary system kidneys, ureters, bladder,) urethra) and their functions Parts of the male and female reproductive system and their functions	2	nineteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students		**:The student should know** Respiratory system function Anatomical structure of the upper and lower parts of the respiratory system Mechanism of breathing Regulating breathing gas exchange process respiratory disorders Maintaining respiratory heal	2	Twenty

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Studying Respiratory system using models and charts	**:The student should know** Main functions of the centra nervous system Parts of the central nervous system and the anatomical structure of these parts (brai (spinal cord Meninges and its three layer Some clinical observations (stroke, meningitis)	2	twenty-one
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students		**:The student should know** Structure and function of spinal nerves Spinal nerve divisions (anterior and posterior roots) Clinical significance (injuries, diseases)	2	twenty-second
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students		**:The student should know** Structure and function of spinal nerves Spinal nerve divisions (anterior and posterior roots) Its clinical significance (injuries, diseases)	2	twenty-third
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Report and discussion	**:The student should know** General functions of the peripheral nervous system Structure and function of the cranial and spinal nerves Number of cranial nerve pai and their function Major cranial nerves (optic, (...facial Number of spinal nerve pair and their function Major spinal nerves (cervica (...thoracic	2	twenty-fourth

			Clinical significance (injuries, diseases)		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Studying Spinal cord, ventricles of the brain using models and charts	**:The student should know** General functions of the peripheral nervous system Structure and function of the cranial and spinal nerves Number of cranial nerve pai and their function Major cranial nerves (optic, (...facial Number of spinal nerve pair and their function Major spinal nerves (cervica (...thoracic Clinical significance (injuries, diseases)	2	twenty-fifth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students		**:The student should know** Definition of the endocrine system Structure and function of the endocrine glands Major endocrine glands (.pituitary, thyroid, etc) Communications (hormones their connection to the nervo (system Endocrine functions Clinical significance (injuries, diseases)	2	twenty-sixth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Peripheral nervous system, cranial nerves	**:The student should know** Definition of the endocrine system Structure and function of the endocrine glands Major endocrine glands (.pituitary, thyroid, etc)	2	twenty-seventh

			Communications (hormones their connection to the nervo (system Endocrine functions Clinical significance (injuries, diseases)		
Exams and discussion	Presentation of the lecture via PowerPoint and discussion		**:The student should know** Definition of the endocrine system Structure and function of the endocrine glands Major endocrine glands (.pituitary, thyroid, etc) Communications (hormones their connection to the nervo (system Endocrine functions Clinical significance (injuries, diseases)	2	twenty-eighth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Studying Lymphatic system using models and charts	**:The student should know** Definition of the lymphatic system Structure and function Relationship with other systems (immune, circulator Clinical significance (diseases, treatment)	2	twenty-ninth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Report and discussion	**:The student should know** Definition of the lymphatic system Structure and function Relationship with other systems (immune, circulator Clinical significance (diseases, treatment)	2	thirty
Course Evaluation .11					

4. Discussion in the classroom by asking questions 5.) Daily examsquiz) 6. Monthly and final exams for theoretical vocabulary		
Learning and teaching resources .12		
Ministerial portfolio	**Required textbooks (methodology)**	
Verywell Health Teach Me Anatomy	**Main References (Sources)**	
	Recommended supporting books and references scientific journals, reports,) (.etc	
https://www.verywellhealth.com/intestines-8643603 https://training.seer.cancer.gov/anatomy/muscular/groups/head_neck.html https://teachmeanatomy.info/head/muscles/facial-expression /	**Electronic references, websites**	

Course name: Human Rights .1
: Course code .2
Semester/Year: 2026-2025 .3

.4 Date this description was prepared /15/9/2025	
Available forms of attendance : in person .5	
: Number of study hours (total) / Number of units (total) .62 hours / 2 units	
: Name of the course supervisor (if more than one name is mentioned) .7	
	Masters: Abdul Khaliq Shahd Thamer .
Course objectives .8	
human rights. Providing a general idea about human rights that were created with the formation of human beings and knowing the importance of those rights and how to preserve and protect .them .1 Training the student on the importance of participation in various aspects of life, such as promoting respect for human rights principles And effective participation in various aspects of life .2 Recognizing human rights contributes to achieving justice and equality within society Student-led education is a .platform for that .3 Studying human rights leads to enhancing and developing student behavior, which in turn contributes to .reducing conflicts and disputes .4	**Course objectives**

Studying human rights leads to .5 knowing those rights in the Iraqi constitution and the constitutions of countries and getting to know them On organizations and agreements that promote those rights Baath Party crimes 1. Introducing the student to the crimes committed by that defunct regime and .their heinousness 2. Knowing the extent of the economic losses that contributed to the international blockade that lasted for .many years 3. The system that is not a system in addition to the wars in which it participated 4. Knowing the psychological and physical losses that this regime has .inflicted on all segments of Iraqi society 5. Informing the student of the ugliness of the former regime in order to prevent the recurrence of a similar one in the .future by choosing the right people 6. Competent candidates should be .studied in detail before selecting them 7. Give a brief idea about the horrible era that Iraq went through for about 33 years, from which the people suffered in a way thathadmaterial and moral .effects and many losses of life	

:Learning and teaching strategies .9

7. Education in this program includes theoretical education that focuses on studying scientific problems in a purely scientific manner, aiming to understand the basis of the problem and seek solutions .to it
8. Learning depends on cooperation between the student and the teacher to understand the lesson .as much as possible and overcome the obstacles that hinder the student's understanding
9. Encourage students to use academic books and articles, whether printed or electronic, as they .greatly help retain information and allow for discussion and conclusions

Course structure .10

Evaluation method	Learning method	Required embarrassments of science	Name of unit or topic	watches	week
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	• **The student knows what human rights are and their importance in protecting**	Knowing what human rights are	2	the first

		human dignity.			
Daily exams and discussion	Present the lecture via PowerPoint and discuss with the .students	• **The student explains international covenants and agreements related to human rights and their role in promoting .them**	Human rights, charters and agreements International	2	the second
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	• **The student learns about the human rights stipulated in the Iraqi Constitution and their legal impact.** •	Human rights and the Iraqi constitution	2	the third
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	• **The student identifies actions that are considered basic human rights.** •	Works that are considered rights man	2	Fourth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	• **The student describes the methods and techniques used to protect human rights at the local and international levels.**	How to protect human rights	2	Fifth
Exams and discussion	Present the lecture via PowerPoint and discuss	• **The student learns about human**	human rights organizations	2	Sixth

	with the .students	**rights organizations and their role in monitoring and protecting rights.** •			
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	• **The student knows the definition of equality as a basic principle of human rights.** •	Definition of equality	2	Seventh
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	• **The student explains the concept of equality in Islam and how it is compatible with the principles of human rights.**	Equality in Islam	2	The eighth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**The student explains the concept of equality in the United Nations system and its role in protecting human rights globally.** •	Equality in the United Nations	2	Ninth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	• The student understands the concept of gender equality and its importance in achieving social justice.	gender equality	2	tenth
Exams and discussion	Present the lecture via PowerPoint and discuss	• The student knows what democracy is as a political	Democracy	2	eleventh

	with the .students	principle that ensures people's participation in government.			
Exams and discussions	Present the lecture via PowerPoint and discuss with the .students	• The student distinguishes between the different types of democracy and its various forms.	What is ?democracy	2	twelfth
Exams and discussions	Present the lecture via PowerPoint and discuss with the .students	• The student explains the characteristics of direct democracy and how it is applied in some political systems.	Types of democracy	2	thirteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	• The student explains the concept of representative democracy and the mechanism through which the people are represented in decision-making.	direct democracy	2	fourteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	• The student explains the concept of representative democracy and the	parliamentary democracy	2	fifteenth

		mechanism through which the people are represented in decision-making.			

Course Evaluation .11		
Daily exams, monthly and final theoretical and practical exams, classroom discussion		
Learning and teaching resources .12		
Educational curriculum	**Required textbooks (methodology)**	
Universal Declaration of Human Rights, United Nations General Assembly, 10 December 1948	**Main References (Sources)**	
Koran Sahifa al-Sajjadiyya Iraqi Constitution of 2005	**Recommended supporting books and references scientific journals, reports,) (.etc**	
https://ar.m.wikipedia.org/wiki/%D8%AD%D9%82%D9%88%D9%82_%D8%A7%D9%84%D8%A5%D9%86%D8%B3%D8%A7%D9	**Electronic references, websites**	

Arabic Language :Course name .1
: Course code .2
Semester/Year: Second Semester 2024-2025 .3
:Date of preparation of this description .15/9/2025

Available forms of attendance : in person .5
Number of study hours (total) / Number of units (total) : 2 hours / 2 units .6
: Name of the course supervisor (if more than one name is mentioned) .7

Course objectives .8	
Arabic 1. The purpose of studying the Arabic language by the student is to love the Arabic language, .which is the language of the Qur'an nd to recognize its beauty, as it is considered one of the most important features of the Arab .Islamic character 2. The aim of the study is to know some basic rules that represent the basis of each .university department 3. These are basic rules for every university .student 4. The student's mastery of constructing Arabic sentences and increasing his linguistic knowledge, with a focus on developing skills.The critic 5. Get to know some Arab poets and their .4 poetic images, which are the basis of Arab .culture	**Course objectives**

:Learning and teaching strategies .9

1. Education in this program includes theoretical education that focuses on studying scientific problems .in a purely scientific manner, aiming to understand the basis of the problem and seek solutions to it
2. Learning depends on cooperation between the student and the teacher to understand the lesson as .much as possible and overcome the obstacles that hinder the student's understanding
3. Encourage students to use academic books and articles, whether printed or electronic, as they greatly .help retain information and allow for discussion and conclusions

Course structure (theoretical part) .10					
Evaluation method	**Learning method**		**Name of unit or topic**	**watches**	**week**
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	• **The student knows the original diacritical marks in the Arabic sentence and their uses.**	Original diacritical marks	2	Arabic the first
Daily exams and discussion	Present the lecture via PowerPoint and discuss with the .students	• **The student distinguishes between the verbal sentence, the subject and its deputy, and explains their grammatical functions.** **In the formation of the nominal sentence.**	Verbal sentence, subject and complement	2	the second
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	• **The student explains the use of kana" and its " sisters and their effect on the parsing of the sentence.**	Kan and its sisters	2	the third
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	• **The student explains the rules of the present tense verb and its provisions in the Arabic language.**	present tense verb	2	Fourth

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	• **The student distinguishes between the letters Ḍād" and "Ḍā" in " terms of pronunciation, writing, and usage.**	The letters Dhad and Tha and the difference between them	2	Fifth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**The student analyzes examples of pre-Islamic poetry and studies its themes and style .** •	Pre-Islamic poetry: study and analysis	2	Sixth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**The student learns about the lives and poems of Imru' al-Qais and Antarah ibn Shaddad and their role in Arab heritage.** •	Imru' al-Qais and Antar ibn Shaddad	2	Seventh
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**The student reads Surat Al-Kahf and explains its rhetorical and educational content .** •	Surah Al-Kahf	2	The eighth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**The student analyzes selected examples of ancient and modern Arabic poetry.** •	Hair models	2	Ninth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**The student knows the characteristics of Islamic poetry and its role in expressing religious and social values.** •	Islamic poetry	2	tenth

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	• **The student learns the characteristics of Arabic poetry and its linguistic and rhetorical features throughout the ages.** •	Arabic poetry	2	eleventh
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**The student explains the use of in" and its sisters " and their effect on sentence structure and parsing.**	An and its sisters	2	twelfth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	• **The student explains the rules of the past tense verb and its uses in the Arabic language.**	past tense	2	thirteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**The student distinguishes the hamza, its types and the rules for writing it.**	Hamza	2	fourteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	1. **The student identifies the subject and predicate and their role in forming a nominal sentence.**	Subject and predicate	2	fifteenth
Course Evaluation .12					

Daily exams, monthly and final theoretical and practical exams, classroom discussion	
Learning and teaching resources .13	
Educational curriculum	**Required textbooks (methodology)**
	Main References (Sources)
	Recommended supporting books and references scientific journals, reports,) (.etc
	Electronic references, websites

Medical Microbiology :Course name .1
: Course code .2
Semester/Year: First Semester - Second Semester 2026-2025 .3
:Date of preparation of this description .4 15/9/2025
.Available forms of attendance : lecture in the classroom + in the laboratories in the practical section .5

Number of study hours (total) / Number of units (total) : 2 hours for the theoretical side / 4 hours for the practical side / 4 units .6	
: Name of the course supervisor (if more than one name is mentioned) .7	
:Email	Dr. Ali Hussein Sabie Al-Ibrahim M.B. Abdul Karim Nasir Al-Salam
Course objectives .8	
1 **Introducing students to microorganisms**: Understanding the different types of :microorganisms such as Bacteria, viruses, fungi, and parasites and how they affect humans. -2 **Learn how microorganisms reproduce**: Study the methods of reproduction of these organisms Methods of transmission of infection and its effects on human health. -3 **Study of diseases caused by microorganisms**: Analysis of the relationship between microorganisms and human diseases, including infectious, viral, fungal, and parasitic .diseases **Expanding scientific and academic research** .4 and trying to create unique and useful scientific .research Both the student and the teacher were able to .enter the job market **Introducing the student to the scientific -** 5 **terms** related to organisms that cause disease in .humans	**Course objectives**

:Learning and teaching strategies .9

10. Lecture method using PowerPoint and explanatory films related to microbiology, its classification .methods and different types
11. Continuous discussion through questions and answers in the classroom, motivating the student to think .independently and thus to learn independently
12. Using educational tools such as scientific images that bring the subject closer to the students' minds
13. Encourage students to use academic books and articles, whether printed or electronic, as they greatly help .retain information and allow for discussion and conclusions

21. Course Structure (Theoretical Part) First Course

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Introduction to Microbiology	The student will be introduced to medic microbiology and its importance in the medical field. To distinguish between different types microorganisms (bacteria, viruses, fungi, (parasites. The student should explain the relationship between microorganisms and infectious diseases. To know the general methods of transmission and prevention of infection. The student should list the importance microbiology in diagnosis, treatment and prevention. The student should describe the role of microbiology in public health and scientif .research	2	the first
Daily exams and discussion	Present the lecture via PowerPoint and discuss	Microscopic structure of bacterial cells,	The student should explain the general microscopic structure of bacterial cells.	2	the second

	with the .students	their types and shapes.	To identify the basic components of bacterial cells such as: cell wall, plasma membrane, cytoplasm, ribosomes, primiti nucleus, capsule, and cilia or flagella. To distinguish between different types bacteria based on external shape (spherica (rod-shaped, spiral. To classify bacteria according to their .order (e.g., staphylococci, streptococci)		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Bacterial requirements, growth curve	The student should mention the basic requirements for bacterial growth(such a ,nutrients, temperaturepH oxygen, and , humidity). To distinguish between types of bacteri according to their oxygen requirements aerobic, anaerobic, facultative,) (microaerophilic. The student should explain the importance of each of the physical and chemical factors in bacterial growth. The student should explain the differen stages of the bacterial growth curve introductory stage, rapid growth stage,) (stationary stage, death stage. To link the stages of the growth curve with laboratory applications and infection .control	2	the third
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Microbiologic al control sterilization) and (disinfection.	The student should define the terms sterilization" and "disinfection" and " differentiate between them. To list the physical and chemical mean used to kill or inhibit microorganisms. To explain the mechanism of action of different sterilization methods (such as dr (heat, steam under pressure, radiation, filt . To distinguish between types of disinfectants, their properties and uses.	2	Fourth

			To compare complete sterilization and partial disinfection in terms of use and effect.		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Virology; definition of viruses, their general characteristics, and their classification	The student should define viruses and explain their general characteristics. The student should be able to distinguis viruses from other living organisms (such (bacteria and fungi. List the basic components of the virus genetic material, capsid, outer shell, if) (present. The student should explain the mechanism of viral reproduction inside living cells. Describe the general characteristics of viruses, such as small size, dependence on the host cell, and inability to grow in non-living media.	2	Fifth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Its general characteristics, yeasts and molds.	The student should define fungi and explain their general characteristics. To distinguish between fungi and bacterial cells in terms of structure, size a reproduction. To explain the difference between yea and moldsin terms of shape, growth, and method of reproduction. List the environmental factors that affe .fungal growth	2	Sixth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Microbial gastrointestina l diseases	To introduce the student to the digestiv system and its basic function in the body. To identify pathogenic microbial organisms in the digestive system (such a (bacteria, viruses, and parasites. To explain the mechanism of infection with microbial digestive diseases transmission methods such as contaminat (food and water. Describe the most important clinical symptoms associated with gastrointestina		Sevent h

			diseases (such as diarrhea, vomiting, (abdominal pain, dehydration		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Microbial respiratory diseases.	□ To introduce the student to the respirat system, its parts and its basic function. □ To distinguish between infections affecting the upper respiratory system (su as the nose and throat) and the lower respiratory system (such as the bronchi ar (lungs. □ To identify microbial pathogens in the respiratory system (such as bacteria: pneumococcus, viruses: influenza, and ra (parasites. □ Describe the modes of transmission of respiratory infections (e.g., droplets, direc (contact	2	The eighth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Some viral diseases	□ The student will learn about the structu and functions of the upper and lower respiratory system. □ To identify the types of organisms that cause respiratory diseases (bacterial, viral (rare fungal. □ To differentiate between respiratory diseases caused by bacteria and those caused by viruses. □ Mention the most prominent viral respiratory diseases such as: • Influenza • Common cold • Respiratory syncytial virus(RSV) • Coronavirus(COVID-19, SARS-CoV-2) • Measles □ To explain the methods of transmission of respiratory viruses droplets, direct contact, contaminated) .(surfaces	2	Ninth
Exams and discussion	Present the lecture via PowerPoint	Some fungal diseases.	□ To introduce the student to fungal diseases and their medical importance.	2	tenth

	and discuss with the .students		□ To list the fungi that cause common diseases in humans, such as Candida, Aspergillus, and Dermatophytes. □ Describe the symptoms and locations o fungal infections such as: • Candidiasis • Aspergillosis • Dermatophytosis • Histoplasmosis • Pulmonary aspergillosis □ To explain the methods of transmission of fungal infections.		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Introduction to Parasites; Their General Characteristics	□ The student should define parasites and explain the concept of parasitism. □ To mention the main types of parasites that affect humans (such as protozoan parasites, helminthic parasites, and (ectoparasites. □ To explain the general characteristics o parasites, such as their dependence on the host for survival and reproduction. □ The student should explain the role of parasites in causing diseases in humans. □ Describe the relationship between the parasite and the host (parasitic relationsh □ To mention the different ways in which parasites are transmitted to humans.	2	eleven th
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Firsts	□ The student should define primitives ar explain their general characteristics. □ The student should be able to distinguis protozoa from other microorganisms such bacteria and fungi. □ Describe the cellular structure of proto . □ To mention the different types of protozoa based on the method of moveme (cilia, amoebae, microcilia, radial bodies) □ To explain the methods of reproduction in protozoa (asexual and (sexual.	2	twelfth

Exams and discussion	Presentation of the lecture via PowerPoint and discussion	worms	The student should define parasitic worms and explain their general characteristics. To distinguish between the main types parasitic worms(roundworms- Nematod tapeworms ,- Cestodes and flatworms ,- Trematodes). To explain the general anatomical structure of parasitic worms. To explain the life cycle of parasitic worms and its most important stages. Describe the methods of transmission .of parasitic worms to humans	2	thirtee nth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	The immune system, its definition, humoral and cellular .immunity	The student should identify the immun system and its basic function in the body. To mention the main organs of the immune system (such as lymph nodes, (spleen, bone marrow, thymus gland. To explain the difference between humoral immunity and cell-mediated immunity. To explain the role of antibodies in humoral immunity. Describe the role of T and B cells in th .immune response	2	fourtee nth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Biosafety and security.	To introduce the student to the concept biosafety and biosecurity. To explain the importance of applying safety and security procedures in laboratories and health facilities. To list the levels of biological safety(B 1-4) and the characteristics of each level. To explain the methods of preventing various biological hazards (such as (infection, contamination, leakage.		fifteen th
Course Structure (Theoretical Part) Second Course					

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Immunity and the immune system	The student should define the concept o immunity and its types (innate and (acquired. To distinguish betweenhumoral immu andcellular immunity. To identify the components of the immune system (organs and immune cells such as white blood cells, lymph nodes, (spleen, bone marrow, and thymus gland. To explain the role of antibodies and antigens in the immune response. To distinguish between types of immu cells(B cells, T cells, macrophages, etc.). To explain the mechanism of primary a secondary immune response.	2	the first
Daily exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Antibodies and antigens	The student should define the antigena explain its characteristics. To define the antibodyand describe its structure and functions. To explain the relationship between antigen and antibody in the immune response. To distinguish between the different ty of antibodies(IgG, IgA, IgM, IgE, IgD) a the function of each one. To explain the mechanism of formatio of antibodies in the body. To explain the concept of specificity and specificity in the interaction . between antibody and antigen	2	the second
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Antibody-antibody interactions	The student will be able to identify the interactions of antibodies with antigens a understand their immunological basis.	2	the third

			□ To explain the distinctive characteristic of these interactions (specialization, (strength, association. □ Describe the types of interactions between antibody and antigen (e.g., agglutination, precipitation, fixation, (neutralization, immunoagglutination. □ To explain the factors that affect the effectiveness of the reaction (such as (temperature, concentration, reaction tim □ To link these interactions to .laboratory and diagnostic applications		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	hypersensitivity	□ To introduce the student to the concept hypersensitivity and its importance in immunology. □ List the four types of hypersensitivity (types I to IV). □ To explain the immune mechanism of each type of hypersensitivity. □ To distinguish between immediate and delayed hypersensitivity. □ To link the manifestations of hypersensitivity to some common disease such as asthma, food allergies, lupus,) (dermatitis.	2	Fourth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	autoimmune diseases	□ To introduce the student to autoimmun diseases and the concept of loss of self-differentiation of the immune system. □ To clarify the mechanisms that lead to development of autoimmune diseases (suc (as T-cell dysfunction or autoantibodies. □ List the main types of autoimmune diseases (such as lupus, rheumatoid arthri (multiple sclerosis, type 1 diabetes. □ To distinguish between systemic and local autoimmune diseases. □ To explain the symptoms and effects of autoimmune diseases on different .organs of the body	2	Fifth

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Blood flagellates, .Leishmania	The student should identify flagellated blood parasites and their general characteristics. To explain the life cycle of flagellated blood parasites, with emphasis on Leishmania. Describe the different stages of Leishmania (promastigote, amastigote). To explain the mechanism of transmission of Leishmaniasis to humans and the role of vector insects (sand flies). To list the main types of leishmaniasis that cause diseases in humans (such as cutaneous leishmaniasis and visceral (leishmaniasis. Describe the clinical symptoms of diseases caused by Leishmaniasis.	2	Sixth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Toxoplasma, Plasmodium	The student should define the sporean and its general characteristics as a type of non-motile protozoa. To explain the life cycle of Plasmodiun and its different types (such as*P. falcipar* , *P. vivax*). Describe how Plasmodium is transmitte through the bites of female Anopheles mosquitoes. To explain the stages of Plasmodium reproduction inside humans (hepatic and (blood stages. Mention the symptoms of malaria caus .by Plasmodium		Sevent h
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	tapeworms	The student should identify paras worms and their main types. To explain the anatomical structure tapeworms, especially the genusTaenia.	2	The eighth

			Describe the life cycle of tapeworms, w emphasis onTaenia saginata andTa solium. To explain the methods of transmissio tapeworm infection to humans. List the clinical symptoms associated w .tapeworm infection		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Granular echinococcosis	The student should identify**Echinoco granulosus.** A small tapeworm parasite t causes hydatid disease. Describe the life cycle of the parasite, focusing on the definitive host (dogs) and intermediate host (cattle and humans). To explain how the infection is transmitted to humans through ingestion eggs from contaminated sources. Describe the formation of cysts in internal organs such as the liver and lung To explain the clinical symptoms associated with hydatid cysts and their effect on the affected organs. To explain laboratory and imaging diagnostic methods (such as ultrasound, C (scan. To list the available treatment methods, including surgery and drug therapy (such (albendazole.	2	Ninth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	flukes	The student should define trematodes a explaintheir general characteristics. To distinguish between different types flatworms (such as liver flukes, lungworm (and bloodworms. To explain the anatomical structure of flatworms. Describe the life cycleof Trematoda w emphasis on the intermediate host (such a snail) and the definitive host.	2	tenth

			To explain the ways of transmission of infection to humans.		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Schistosomiasis	The student should define trypanosome and schistosoma and explain the characteristics of each. Describe the life cycle of trypanosoma such asTrypanosoma brucei) and schistosoma. To explain the methods of transmission of infection for both parasites (such as tse flies for trypanosoma, and water worms f (schistosoma. To list the diseases associated with both trypanosomiasis (sleeping sickness) and schistosomiasis (bilharzia). To explain the clinical symptoms of ea disease.	2	eleventh
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Firsts	The student should define primitives an explain their general characteristics. The student should be able to distinguis protozoa from other microorganisms such bacteria and fungi. Describe the cellular structure of proto . To mention the different types of protozoa based on the method of moveme (cilia, amoebae, microcilia, radial bodies) To explain the methods of reproduction in protozoa (asexual and (sexual.	2	twelfth
Exams and discussion	Presentation of the lecture via PowerPoint and discussion	bacterial genetics	To introduce the student to the concept bacterial genetics and its importance microbial evolution. To explain the components of gene material in bacteria(DNA plasmids ,).	2	thirteenth

			□ To explain the mechanisms of ge transfer between bacteria (transformati (conjugation, transmission by viruses. □ To distinguish between genetic mutatio their types, and their effect on bacte functions. □ Describe the role of plasmids in antibio resistance.		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Discussion of study materials	□ The student demonstrates a comprehens understanding of the course topics. □ The student should participate in scient discussions based on critical and analyti thinking. □ To express his scientific opinio supported by evidence from the cou content. □ To link theoretical topics with relev practical applications. □ To interact effectively with his colleagu and teachers during classroom or onl discussions. □ To develop oral and written scientific .communication skills	2	fourtee nth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Discussion of study materials	□ The student demonstrates a comprehens understanding of the course topics. □ The student should participate in scient discussions based on critical and analyti thinking. □ To express his scientific opinio supported by evidence from the cou content. □ To link theoretical topics with relev practical applications. □ To interact effectively with his colleagu and teachers during classroom or onl discussions. □ To develop oral and written scient .communication skills	2	fifteen th

Course structure (practical part)					
Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Laboratory and Safety Equipment**	The student will be introduced to medi microbiology and its importance in the medical field. To distinguish between different types microorganisms (bacteria, viruses, fungi, (parasites. The student should explain the relationship between microorganisms and infectious diseases. To know the general methods of transmission and prevention of infection. The student should list the importance microbiology in diagnosis, treatment and prevention. The student should describe the role of microbiology in public health and scientif .research	2	the first
Daily exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**: Microscope Types of microscopes, electron microscope, types of lenses**	The student should explain the general microscopic structure of bacterial cells. To identify the basic components of bacterial cells such as: cell wall, plasma membrane, cytoplasm, ribosomes, primiti nucleus, capsule, and cilia or flagella. To distinguish between different types bacteria based on external shape (spherica (rod-shaped, spiral. To classify bacteria according to their .order (e.g., staphylococci, streptococci)	2	the second
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Sterilization and disinfection**	The student should mention the basic requirements for bacterial growth(such a ,nutrients, temperaturepH oxygen, and , humidity). To distinguish between types of bacteri according to their oxygen requirements	2	the third

			aerobic, anaerobic, facultative,) (microaerophilic. □ The student should explain the importance of each of the physical and chemical factors in bacterial growth. □ The student should explain the differen stages of the bacterial growth curve introductory stage, rapid growth stage,) (stationary stage, death stage. □ To link the stages of the growth curve with laboratory applications and infection .control		
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Growing media Types of culture media Methods of preparation**	□ The student should define the terms sterilization" and "disinfection" and " differentiate between them. □ To list the physical and chemical mean used to kill or inhibit microorganisms. □ To explain the mechanism of action of different sterilization methods (such as dr (heat, steam under pressure, radiation, filt . □ To distinguish between types of disinfectants, their properties and uses. □ To compare complete sterilization and partial disinfection in terms of use and effect.	2	Fourth
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Types of dyeing methods Dyeing Gram stain positive and negative Dyeing methods Acid fast**	□ The student should define viruses and explain their general characteristics. □ The student should be able to distinguis viruses from other living organisms (such (bacteria and fungi. □ List the basic components of the virus genetic material, capsid, outer shell, if) (present. □ The student should explain the mechanism of viral reproduction inside living cells. □ Describe the general characteristics of viruses, such as small size, dependence	2	Fifth

			on the host cell, and inability to grow in non-living media.		
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Types of bacterial culture, description of bacterial colonies, and practical experiments**	□ The student should define fungi and explain their general characteristics. □ To distinguish between fungi and bacterial cells in terms of structure, size a reproduction. □ To explain the difference between yea and moldsin terms of shape, growth, and method of reproduction. □ List the environmental factors that affe .fungal growth	2	Sixth
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**General urine examination, urine culture, methods of collecting and culturing samples in special media, and antibiotic sensitivity . testing**	□ To introduce the student to the digestiv system and its basic function in the body. □ To identify pathogenic microbial organisms in the digestive system (such a (bacteria, viruses, and parasites. □ To explain the mechanism of infection with microbial digestive diseases transmission methods such as contaminat (food and water. □ Describe the most important clinical symptoms associated with gastrointestina diseases (such as diarrhea, vomiting, (abdominal pain, dehydration	2	Sevent h
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Ear swab, sputum, methods of**	□ To introduce the student to the respirat system, its parts and its basic function. □ To distinguish between infections affecting the upper respiratory system (su as the nose and throat) and the lower	2	The eighth

		collecting these samples, preservation, culture .	respiratory system (such as the bronchi ar (lungs. □ To identify microbial pathogens in the respiratory system (such as bacteria: pneumococcus, viruses: influenza, and ra (parasites. □ Describe the modes of transmission of respiratory infections (e.g., droplets, direc (contact		
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Virus shapes, presentation on their shapes, methods of cultivation, and viral diseases**	□ The student will learn about the structu and functions of the upper and lower respiratory system. □ To identify the types of organisms that cause respiratory diseases (bacterial, viral (rare fungal. □ To differentiate between respiratory diseases caused by bacteria and those caused by viruses. □ Mention the most prominent viral respiratory diseases such as: • Influenza • Common cold • Respiratory syncytial virus(RSV) • Coronavirus(COVID-19, SARS-CoV-2) • Measles □ To explain the methods of transmission of respiratory viruses droplets, direct contact, contaminated) .(surfaces	2	Ninth
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Laboratory diagnosis of fungi in skin, hair, and nail scrapings, using potassium**	□ To introduce the student to fungal diseases and their medical importance. □ To list the fungi that cause common diseases in humans, such as Candida, Aspergillus, and Dermatophytes. □ Describe the symptoms and locations o fungal infections such as: • Candidiasis • Aspergillosis • Dermatophytosis • Histoplasmosis	2	tenth

		) hydroxide KOH (	• Pulmonary aspergillosis □ To explain the methods of transmission of fungal infections.		
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Parasites, general exit examination and identification of non-parasitic findings, and practical examination**	□ The student should define parasites and explain the concept of parasitism. □ To mention the main types of parasites that affect humans (such as protozoan parasites, helminthic parasites, and (ectoparasites. □ To explain the general characteristics o parasites, such as their dependence on the host for survival and reproduction. □ The student should explain the role of parasites in causing diseases in humans. □ Describe the relationship between the parasite and the host (parasitic relationsh □ To mention the different ways in which parasites are transmitted to humans.	2	eleven th
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Diagnosis of Entamoeba histolytica, Giardia lamblia, and Trichomonas**	□ The student should define primitives an explain their general characteristics. □ The student should be able to distinguis protozoa from other microorganisms such bacteria and fungi. □ Describe the cellular structure of proto . □ To mention the different types of protozoa based on the method of moveme (cilia, amoebae, microcilia, radial bodies) □ To explain the methods of reproduction in protozoa (asexual and (sexual.	2	twelfth
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	***Diagnosis of leishmaniasis, malaria, and toxoplasmosis***	□ The student should define parasitic worms and explain their general characteristics. □ To distinguish between the main types parasitic worms(roundworms- Nematod tapeworms ,- Cestodes and flatworms ,- Trematodes).	2	thirtee nth

			□ To explain the general anatomical structure of parasitic worms. □ To explain the life cycle of parasitic worms and its most important stages. □ Describe the methods of transmission .of parasitic worms to humans		
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Tapeworms, schistosomiasis, and intestinal nematodes: Ascaris, and pinworms**	□ The student should identify the immun system and its basic function in the body. □ To mention the main organs of the immune system (such as lymph nodes, (spleen, bone marrow, thymus gland. □ To explain the difference between humoral immunity and cell-mediated immunity. □ To explain the role of antibodies in humoral immunity. □ Describe the role of T and B cells in th .immune response	2	fourteenth
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Biosafety and Security**	□ To introduce the student to the concept biosafety and biosecurity. □ To explain the importance of applying safety and security procedures in laboratories and health facilities. □ To list the levels of biological safety(B 1-4) and the characteristics of each level. □ To explain the methods of preventing various biological hazards (such as (infection, contamination, leakage.	2	fifteenth
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Fungi	□ The student should define the concept of immunity and its types (innate and acquired). □ To distinguish betweenhumoral immunity andcellular immunity. □ To identify the components of th immune system (organs and immun cells such as white blood cells,	2	sixteenth

			lymph nodes, spleen, bone marrow (and thymus gland. □ To explain the role of antibodies and antigens in the immune respon □ To distinguish between types of immune cells(B cells, T cells, macrophages, etc.). □ To explain the mechanism of primary and secondary immune response.		
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Parasites	□ The student should define the antigenand explain its characterist . □ To define the antibodyand describe its structure and functions □ To explain the relationship between antigen and antibody in th immune response. □ To distinguish between the different types of antibodies(IgG, IgA, IgM, IgE, IgD) and the functi of each one. □ To explain the mechanism of formation of antibodies in the body □ To explain the concept of specificity and specificity in the interaction between antibody and . antigen	2	sevent eenth
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Diagnosis of ,leishmaniasis	□ The student will be able to identi the interactions of antibodies with antigens and understand their immunological basis.	2	eighte enth

			□ To explain the distinctive characteristics of these interactions (specialization, strength, associatic □ Describe the types of interaction between antibody and antigen (e.g., agglutination, precipitation, fixatio (neutralization, immunoagglutinati . □ To explain the factors that affect the effectiveness of the reaction such as temperature, concentration, (reaction time. □ To link these interactions to laboratory and diagnostic .applications		
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Diagnosis of histolytic ,amoeba	□ To introduce the student to the concept of hypersensitivity and its importance in immunology. □ List the four types of hypersensitivity (types I to IV). □ To explain the immune mechanism of each type of hypersensitivity. □ To distinguish between immedia and delayed hypersensitivity. □ To link the manifestations of hypersensitivity to some common diseases (such as asthma, food (allergies, lupus, dermatitis.	2	ninete enth
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Diagnosis of Giardia lamblia	□ To introduce the student to autoimmune diseases and the conce of loss of self-differentiation of the immune system.	2	Twent y

			□ To clarify the mechanisms that lead to the development of autoimmune diseases (such as T-ce (dysfunction or autoantibodies. □ List the main types of autoimmu diseases (such as lupus, rheumatoid arthritis, multiple sclerosis, type 1 (diabetes. □ To distinguish between systemic and local autoimmune diseases. □ To explain the symptoms and effects of autoimmune diseases .on different organs of the body		
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Trichomonase enzyme diagnosis	□ The student should identify flagellated blood parasites and their general characteristics. □ To explain the life cycle of flagellated blood parasites, with emphasis on Leishmania. □ Describe the different stages of Leishmania (promastigote, (amastigote. □ To explain the mechanism of transmission of Leishmaniasis to humans and the role of vector insec (sand flies). □ To list the main types of leishmaniasis that cause diseases in humans (such as cutaneous leishmaniasis and visceral (leishmaniasis. □ Describe the clinical symptoms c diseases caused by Leishmaniasis.	2	twenty one-

Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Intestinal nematodes: ,Ascaris	□ The student should define the sporean and its general characteristics as a type of non-motile protozoa. □ To explain the life cycle of Plasmodium and its different types such as)*P. falciparum* , *P. vivax*). □ Describe how Plasmodium is transmitted through the bites of female Anopheles mosquitoes. □ To explain the stages of Plasmodium reproduction inside humans (hepatic and blood stages) □ Mention the symptoms of malari .caused by Plasmodium	2	twenty - second
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Diagnosis of toxoplasmosis	□ The student should identi parasitic worms and their main typ □ To explain the anatomical structu of tapeworms, especially the ge Taenia. □ Describe the life cycle tapeworms, with emphasis onTae saginata andTaenia solium. □ To explain the methods transmission of tapeworm infection humans. □ List the clinical sympto .associated with tapeworm infectio	2	twenty third-
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Malaria ,diagnosis	□ The student should identi **Echinococcus granulosus.** A sm tapeworm parasite that causes hyda disease.	2	twenty fourth-

			□ Describe the life cycle of the parasite, focusing on the definitive host (dogs) and intermediate host (cattle and humans). □ To explain how the infection is transmitted to humans through ingestion of eggs from contaminate sources. □ Describe the formation of cysts i internal organs such as the liver an lungs. □ To explain the clinical symptom associated with hydatid cysts and their effect on the affected organs. □ To explain laboratory and imagi diagnostic methods (such as (ultrasound, CT scan. □ To list the available treatment methods, including surgery and dru therapy (such as albendazole).		
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Tapeworms, schistosomiasis	□ The student should define trematodes and explaintheir genera characteristics. □ To distinguish between different types of flatworms (such as liver (flukes, lungworms, and bloodwor . □ To explain the anatomical structure of flatworms. □ Describe the life cycleof Trematoda with emphasis on the intermediate host (such as snail) an the definitive host.	2	twenty fifth-

			□ To explain the ways of transmission of infection to human		
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	,Tapeworms	□ The student should define trypanosomes and schistosoma and explain the characteristics of each. □ Describe the life cycle of trypanosoma(such asTrypanosom brucei) and schistosoma. □ To explain the methods of transmission of infection for both parasites (such as tsetse flies for trypanosoma, and water worms for (schistosoma. □ To list the diseases associated wi both trypanosomiasis (sleeping sickness) and schistosomiasis (bilharzia). □ To explain the clinical symptoms each disease.	2	twenty sixth-
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Hymenolepis nana	□ The student should define primitives ar explain their general characteristics. □ The student should be able to distinguis protozoa from other microorganisms such bacteria and fungi. □ Describe the cellular structure of proto . □ To mention the different types of protozoa based on the method of moveme (cilia, amoebae, microcilia, radial bodies) □ To explain the methods of reproduction in protozoa (asexual and (sexual.	2	twenty - sevent h

Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	hypersensitivity	□ To introduce the student to t concept of bacterial genetics and importance in microbial evolution. □ To explain the components genetic material in bacteria(DNA plasmids). □ To explain the mechanisms of ge transfer between bacte transformation, conjugatio (transmission by viruses. □ To distinguish between gene mutations, their types, and their eff on bacterial functions. □ Describe the role of plasmids antibiotic resistance.	2	twenty eighth-
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Discussion of curriculum materials	□ The student demonstrates comprehensive understanding of t course topics. □ The student should participate scientific discussions based on criti and analytical thinking. □ To express his scientific opinio supported by evidence from t course content. □ To link theoretical topics w relevant practical applications. □ To interact effectively with l colleagues and teachers duri classroom or online discussions. □ To develop oral and written .scientific communication skills	2	twenty ninth-

Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Discussion of curriculum materials	□ The student demonstrates comprehensive understanding of t course topics. □ The student should participate scientific discussions based on criti and analytical thinking. □ To express his scientific opinio supported by evidence from t course content. □ To link theoretical topics w relevant practical applications. □ To interact effectively with l colleagues and teachers duri classroom or online discussions. □ To develop oral and writt .scientific communication skills	2	thirty

Course Evaluation .11
Daily exams, monthly and final theoretical and practical exams, classroom discussion .General and transferable skills (other skills related to employability and personal development) **-1** The student acquired general skills through practical practice in collecting pathological samples and methods -2 .of dealing with them Self-development by keeping up with the latest developments in the field of specialization and contributing to -3 **.** and participating in training courses, lectures and scientific seminars prepared for this purpose

Learning and teaching resources .12		
Gillies RR & Dodds, 1984: Bacteriology illustrated, 5th edition . Long man group limited. USA. (Text book).	**Required textbooks (methodology)**	
1- Katherine N. Ward, A. Christine McCartney & Bishan Thakker 2009: Notes On Medical Microbiology, 2nd edition . Churchill Livingstone Elservier. UK. 2- Morello, Mizer & Granato 2006: Laboratory manual and Workbook in Microbiology	**Main References (Sources)**	

"Application to patient care", Eighth edition. The McGraw-Hill Companies Inc., USA. 3- Whitman, William B; Rainey, Fred; Kämpfer, Peter; Trujillo, Martha; Chun, Jonsik; Devos, Paul; Hedlund, Brian; Dedysh, Svetlana (eds.) (2015). *Bergey's Manual of Systematics of Archaea and Bacteria* . John Wiley and Sons. 4- Richard A. Harvey , Cynthia Nau Cornelissen and Bruce D. Fisher . Microbiology . (Lippincott's Illustrated Reviews) 3rd edition . 2014 5- Bailey and Scott's (2014). Diagnostic microbiology.Elseiver,2014. 6-- Brock TD. Madigan M. Martinko J. et al.editors: Biology of microbiology. Upper Saddle River, NJ.2009. Prentice Hall		
	Recommended supporting books and references (scientific journals, reports, etc.)	
Web sites of Microbiology	**Electronic references, websites**	

1. Course name
Physiology
2. Course code
Physiology
3. semester/year
Semester (First Course - Second Course) 2026-2025
4. Description preparation date
15/9/2025
5. Available forms of attendance
Theoretical/Practical
6. Number of hours (total) / Number of units (total)
hours for the theoretical part / 6 hours for the practical part 2
7. Course supervisor name (if more than one name is mentioned): Name and university email

Dr. Duha Jihad Muhammad - Theoretical Side
Msc. Al-Hussein Ahmed - The practical side .

8. Course objectives (course objectives)

1. **The student knows physiology**
2. **Know the types of body systems and organs**
3. **Know the relationship between physiology and other sciences**
4. **Realizes the overlap between the work of the body's systems and the interconnection - .between them**
5. **.The student knows the normal function of each body system -**
6. **.The student distinguishes between the normal state and the pathological state -**
7. **.The student acquires the skill of conducting laboratory tests -**
8. **The student distinguishes between physiology and other sciences in general. - Physiology differs from other sciences in that it focuses on how living organisms, their systems, and organs work to maintain their vital functions. While some other sciences focus on structure (such as anatomy), chemical reactions (such as biochemistry), or the effects of drugs (such as pharmacology), physiology studies normal biological processes such as respiration, digestion, excretion, nerve impulse transmission, and blood .pressure regulation**
9. **In other words, physiology is concerned with describing "how the body works?", whereas other sciences may focus on "what the body is made of?" or "how it changes in "?disease or under the influence of drugs**

10. Teaching and learning strategies

Teaching and learning strategies for the subject of physiology

Teaching physiology requires effective strategies that combine deep understanding, practical application, and active interaction between students and teachers. Here are the most important :strategies used

First: Teaching strategies

1. **Problem-based learning**

A problem or scenario related to body functions, such as a particular blood pressure disorder, is presented to students, and they are then asked to analyze the problem based on their knowledge of .physiology

2. **:Inquiry-based teaching -**

It is based on asking open-ended questions such as: How does the body regulate fluid balance? Students .are then guided to search for answers through critical thinking and experimentation

3. **:Cooperative learning -**

Dividing students into groups to discuss complex physiological concepts, such as how the nervous system .works, promotes collective understanding and knowledge sharing

4. **Clinical case-based learning-**

Present clinical cases related to the lesson topic (e.g., a patient with insulin deficiency) and analyze them .to understand how physiological processes affect health

5. **Interactive teaching**

Use tools such as interactive presentations, electronic voting platforms, and live simulations to .understand organ functions in a visual and kinetic way

6. Experience-based learning-

Apply laboratory experiments to study the electrical activity of the heart, muscle response, or measure .breathing and pulse rates in practice

Second: Learning strategies for students

1- :Mind maps and conceptual diagrams

Students can use mind maps to draw relationships between different physiological processes, such as the .relationship between the nervous system and the digestive system

2- :Technology-based education

Using computer simulations to understand dynamic processes such as blood flow, or virtual reality .applications to study organs internally

3- :Brainstorming teaching technique

Brainstorming sessions to discuss the effect of exercise on blood oxygen levels or analyze the mechanism .of the stress response

-4 :Storytelling teaching strategy

Transform complex physiological processes into easy-to-understand stories, such as "The Journey of ".Red Blood Cells Through the Body

-5 :Learning through modeling

.Use models, plastic models, or 3D applications to study different body systems

7. Course structure (theoretical part - first course)

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Oral tests	Theoretical and practical lectures	Introduction to Physiology	Understanding cell physiology, the function of the cell membrane, components of the cell environment water, ions,) carbohydrates, proteins, lipids, movement of materials across the membrane), cell division, mitosis, spermatogenesis, .oogenesis	2	the first

Oral test	**Presentation and discussion**	**musculature**	**Understanding the muscular system: types of muscles, mechanism of contraction, comparison of muscle .types**	**2**	**the second**
Oral exam	**Active learning and practical applications**	**nervous system**	**Knowledge of the nervous system: structure of neurons, their characteristics, classification according to structure and .function**	**2**	**the third**
Written test	**Active learning**	**Central and peripheral nervous system**	**Understanding the central nervous system and sensory receptors, classification of receptors according to stimulus, location and structure, peripheral nervous system, nerve fiber regeneration, cranial .and spinal nerves**	**2**	**Fourth**
Oral test	**Presentations and images**	**synapses**	**Understanding synapses, types of functional synapses, classification of synapses, and cerebrospinal fluid .and its function**	**2**	**Fifth**
Oral test	**Clinical case study**	**digestive system**	**Digestive system: oral cavity, esophagus, layers of the digestive tract, mouth and its structure, saliva, its enzymes and functions**	**2**	**Sixth**

Oral tests and questions	**Lectures**	**stomach and intestines**	**Understanding the stomach, small intestine, and large intestine**	**2**	**Seventh**
Oral tests and questions	**Presentations and lectures**	**Learn about the digestive system accessories**	**Understanding the liver: microscopic anatomy, blood supply, metabolic functions. The pancreas: (pancreatic enzymes and juices). The gallbladder: function, nervous) .(control**	**2**	**The eighth**
Oral test	**Presentations and lectures**	**Circulation and regulation**	**Understanding the circulatory system: definition, functions, properties of blood, blood components, .blood cell production**	**2**	**Ninth**
Oral test	**Clinical case analysis**	**circulatory system**	**The cardiovascular system: arteries, veins, capillaries, red blood cells, plasma, white blood cells, and .the lymphatic system**	**2**	**tenth**
Written test	**Lecture and discussions**	**platelets**	**Platelets: blood clotting, coagulation pathway, steps of hemostasis, anticoagulants, .hematopoiesis**	**2**	**eleventh**
Tests	**Self-learning and presentation**	**circulatory system**	**Understanding the Heart: Definition, Layers, Chambers, Valves, Cardiac Muscles, Cardiac Cycle, ECG, Heart Structure, Differences Between Skeletal and Cardiac**	**2**	**twelfth**

			Muscle Contraction, Heart Sounds, Blood Flow, Atria, Blood .Pressure		
Oral test	Presentation	Skeletal system	Knowledge of the skeletal system and ,bones	2	thirteenth
Written test	Presentation	cartilage	Understanding the structure of cartilage and joints	2	fourteenth
Comprehensive written test	Presentation	skin and its appendages	Understanding skin, nails, and hair: cutaneous glands, sensory system, skin function, pigmentation system, .and sweating		fifteenth

(Course structure (theoretical part - second course

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Oral test	Presentations and lectures	body temperature	Introduction to body temperature and the body's adaptation to high and low temperatures	2	the first
Written test	Lectures and presentations	Respiratory system	The respiratory system and its components, the mechanism of gas exchange and transport in the blood	2	the second
Oral test	Presentation and discussion	Respiratory system	Learn about the mechanism of gas exchange in the lungs	2	the third

Written test	**Active learning**	**Components of the excretory system**	**Understanding the components of the excretory system**	**2**	**Fourth**
Written test	**Lecture in the form of a presentation**	**urinary bladder**	**Learn about the urinary bladder and the mechanism .of urine formation**	**2**	**Fifth**
Oral test	**Presentations and images**	**lymphatic system**	**Knowing the components of the lymphatic system**	**2**	**Sixth**
Written test	**Theoretical lecture and real-life simulation**	**spleen**	**Understanding the structure of the spleen and how it works**	**2**	**Seventh**
a test	**Presentations**	**tonsils and thymus gland**	**Knowing the structure of the tonsils**	**2**	**The eighth**
Written test	**Presentations**	**thymus gland**	**Knowing the structure of the thymus gland**	**2**	**Ninth**
Written test	**Lectures**	**thyroid gland**	**Understanding the endocrine system in terms of function, the thyroid gland - .its function**	**2**	**tenth**
Written test	**Presentations**	**parathyroid gland**	**Understanding the parathyroid gland – its function, the adrenal gland – its definition and function**	**2**	**eleventh**
Oral test	**Clinical case analysis**	**female reproductive system**	**Components of the female reproductive system**	**2**	**twelfth**

Written test	**Theoretical lectures and presentations**	**Female reproductive system and pregnancy**	**The female reproductive system has .functions**	**2**	**thirteenth**
Written test	**Presentations**	**male reproductive system**	**Male reproductive system: testes, seminiferous tubules, male reproductive ducts, seminiferous ducts, .spermatogenesis**	**2**	**fourteenth**
Written test	**Theoretical lecture and presentations**	**Sense and sensory pathway**	**Knowing the types of sensory system, sensory pathway organs, and receptors in the ,skin**	**2**	**fifteenth**

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams and discussion	Present the lecture via PowerPoint and conduct the experiment practically in .the lab	ABO blood type: slide method, true method	Introduction to blood types and how Take the test	2	the first
Exams and discussion	Present the lecture via PowerPoint and conduct the experiment practically in .the lab	Rh factor: slide method, tube method	Knowing the meaning of the Rhesus factor How to conduct the test	2	the second
Exams and discussion	Present the lecture via PowerPoint and conduct the experiment	Cross match test	Understanding the matching procedure test	2	the third

	practically in .the lab				
Exams and discussion	Present the lecture via PowerPoint and conduct the experiment practically in .the lab	Blood coagulation test, platelets count-repeat	Understanding Coagulation Testing	2	Fourth and fifth
and Exams discussions	Present the lecture via PowerPoint and conduct the experiment practically in .the lab	Bleeding time (Ducks method; ivy's method)	Understanding the Bleeding Time Test	2	Sixth
Exams and discussion	Present the lecture via PowerPoint and conduct the experiment practically in .the lab	Clotting time: capillary tube method,	How to perform clotting time and its advantages	2	Seventh and eighth
Exams and discussion	Present the lecture via PowerPoint and conduct the experiment practically in .the lab	Scientific movies showing bleeding and blood transfusion	Through it, students learn about How to perforn bleeding time t blood transfusion	2	Ninth
Exams and discussion	Present the lecture via PowerPoint and conduct the experiment practically in .the lab	Fragility test (RBC fragility test)-repeat	Understanding the fragility test procedure	2	tenth and eleventh
Exams and discussion	Present the lecture via PowerPoint and conduct	Examination of the urine;	Introduction to urine testing	2	The twelfth and thirteenth

	the experiment practically in .the lab				
Exams and discussion	Present the lecture via PowerPoint and conduct the experiment practically in .the lab	The chemical examination of urine; urine creatinine	Understanding Urine Chemical Tests	2	fourteenth
Exams and discussion	Present the lecture via PowerPoint and conduct the experiment practically in .the lab	The microscopic examination of urine	Understanding how to examine urine microscopically	2	fifteenth

8. Course Evaluation	
The grade is distributed out of 100 based on the tasks assigned to the student, such as daily .preparation, daily exams, oral and written exams, reports, etc	
9. Learning and teaching resources	
Merrill's Atlas of Radiographic Positions & Radiologic Procedures **Radiographic Positioning & Related Anatomy**	**Required textbooks (methodology if available)**
Vander's Human Physiology **Berne and Levy Physiology**	**Main References (Sources)**
www.physiology.org (American Physiological Society) **www.ncbi.nlm.nih.gov/pubmed (PubMed for research articles)**	**Electronic references and websites**

www.khanacademy.org (Khan Academy - Biology and Physiology) **www.medicalnewstoday.com (Medical News & Updates)**	

Course Description Form

22. Medical Device Technologies : Course Name	
23. : Course code	
24. Semester/Year : 2026-2025	
25. Date this description was prepared 15/9/2025	
26. .Available attendance forms : theoretical lecture in the classroom + practical section in the laborator	
27. Number of study hours (total) / Number of units (total) : 30 hours (one course) / 4 units	
28. : Name of the course administrator (if more than one name is mentioned)	
: Email	Dr. Ali Hussein Sabie Al-Ibrahim
29. Course objectives	
recognize The student on Devices Medical Laboratory that Deals In it The student during His life The process like microscope In all its forms The spectrometer And th repellent Central and incubator or oven and others from Devices Other	**Course objectives**

Get to know on microscope Photoelectric In its various types And when? He works any type from Accreditation on value tha Wanted Check it out as recognize on microscope A Electron And its features. -3 recognize on Spectrometer And its types gesticulate he t difference between voicemeter Alexophotomer What is it? ben this The device What is it? Its components. - 4 recognize on Devices The dominant On it with heat like incuba and the oven and its components And benefit all From it .	

30. : Learning and teaching strategies

14. Delivering a lecture using PowerPoint and explanatory films related to the devices, the mechanism of the device's operation, and how to deal with, .operate, and maintain it
15. .Identify and teach medical devices in laboratories
16. Continuous discussion through questions and answers in the classroom, motivating the student to think independently and thus to learn .independently
17. Using educational tools such as scientific images that bring the subject closer to the students' minds
18. Encourage students to use academic books and articles, whether printed or electronic , as they greatly help retain information and allow for .discussion and conclusions

31. Course structure (theoretical part)

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams and discussion	Present the lecture via PowerPoint and discuss with	**Microscope :Definition; Structural parts of microscope**	• Definition of the microscope and explanation of its importance	2	the first

	the .students		in biological studies. • Identify the structural parts of a microscope such as lenses,) platform, illumination (.source, etc. • Explain the function of each part of the microscope.		
Daily exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**microscope :Definition; defect; care; classification; single vision lens;**	Define the microsco and explain its importance in the accurate examination c samples. Classify the types of microscopes based on their structure and function (such as simp compound, electron (...microscope. Identify the single vision lensand its function in the microscope. Explaining common microscopedefects suc as light deviation or image blur. Identify the causes c these malfunctions and ways to prevent them. Explain the steps for periodic care and	2	the second

			maintenance of the .microscope		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**microscope :Characteristic; limitation; magnification; optical tube length;**	Describe the basic properties of a microscope such as magnification, resolution, and resolvi power. Explain the principl of magnification and how to calculate the to magnification power. Determine the optic tube lengthand explai its importance in formi a clear image. Identify the limitatic of using the microsco such as the limited ability to magnify nanoscale objects or th lack of clarity of fine details compared to the electron microscope. Discuss the effect o the physical properties the microscope on ima quality. Comparison of different microscopes terms of magnification optical length, and .resolution	2	the third
Exams and discussion	Present the lecture via PowerPoint and discuss	**Types of microscope**	Name the main type of microscopes. Distinguish betwee simple and compound	2	Fourth

	with the .students		microscopes in terms c structure and use. □ Identify the characteristics of the electron microscope scanning and) transmission) compare to light microscopes. □ Identify the uses of each type of microscop in different fields (such as medicine, biology, (.materials science, etc □ Comparison of microscope types in terms of magnification resolution, and light .source		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Centrifuge and Types of centrifuge**	□ Definition of a centrifuge and explanation of its working principle. □ Identify the basic us of centrifuges in laboratories. □ Name the different types of centrifuges (e. high-speed centrifuge, ultra-high-speed centrifuge, cryogenic centrifuge, and (hemocentrifuge. □ Comparison betwee types of centrifuges in terms of speed, use, an temperature. □ Explain the importance of balance inside the centrifuge during operation.	2	Fifth

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Centrifuge and Types of centrifuge**	a centrifuge and explanation of its working principle. Identify the basic us of centrifuges in laboratories. Name the different types of centrifuges (e. high-speed centrifuge, ultra-high-speed centrifuge, cryogenic centrifuge, and (hemocentrifuge. Comparison betwee types of centrifuges in terms of speed, use, an temperature. Explain the importance of balance inside the centrifuge .during operation	2	Sixth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Centrifuge tubes**	Definition of centrifuge tubes and th purpose in separation processes. Identify the material from which centrifuge tubes are made (such a (plastic, glass. Distinguish betwee types of centrifuge tub according to size, shap and capacity(such as 1.5ml 15 ,ml 50 ,ml) Explain the criteria that must be taken into account when choosing the appropriate centrifuge tube for the type of sample and the speed of the device.	2	Seventh

			Explain how to plac tubes in a centrifuge in balanced and safe .manner		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Sterilization equipment's**	Define sterilization explain its importance laboratories and the medical field. Identify different sterilization devices such as autoclave, dire flame, dry air oven, sterilization filters, (ultraviolet rays. Explain the working principle of each type sterilizer. Distinguish the type of materials or tools th are suitable for each sterilization device. Comparison betwee different sterilization methods in terms of efficiency, time, and ty of sterilized materials.	2	The eighth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Sterilization equipment's**	Define sterilization explain its importance laboratories and the medical field. Identify different sterilization devices such as autoclave, dire flame, dry air oven, sterilization filters, (ultraviolet rays. Explain the working principle of each type sterilizer.	2	Ninth

			Distinguish the type of materials or tools th are suitable for each sterilization device. Comparison betwee different sterilization methods in terms of efficiency, time, and ty of sterilized materials.		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Temperature control instruments-**	Define temperature control devices and explain their importanc in laboratories. Identify the differen types of temperature control devices such a • **Thermometer** • **Incubator** • **Water bath** • **oven** • **Refrigerator Freezer** Explain the function of each device and hov to use it. Identify the appropriate temperatur range for each device based on the type of sample or experimenta purpose. Explain how to maintain temperature accuracy and calibrate .instruments regularly ..	2	tenth
Exams and discussion	Present the lecture via PowerPoint and discuss	**Water bath and dry oven**	The student defined the water bath and d oven and the functio .of each	2	eleventh

	with the .students		Distinguish between the uses of a water bath and a dry oven .the laboratory Explain the working principle of both the water bath and the d .oven Identify the parts of each device and hov to adjust the .temperature Follow safety .5 procedures when .using each device Classify the different types of water baths .and dry ovens		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Incubator and autoclave**	The student defines the incubator and the sterilizer (autoclave) a explains the purpose o using each. Understand the working principle of incubator and autoclav Distinguish betwee the use of incubator an autoclave in laboratory applications. Describes the components of each device and the correct method of operation. Follow safety instructions when usin the incubator and stear sterilizer. Classify the materia that can be placed in th incubator and those tha	2	twelfth

			can be sterilized using autoclave. □ Compare different sterilization methods a identify the advantages and disadvantages of autoclaves.		
Exams and discussion	Presentation of the lecture via PowerPoint and discussion	**Colorimeter and photometer**	□ The student defines the coulometer and the photometer and explai the purpose of using ea . □ Explain the working principle of both the coulometer and the photometer. □ Distinguish betwee colorimeter and a photometer in terms of use, accuracy, and components. □ Identify the components of each device such as the ligh source, spotlight, and filters. □ Follow safety instructions when usin the equipment. □ Apply practical skill in calibrating and using colorimeters and photometers to analyze .samples	2	thirteenth
Exams and discussion	Present the lecture via PowerPoint and discuss	**spectrophotometer**	□ The student defines the spectrophotometer and explains its use in	2	fourteenth

	with the .students		chemical and biologica analyses. □ Explain the working principle of a spectrophotometer bas on the absorption of lig at different wavelengt □ Identify the components of the apparatus: light source prism/filter, cuvette, ar detector. □ Distinguish betwee the types of :spectrophotometers single beam anddoubl beam. □ Practical applicatio of calibration and operating steps to accurately analyze samples. □ Interpret the results absorptionand calcula the concentration using the Beer-Lambert Law □ Adhere to safety and maintenance procedure . when using the devic		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**spectrophotometer**	□ **The student identif the spectrophotomete** and its uses in chemica and biological analyse □ **The student explai the working principle of the device** based on the absorption of light different wavelengths. □ **Identify the basic components of the device**: light source, prism or filter, cuvette,	2	fifteenth

			detector, and reading screen. □ **Distinguish betwee types of spectrophotometers** such as single-beam ar double-beam. □ **Apply calibration steps and use the devi practically** to analyze .samples		
Course structure (practical part .1(					
Evaluation method	**Learning method**	**Name of unit or topic**	**Required learning outcomes**	**watches**	**week**
Exams and discussion	Present the lecture via PowerPoint and discuss with the students, along with training on how the device . works	**Microscope; Type of the microscope; Type of lenses,uses**	□ **The student identif the microscope** as an essential laboratory equipment for magnifying small obje . □ **Distinguish betwee types of microscopes** light, electron,) fluorescence, dissectin microscope) in terms o principle and use. □ **Identify the types o :lenses** in a microscop the objective lens and t ocularlens. □ **Understand the function of each type lens** and how it affects magnification and resolution. □ **Apply the steps for correct use of the microscope** in terms o		the first

			preparation, adjustmen and cleaning. □ **Explains the variou uses of microscopes** i biology, medicine, and .scientific research		
Exams and discussion	Present the lecture via PowerPoint and discuss with the students, along with training on how the device . works	**Microscope; Type of the microscope; Type of lenses,uses**	□ **The student learne the concept of the microscope** and its bas function in magnifying small samples. □ **List the types of microscopes** , such as • LightMicrosc • Transmission electron microscope (TEM) • Scanning electron microscope (SEM) • Fluorescence Microscope • Dissecting Microscope □ **Identify the types o lenses in the microsco** : • Objective lens • lens/ Eyepiece • Condenser len □ **Understand the mechanism of each le** and its role in magnification and accuracy. □ **Apply the steps for using the microscope a practical and safe manner** , such as focusing, adjusting the light, and changing lenses.		the second

			Explain the use of microscopes in variou fields: • education • Biological research • Medical diagnosis • study of microorganisms		
Exams and discussion	Present the lecture via PowerPoint and discuss with the students, along with training on how the device . works	**Dark field- microscope; Polarizing microscope**	The student knows t working principle of th darkroom microscope Explains how to use the oblique illuminatio technique to view the specimen. Explain the usefulne of the dark microscope viewing transparent an unstained objects. Distinguish between dark field and bright field. Apply procedures fo using a dark microscop and preparing the samp .		the third
Exams and discussion	Present the lecture via PowerPoint and discuss with the students, along with training on how the device . works	**Dark field- microscope; Polarizing microscope**	The student defines the darkfield microsco and explains its workin principle using side or oblique illumination. Explain the differen between a darkfield microscope and a conventional light microscope(Bright Field).		Fourth

			The student explains how transparent, unstained samples appear clearly using this type of microscope. Identify the uses of the dark-field microscope, especially in viewing microscopic bacteria such as*Treponema pallidum* . Apply the steps for proper use and preparation of slides.		
Exams and discussion	Present the lecture via PowerPoint and discuss with the students, along with training on how the device works.	**Electron microscope;Fluorescent microscope**	The student defines electron microscope as a microscope that uses a beam of electrons instead of light. Explain the working principle of the transmission electron microscope(TEM) and the scanning electron microscope(SEM). Distinguish between the electron microscope and the light microscope in terms of magnification and resolution. Identify the components of a microscope such as the electron source, magnetic lenses, and detector.		Fifth
Exams and discussion	Present the lecture via PowerPoint and discuss	**Electron microscope;Fluorescent microscope**	The student defines the electron microscope and its types(TEM and SEM).		Sixth

	with the students, along with training on how the device . works		Explain the working principle of the electro microscope using a be of electrons instead of light. Distinguish betwee the electron microscop and the light microsco in terms of resolution and magnification. Describe the components of an electron microscope su as the electron source, magnetic lenses, and detector. Explains the applications of electro microscopy in studyin the microstructures of cells, viruses, and .nanomaterials		
Exams and discussion	Present the lecture via PowerPoint and discuss with the students, along with training on how the device . works	**Centrifuge; Types of the centrifuge; Uses of each type**	**The student knows the centrifuge** and its working principle base on centrifugal force to separate the componen of samples. **List the types of centrifugation** , such • Standard Centrifuge • -Speed Centrifuge • Ultracentrifug • Portable centrifuge (microcentrifuge) **Explain the use of each type** according to its speed and centrifug force:		Seventh

			• Normal: To separate cells and solic from liquids. • High speed: fo separating small partic such as fine particles. • Ultra high spe to separate very fine particles such as protei and viruses. • Portable: For small laboratory uses such asDNA or cell separation		
Exams and discussion	Present the lecture via PowerPoint and discuss with the students, along with training on how the device . works	**Design of the centrifuge**	The student describe the basic parts of a centrifuge such as the rotor, motor, andlid. Explain the function of each part of the dev and its role in the centrifugation process Identify the differen types of rotor buckets (Fixed-angle rotor, Swinging-bucket rotor etc.) and the uses of ea type. Explains how to balancethe pipes insid the rotating basin to avoid vibrations and .damage		The eighth
Exams and discussion	Present the lecture via PowerPoint and discuss with the students, along with training on	**Sterilization equipment's. Hot air oven**	Definition sterilization and importance of us sterilization equipment laboratories. Identify different ty of sterilizat equipment, w		Ninth

	how the device . works		emphasis on the hot oven. Explain the work principle of the air ov using dry heat to steril tools. Determine appropriate temperatu and time periods for sterilization process in .air oven		
Exams and discussion	Present the lecture via PowerPoint and discuss with the students, along with training on how the device . works	**- Incubator**	The student identif the incubator and function in the laborat Explain the principle operation of the incuba in providing a suita environment for growth microorganisms. Identify components of incubator, such temperature and humic control. Apply the incuba operation steps correc and adjust the appropri settings. Explain the uses of incubator in laborat analyses and biologi experiments.		tenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the	**Water bath**	The student identif the water bath and function in the laborat Explain the principle operation of a water b		eleventh

	students, along with training on how the device . works		in providing const temperature to differ samples. Identify components of a wa bath such as the bas heating element, a thermostat. Apply the steps using the water b correctly wh monitoring temperature. Explain the uses of water bath in chemi and biologi experiments. Follow saf procedures when us .the water bath		
Exams and discussion	Present the lecture via PowerPoint and discuss with the students, along with training on how the device . works	**Colorimeter; Photometer**	The student identif the coulometer a photometer and function of each. Explain the work principle of colorimeter a photometer in measur the concentration solutions through absorption of light. Distinguish betwe the uses of colorime and photometer in ter of sample type a accuracy. Identify components of devi such as the light sour filters, and photodetec		twelfth

			Apply the steps calibrating and operat .the devices correctly		
Exams and discussion	Present the lecture via PowerPoint and discuss with the students, along with training on how the device . works	**Spectrophotometer**	The student identif the spectrophotome and its function chemical and biologi analyses. Explain the work principle of the dev based on measuring li absorption at speci wavelengths. Identify components of the dev such as the light sour prism or filter, cuve and detector. Distinguish betwe types of spectrosco such as single-beam a double-beam. Apply the steps calibrating and operat the device to accurat analyze samples.		thirteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the students, along with training on how the device . works	**The uses and the purpose for each**	**For uses:** Examinat of cells, tissu microorganisms such bacteria and fungi, a study of the details biological samples. **Objective:** Magn fine specimens to ma them visible to the nak eye and enable cl .study		fourteenth

Exams and discussion	Present the lecture via PowerPoint and discuss with the students, along with training on how the device . works	**The uses and the purpose for each**			fifteenth

Course Evaluation .12

Daily exams, monthly and final theoretical and practical exams, classroom discussion

General and transferable skills (other skills related to employability and personal development.) -1

The student acquired general skills through practical practice in collecting pathological samples and methods of dealing with them. -2

Self-development by keeping up with the latest developments in the field of specialization and contributing to and participating in training courses, lectures and scientific seminars prepared for this purpose. - 3

Learning and teaching resources .13

	Required textboo (methodology)	
	Main References (Sources)	
Medical Instrumentation: Application and Design by John (Webster • This book covers the fundamental principles of medicine instrumentation, including the design and application of various medical devices and technologies.	**Recommended supporting books and references (scientific (.journals, reports, etc**	

Introduction to Biomedical Equipment Technology by Jose J. Carr and John M. Brown • A comprehensive guide to the design, operation, and maintenance of medical equipment. It is		
Web sites of Medical Device Technologies	**,Electronic references websites**	

Course Description Form

32. Principles of Community Health/Course :Course Name Second / First (theoretical and practical pa course (theoretical and practical parts)
33. : Course code

34. Semester/Year: 2026-2025	
35. :Date this description was prepared /15/9/2025	
36. Available forms of attendance : theoretical lecture in the classroom + in the laboratories in the practi **.section**	
37. Number of study hours (total) / Number of units (total) : 90 * 2 semester hours / 15 * 2 units	
38. : Name of the course administrator (if more than one name is mentioned)	
:Email	**Dr. Nour Ghanem Abboud**
39. Course objectives	
5. The student should become familiar with the concepts of community health and the scientific .terms related to these concepts **6.** To identify the objectives and strategies of the health and social system for the community health .course **7.** Identify the health services provided to the .community in primary health care centers **8.** The student should distinguish his role in the field .of community health services	**Course objectives**

40. : Learning and teaching strategies

19. Lectures
20. .Brainstorming gave students the opportunity to brainstorm and discuss their ideas
21. .Intellectual questions and discussions
22. Continuous discussion through questions and answers in the classroom and motivating the student to think independently and critically
23. Explain to students the importance of scientific research and the importance of searching for important terms in the field of community health, thus expanding the circle of thinking about .community health concepts
24. Focus on connecting lecture ideas to the community
25. Encouraging the detection of health problems and identifying the needs of community members
26. Encouraging the adoption of vocabulary in the field of community health, which aims to promote health

41. Course Structure (Theoretical Part) First Course

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams and discussion and duties	Present the lecture via PowerPoint and discuss with the .students	**Introduction to Community Health**	Students' understanding of the concept of community health their role in Understanding spreading health awareness Ability to formulate preventive pla Understanding the mechanism fo participating in health awareness campaigns	2	the firs

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Definition of health - disease and its causes**	Definition of health and disease Determine the causes of various diseases Understanding the importance of preventive health	2	the second
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Immunization: - Introduction to Immunization - Types of Immunity**	The student learns about the concep of immunization and how it works to protect the body from diseases Identify the different types of immunity (innate, adaptive, passive	2	the thir
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Vaccination program in Iraq**	Learn about the importance of vaccines and their schedules in healt .centers in Iraq Identify the advantages and challenges of strategies Vaccines	2	Fourth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Primary Health Care** - Primary Health Care Programs - Objectives and Strategies	Students' understanding of the conce of health care Primary, objectives, and implementation strategies Identify the basic elements and components that These programs constitute	2	Fifth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Primary Health Care Center - Its Units and Services**	Understanding the concept of prima health care and its importance in ,society Learn about the center's various unit .and the health services they provid	2	Sixth

			Ability to differentiate between different types of care Provided by the center (such as preventive, therapeutic, and (rehabilitative care Distinguishing the role of the center health promotion and prevention Of diseases		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Maternal and Child Health Services**	Gain the knowledge and skills necessary to provide comprehensive . health care for mothers and childre Understanding maternal and child health issues Ability to provide health advice and education		Sevent
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Family planning, pediatric component**	Understanding the importance of family planning and its benefits for individuals, families, and society Ability to increase awareness throug various means Available family planning methods, and how to use them correctly	2	The eighth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Postpartum Care:** Restoring Optimal Maternal Health3	Acquire the knowledge and skills necessary to provide Optimal care for mother and child during the postpartum period Understanding the physiological and psychological changes that occur	2	Ninth

			Mother has it Learn how to care for an infant and provide psychological and social support to the mother and her family		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Acute respiratory tract infection:** definition, classification, risk factors, and case management	Understanding the nature of infectio its causes, how it is transmitted, and its associated symptoms Learn about ways to prevent and trea it. The ability to diagnose this infection and provide First aid necessary	2	tenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Eating Disorders in Children Under Five** - Diarrhea Control Program. Definition, Types of Diarrhea, and Control	Knowing cases of diarrhea in childre Focus on prevention methods Ability to provide appropriate care f the child The injured	2	atheist ten
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Dehydration:** Types, Signs, and Symptoms - Controlling Dehydration	Understanding dehydration in childr Get to know Prevention and treatme methods Ability to provide appropriate care f the child The injured	2	the second ten

Exams and discussion	Presentation of the lecture via PowerPoint and discussion	**Health education programs**	Changing health behaviors Increase awareness and knowledge c health issues Different Develop the skills needed to make sound health decisions.	2	the thi ten
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Dental health services, eye health services, and health education .for school children**	The ability to increase children's health awareness about the importan of oral and dental health and eye .health Identify strategies that enable them t teach School students have the ability to acquire behaviors Healthy and sound in their daily live	2	Fourth ten
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Measures to prevent and control infectious diseases**	Get to know Basic concepts related Infection, methods of transmission, and how to prevent it Gain practical skills in applying procedures Infection control	2	Fifth ten

42. Course Structure (Theoretical Part) Second Course

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watc hes	week

Exams and discussion and duties	Present the lecture via PowerPoint and discuss with the .students	**Primary health care:** Antenatal health care, routine prenatal screening and risk management	Increase knowledge and skills necessary to provide comprehensive and supportive ,health care to pregnant women Understanding the importance of prenatal care Knowing routine checkups Ability to provide advice and education Healthy and responsive to the mother's needs Psychological and social	2	the first
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Primary health care:** maternal health care	The student understands Aspects maternal and child health The student concludes the importance of a health care .program Mother andchild The student realizes Pregnancy-related problems To prevent it is able to implement the educatio .program Health related key topics Maternal and child health.	2	the secor

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Primary Health Care:** Maternal Health Care 2	The student understands Aspects maternal and child health The student concludes the importance of a health care .program Mother andchild The student realizes Pregnancy-related problems To prevent it is able to implement the educatio .program Health related key topics Maternal and child health.	2	the third
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Primary health care:** infant and child health care	Providing students with the knowledge and skills necessary to provide health care to children fro .newborns to school age Understanding the stages of child development, and identifying the ,different health needs at each sta Gain the skills necessary to assess health Child and diagnosis of common problems Ability to provide appropriate preventive and therapeutic care	2	Fourth

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**breastfeeding**	Understand the importance and benefits of breastfeeding Health and psychological well-being of both mother and child. Knowing the correct breastfeedin positions Natural to ensure the comfort of mother and child.	2	Fifth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**care during childbirth**	Learn about the mechanism for providing comprehensive care For women during labor and delivery Ability to provide psychological and emotional support For women, ensuring a safe and positive birth experience.	2	Sixth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Postpartum Care:** Restoring Optimal Maternal Health	comprehensive Ability to provid support and information to new mothers physical Increase knowledge abo recovery, breastfeeding, and child .care The ability to provide health education to mothers, enhance the self-confidence, and face the challenges of this stage in their .lives		Seventh

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Postpartum Care:** Restoring Optimal Maternal Health2	comprehensive Ability to provide support and information to new mothers physical Increase knowledge abo recovery, breastfeeding, and child .care The ability to provide health education to mothers, enhance the self-confidence, and face the challenges of this stage in their .lives	2	The eigh
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Postpartum Care:** Restoring Optimal Maternal Health3	comprehensive Ability to provide support and information to new mothers physical Increase knowledge abo recovery, breastfeeding, and child .care The ability to provide health education to mothers, enhance the self-confidence, and face the challenges of this stage in their .lives	2	Ninth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**School health services**	The ability to assess the health status of school students, taking into account individual difference .between them Raising health awareness about integration The concept of health Physical, mental and psychologic development of school students	2	tenth

			Providing health information abou school students' health problems and appropriate prevention and .treatment methods		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**School Health Services 2**	The ability to assess the health status of school students, taking into account individual difference .between them Raising health awareness about integration The concept of health Physical, mental and psychologic development of school students Providing health information abou school students' health problems and appropriate prevention and .treatment methods	2	atheistic ten
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Combating infectious diseases**	the chain of infection Understand infection control Understanding principles Identify the types of associated infections ,With health care Learn ways to combat infection	2	twelfth
Exams and discussion	Presentation of the	**Combating infectious diseases 2**	the chain of infection Understand	2	thirteenth

	lecture via PowerPoint and discussion		infection control Understanding principles Identify the types of associated infections ,With health care Learn ways to combat infection		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Combating infectious diseases 3**	the chain of infection Understand infection control Understanding principles Identify the types of associated infections ,With health care Learn ways to combat infection	2	fourteent
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Disease Measurement: Incidence and Prevalence**	Measuring disease incidence and prevalence The ability to calculate and measu these rates The ability to analyze epidemiological data to understan disease distribution and patterns.	2	fifteenth

43. Course Structure (Practical Part) First Course

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watc hes	week
Exams and discussion And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Primary Health Care Center - Programs, Units and Services**	Understanding the components Health programs Equipping yourself with the knowledge and skills necessary to provide effective and comprehensive primary health ca to the community.	4	**the first**
Examinatio ns, discussion and writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Visit primary health care centers**	Understanding the component of the different units of the center Health Distinguishing the health services provided by these units Determine the basic needs of the centers Health Providing health education based on those needs	4	**the seco**
Examinatio ns, discussion and writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Vaccination schedule, contraindications**	Understanding the routine vaccination schedule for children Distinguishing between vaccine types and knowing their timing	4	**the thir**

			Knowing the contraindications fo each vaccine		
Examinations, discussion and writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Vaccination schedule** **Contraindications to vaccination 2**	Understanding the routine vaccination schedule for children Distinguishing between vaccine types and knowing their timing Knowing the contraindications fo each vaccine	4	**Fourth**
Examinations, discussion and writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Iraq's Expanded Program on Immunization and Cold Chain System**	Learn about the immunization schedule in health centers in .Iraq Learn about the cold chain system and its importance in maintaining the effectiveness c .vaccines Identify the advantages and challenges of strategies Vaccines	4	**Fifth**
Exams and discussion And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Care for children under five and monitoring their growth**	Students understand the health, psychological and physical needs .children at this stage Providing students with theoretica knowledge of the basic methods c caring for children at this stage Providing students with the skills study a child's health condition,	4	**Sixth**

			evaluate his health status, and .provide appropriate health servic		
Examinations, discussion and writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Care and monitoring of children under five years of age2**	Students understand the health, psychological and physical needs .children at this stage Providing students with theoretica knowledge of the basic methods c caring for children at this stage Providing students with the skills study a child's health condition, evaluate his health status, and .provide appropriate health servic	4	**Seventh**
Examinations, discussion and writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Routine screening for children under five years of age**	Ability to monitor physical growth and development Acquire the skill of examining vit organs Acquire the skill to detect any sig Satisfactory Providing health education appropriate to the child's conditio	4	**The eig**
Exams and discussion And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Routine screening for children under five years of age2**	Ability to monitor physical growt and development Acquire the skill of examining vit organs Gain the skill to detect any signs	4	**Ninth**

			Satisfactory Providing health educati appropriate to the child's conditio		
Exams and discussion And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Acute respiratory tract infection:** definition, classification, risk factors, and case management	Understanding the causes a symptoms of infection Learn about prevention a treatment methods Ability to provide health educatio And the appropriate therapeu intervention for the child's conditi	4	**tenth**
Exams and discussion And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Acute respiratory tract infection:** definition, classification, risk factors, and case management2	Understanding the causes a symptoms of infection Learn about prevention a treatment methods Ability to provide health educatio And the appropriate therapeu intervention for the child's conditi	4	**atheisti** **ten**
Examinatio ns, discussion and writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**diarrhea**	Provide students with ba information about diarrh ,including its definition, causes And ways to prevent it Learn about available treatm methods with droughts Ability to cope	4	**the seco** **ten**

			caused by diarrhea		
Examinations, discussion and writing the practical report	Presentation of the lecture via PowerPoint and discussion	**Diarrhea 2**	Provide students with ba information about diarrh ,including its definition, causes And ways to prevent it Learn about available treatm methods with droughts Ability to cope caused by diarrhea	4	**the thir ten**
Examinations, discussion and writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Visit primary health care centers**	Understanding the components the different units of the centers Health Distinguishing the health servi provided by these units Determine the basic needs of t centers Health Providing health education based those needs	4	**Fourth ten**
Exams and discussion And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Presentation**	Providing health education abou health problem	4	**Fifth ten**

.13 Course Structure (Practical Part) Second Course

Evaluation method	**Learning method**	**Name of unit or topic**	**Required learning outcomes**	**watc hes**	**week**
Exams and discussion And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Maternal and child care services**	Acquire knowledge and skills necessary to provide comprehensive health car for mothers and children Understanding maternal a child health issues Ability to provide advice and health education	4	**the first**
Examinatio ns, discussion and writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Prenatal care services**	Increase knowledge and skills necessary to provide healt care Comprehensive and supportive for pregnant ,women Understanding the importance of prenatal ca Knowing routine checkup Ability to provide advice Health education , and responding to the mother' psychological needs	4	**the second**

			and social		
Examinations, discussion and writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Natural signs of pregnancy, immunization for pregnant women**	Learn about the concept o pregnancy, its stages, and .the symptoms of each sta Identify health problems t It may be associated with .pregnancy Distinguish between types of vaccines and antibiotic Its indications for pregnar women	4	**the third**
Examinations, discussion and writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Preparing for Obstetric Care 1**	The student understands Preparation aspects For obstetric care is able to implement the health education program .related to that stage	4	**Fourth**
Examinations, discussion and writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Preparing for Obstetric Care 2**	The student understands Preparation aspects For obstetric care is able to implement the health education program .related to that stage	4	**Fifth**
Exams and discussion And writing the	Present the lecture via PowerPoint and discuss	**Visit primary health care centers**	Identifying the needs of healthcare seekers	4	**Sixth**

practical report	with the .students		Ability to communicate effectively with healthcar seekers Providing them with healt care, including treatment .and education		
Examinatio ns, discussion and writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Visit primary health care centers**	Identifying the needs of healthcare seekers Ability to communicate effectively with healthcare seekers Providing them with healt care It is therapeutic and .educational	4	**Seventh**
Examinatio ns, discussion and writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Care and monitoring of children under five years of age1**	Students understand the health, psychological and physical needs of childrer That stage Providing students with theoretical knowledge of the basic methods of carir for children at this stage Providing students with study skills The child's health status , assessment of his health condition, and provision c appropriate health service	4	**The eighth**

Exams and discussion And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Care and monitoring of children under five years of age2**	Students understand the health, psychological and physical needs of childrer That stage Providing students with theoretical knowledge of the basic methods of carir for children at this stage Providing students with t skills to study and evaluat .child's health condition Health and service provisi proper health	4	**Ninth**
Exams and discussion And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Visit primary health care centers**	Identifying the needs of healthcare seekers Ability to communicate effectively with healthcare seekers Providing them with hea care, including treatm .and education	4	**tenth**
Exams and discussion And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Visit primary health care centers**	Identifying the needs of healthcare seekers Ability to communicate effectively with healthcare seekers	4	**eleventh**

			Providing them with hea care, including treatme .and education		
Examinatio ns, discussion and writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**School health services, health problems, goals**	Ability to assess the healt status of school students taking into account Individual differences between them Raising health awareness about integration The concept of health Physical, mental and psychological developme of school students Providing health care abo problems Healthy school students a appropriate prevention an treatment methods	4	**twelfth**
Examinatio ns, discussion and writing the practical report	Presentation of the lecture via PowerPoint and discussion	**,School health services School children screening**	Ability to assess the physical, psychological a social condition of school students	4	**thirteenth**
Examinatio ns, discussion and writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Visit primary health care centers**	Identifying the needs of healthcare seekers Ability to communicate effectively with healthcare seekers	4	**fourteenth**

			Providing them with hea care, including treatm .and education		
Exams and discussion And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Presentation**	Providing health educati about health problem	4	**fifteenth**

14. Course Evaluation

1. Discussion in the classroom by asking questions
2.) Daily examsquiz)
3. Writing practical reports at the end of each practical session
4. Monthly and final exams for theoretical and practical vocabulary

Learning and teaching resources .15

	Required textbooks (methodology)
Expanded Program on Immunization Staff Guide - Iraqi Ministry of Health - 2014 2- Main References (Sources) National Guideline for Newborn Screening - Iraqi Ministry of Health - 2014 Integrated Child Health Care - Iraqi Ministry of Health - 2012	**Main References (Sources)**
School Health Guide Book issued by the Iraqi Ministry of Heal Publications of the Iraqi Ministry of Health - World Hea Organization - United Nations United Nations - UNICEF - Civil Society Organizations The Comprehensive Medical Book: Community Health Nursin World Health Organization 2006	**Recommended supporting books and references (scientific journals, reports, (.etc**

http://phciraq.org www.usaid.gov http://www.ede.gov/std/default.htm	**Electronic references, websites**

Course name / General Chemistry / Theoretical part
Course code
Semester/Year 2026-2025
Description preparation date : 15/9/2025
Available forms of attendance/in person
Number of hours (total) / Number of units (total) 8 hours / 4 units
Name of the course supervisor (if more than one name is mentioned): Name and university email **Name: Dr. Ghofran Muhammad Mutee** **MSc / Hawra Bassem Mohammed .horahora9392@gmail.com**
Course objectives (subject objectives) **Introducing the student to the basic principles of general chemistry, knowledge of mathematical laws, how to calculate the concentrations of solutions, and knowledge of the properties of real solutions, emulsions, .and colloids**
Teaching and learning strategies

- Auditory methods through the teaching explanation of the subject - Lecture style and writing on the board - The method of dialogue between the teacher and the student through asking questions and discussion					
10. Course structure (theoretical part)					
Evaluation method	**Learning method**	**Name of unit or topic**	**Required learning outcomes**	**watches**	**week**
Tests and reports	**theoretical**	**Introduction to chemistry, its importance, introduction and general guidelines, general principles of precipitation of elements**	**Gain basic knowledge of chemistry and develop scientific skills to conduct .experiments**	**2**	**the first + the second**
Tests and reports	**theoretical**	**Water and Life / Chapter 1 Elements**	**The ability to describe the water cycle in nature**	**2**	**the third + Fourth**
Tests and reports	**theoretical**	**Solutions and their classification**	**It includes understanding the nature of solutions and how to classify them, such as the state of matter and the concentration of the .solute**	**2**	**Fifth + Sixth**
Tests and reports	**theoretical**	**Preparing various solutions**	**The ability to prepare standard and dilute solutions and determine their concentrations**	**2**	**Seventh + The eighth**
Tests and reports	**theoretical**	**Methods of calculating concentrations**	**Calculating the concentrations of reactants and products**	**2**	**Ninth + tenth**

Tests and reports	**theoretical**	**Completion of methods for calculating concentrations**	**Calculating the concentrations of reactants and products**	**2**	**eleventh + twelfth**
Tests and reports	**theoretical**	**Solubility Part One**	**The ability to bind solubility to chemical processes**	**2**	**thirteenth + fourteenth**
Tests and reports	**theoretical**	**Solubility Part Two**	**The ability to bind solubility to chemical processes**	**2**	**fifteenth + sixteenth**
Tests and reports	**theoretical**	**Solubility Part Three**	**The ability to bind solubility to chemical processes**	**2**	**The nineteenth + eighteenth**
Tests and reports	**theoretical**	**Acids and bases**	**The ability to distinguish between them, know their properties and apply them in life**	**2**	**nineteenth + Twenty**
Tests and reports	**theoretical**	**Qualitative analysis**	**Focus on how concepts are .understood and applied**	**2**	**twenty-one + twenty-second**
Tests and reports	**theoretical**	**Introduction to Atomic Chemistry**	**Understanding the structure of the atom and how atoms bond to form molecules**	**2**	**twenty-third + twenty-fourth**
Tests and reports	**theoretical**	**Theories of atomic chemistry**	**Understanding the structure of the atom**	**2**	**twenty-fifth + twenty-sixth**

Tests and reports	**theoretical**	**Brief about radiochemistry**	**Ability to handle radioactive materials and apply chemistry techniques**	**2**	**The twenty-ninth + twenty-eighth**
				2	**twenty-ninth + thirty**

Course structure (practical part)

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Chemical safety and security, laboratory equipment identification, hazards and medical devices**	**Understanding chemical and biological hazards, prevention and safety**	**2**	**the first**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Methods of preparing solutions - percentage, molarity and dilution methods, normal and dilution methods**	**Knowing how to prepare standard solutions**	**2**	**Second - Third - Fourth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Measuring acids and bases in water and blood**	**Understanding the importance of acids and bases in biological processes**	**2**	**Fifth-Sixth**
Exams, discussions and reports	**Presentation of the lecture via**	**Volumetric titration analysis - oxidation-reduction reactions, precipitation reactions, spectroscopic analysis**	**Calculating the concentrations of**	**2**	**Seventh-Eighth-Ninth**

	PowerPoint discussion		**reactants using titration results**		
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**a test**	**Knowing the skills acquired by the student**	**2**	**Tenth - Eleventh**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Separation of organic materials - filtration, extraction, sublimation and distillation**	**Choosing the appropriate methods for each process based on the type of material**	**2**	**Twelfth - Thirteenth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Detection of: alcohols, aldehydes, ketones**	**Alcohol detection for various chemical reactions**	**2**	**Fourteenth- Fifteenth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Detection of carboxylic acids**	**The ability to identify carboxylic acids among other organic .compounds**	**2**	**sixteenth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Test - Anonymous**	**It identifies the skills and knowledge that the student .acquires**	**2**	**seventeenth**

Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Detection of simple sugars, detection of reducing and non-reducing disaccharides, blood sugar**	**Identify different types of sugars and distinguish between reducing and non-reducing .sugars**	**2**	**eighteenth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Lipid and lipid interactions - cholesterol detection**	**The ability to identify different types of cholesterol in the blood**	**2**	**nineteenth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Proteins, their types, and general and specific detection**	**Chemical test for protein detection based on reactions**	**2**	**Twenty**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Determine the ratio ofNa to K**	**Determine the amount of ions in a solution using titration and other .methods**	**2**	**twenty-one**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**bilirubin ratio**	**Determine the percentage of Abu Safar**	**2**	**twenty-second**

Exams, discussions and reports	**Present the lecture through discussion**	**Amylase -phosphate [alidhaline] enzyme level determination**	**Setting the PHOSPHATE ratio**	**2**	**twenty-third - twenty-fourth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Hemoglobin determination**	**The ability to understand hemoglobin indicates a normal or anemic .state**	**2**	**twenty-fifth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Determine the concentrationof Globulin, Albumin**	**A blood test that measures the level of albumin in .the blood**	**2**	**twenty-sixth - twenty-seventh**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Bacteriological culture analysis**	**Teaching students how to work in agricultural environments**	**2**	**twenty-eighth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**CSF Assignment**	**Must master sampling techniques**	**2**	**twenty-ninth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**a test**	**Skills and knowledge acquired by the student**	**2**	**thirty**

Course Evaluation	
The grade is distributed out of 100 based on the tasks assigned to the student, such as daily .preparation, daily exams, oral and written exams, reports, etc - **cups 5** - **Reports 5** - **Med 30 Exam** - **Final Exam 60**	
Learning and teaching resources	
	Required textbooks (methodology if available)
Quantitative of inorganic chemistry by Vogel, 1973	**Main References (Sources)**
Some serious scientific websites, especially for .Iraqi universities	**Electronic references and websites**

Course name
Computer Application
Course code .
Semester/Year .
2026-2025 First Semester - Second Semester
Date of preparation of the description .
15/9/2025

Available forms of attendance .
In-person lectures
Number of hours (total) / Number of units (total)
hours for the theoretical part / 6 hours for the practical part (240 hours during the year) 2
Name of the course supervisor (if more than one name is mentioned): Name and university email
MSc Ehsan Ali Mousa
Course objectives (subject objectives)
This course aims to: **1. Providing students with the basic skills to use computer applications in academic and professional fields.** **2. Develop a comprehensive understanding of operating systems and productivity software such as word processors, spreadsheets, and presentations.** **3. Teaching students the basics of the Internet, email, and information security.** **4. Enhance online research and data analysis skills using digital tools.** **5. .Enabling students to use specialized software in the field of medical and health technologies**
1. Teaching and learning strategies
• **Theoretical lectures and practical applications in laboratories.** • **Interactive learning through digital platforms.** • **Presentations and practical projects.** • **Practical exercises and problem solving.**

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Short test	Theoretical and practical lecture	Introduction to Computers and Operating Systems	Learn basic computer concepts	**2**	**the first**
Practical exercise	Lecture and lab	Introduction to Operating Systems (Windows, Linux)	Understanding the operating system environment	**2**	**the second**
mini project	Practical application	Microsoft Word Basics	Using word processors	**2**	**the third**
Practical exercise	Practical application	Microsoft Excel Basics	Using spreadsheets	**2**	**Fourth**
Presentation	Lecture and practical work	Microsoft PowerPoint Basics	Create presentations	**2**	**Fifth**

Practical exercise	Practical lecture	Search and email tools	Searching the Internet and Managing Email	**2**	**Sixth**
a test	Discussion and practical application	Digital security concepts	Learn about cybersecurity and data protection	**2**	**Seventh**
Practical exercise	Practical application	Data analysis using Excel/SPSS	Graphic analysis using software	**2**	**The eighth**
project	Practical lecture	Software used in medical and health technologies	Understanding computer applications in the health field	**2**	**Ninth**
practical control	Lecture and practical application	Introduction to Programming with Python	Basic programming training	**2**	**tenth**
Group exercise	Practical application	UseGoogle Drive andTeams	Collaborative work and project management	**2**	**eleventh**
Presentation	Workshop	Advanced PowerPoint Techniques	Develop professional presentations	**2**	**twelfth**
achievement test	Interactive	Comprehensive review of the course	Student performance assessment and content review	**2**	**thirteenth**
Project evaluation	Submit a project	Final application project	Final practical application	**2**	**fourteenth**
Final evaluation	open discussion	Conclusions and recommendations	Comprehensive discussion and evaluation	**2**	**fifteenth**

Course structure (practical part)					
Evaluation method	**Learning method**	**Name of unit or topic**	**Required learning outcomes**	**watches**	**week**
- Written exams **oral exam, assessment of**	**Applying lectures with students and**	**Introduction to Microsoft Word**	**Introduction to the program interface**	**2**	**the first**

students' application of each subject	**discussing them with students**				
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Main bar**	**It is used to teach file saving, editing and printing.**	**2**	**the second**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Drawer bar**	**Use the ribbon to insert mathematical equations, graphs, tables, and other commands.**	**2**	**the third**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Layout bar**	**Use tape to skip the paper.**	**2**	**Fourth**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Reference bar**	**It is used to add sources and content to the file and add footnotes**	**2**	**Fifth**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Preview bar**	**The ribbon is used for previewing, translating, and adding commentary**	**2**	**Sixth**

Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Display bar**	**Use the ribbon to preview the paper**	**2**	**Seventh**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Drawer bar**	**Use the ribbon to insert mathematical equations, graphs, tables, and other commands**	**2**	**The eighth**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Make a folder**	**How to create a new folder and know all the commands related to the folder such as copying, pasting, and renaming the folder**	**2**	**Ninth**
Written exams **oral exam, assessment of students' application of each subj Written exams** **oral exam, assessment of students' application of each subject ect**	**Applying lectures with students and discussing them with students**	**Introduction to PowerPoint**	**Getting to know the program interface**	**2**	**tenth**

Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Main Tape**	**Learn how to save, edit, print, and more**	**2**	**eleventh**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Design bar**	**Learning to design slides**	**2**	**twelfth**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Slideshow transition bar**	**To acquire skills in slide transitions**	**2**	**thirteenth**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Design bar**	**Learning to insert shapes and graphs**	**2**	**fourteenth**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Transition from**	**Add and move to audio and video clips**	**2**	**fifteenth**
Written exams	**Applying lectures with students and**	**Display bar**	**View video slide preview**	**2**	**sixteenth**

oral exam, assessment of students' application of each subject	**discussing them with students**				
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Preview bar**	**View and preview slides**	**2**	**seventeenth**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Main bar**	**It is used to teach file saving, editing and printing.**	**2**	**eighteenth**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Layout bar**	**Use tape to skip the paper.**	**2**	**nineteenth**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Drawer bar**	**Use the ribbon to insert mathematical equations, graphs, tables, and other commands**	**2**	**Twenty**
Written exams **oral exam, assessment of students'**	**Applying lectures with students and discussing them with students**	**Make a folder**	**How to create a new folder and know all the commands related to the folder such as**	**2**	**twenty-one**

application of each subject			**copying, pasting, and renaming the folder**		
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Introduction to PowerPoint**	**Getting to know the program interface**	**2**	**twenty-second**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Reference bar**	**Use tape to skip the paper.** **It is used to add sources and content to the file and add footnotes**	**2**	**twenty-third**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Preview bar**	**The ribbon is used for previewing, translating, and adding commentary**	**2**	**twenty-fourth**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Display bar**	**Use the ribbon to preview the paper**	**2**	**twenty-fifth**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Slideshow transition bar**	**Getting to know the program interface**	**2**	**twenty-sixth**

Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Main Tape**	**Learn how to save, edit, print, and more**	**2**	**twenty-seventh**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Design bar**	**Learning to design slides**	**2**	**twenty-eighth**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Transition from**	**Add and move to audio and video clips**	**2**	**twenty-ninth**
Written exams **oral exam, assessment of students' application of each subject**	**Applying lectures with students and discussing them with students**	**Display bar**	**View video slide preview**	**2**	**thirty**

Course Evaluation	
The grade is distributed out of 100 based on the tasks assigned to the student, such as daily preparation, .daily exams, oral and written exams, reports, etc **The grade is distributed out of 100 according to the following tasks:** • **Daily preparation and participation: 10%** • **Short and oral exams: 20%** • **Reports and practical projects: 30%** • **Final Exam: 40%**	
Learning and teaching resources .12	
Computer Applications Ministerial Bag Introduction to Computer Science Microsoft Office for Beginners	**Required textbooks (methodology if available)**
	Main References (Sources)
Microsoft Office Tutorials: https://www.microsoft.com/en-us/training FreeCodeCamp: https://www.freecodecamp.org Coursera – Computer Basics: https://www.coursera.org	**Electronic references and websites**

Course Name: Environmental Health/course Second course (theoretical part) / First (theoretical part) And practical
: Course code
Semester/Year: 20262025-
: Date this description was prepared/15/9/2025
.Available forms of attendance : lecture in the classroom
Number of study hours (total) / Number of units (total) : 30 * 2 semester hours / 15 * 2 units
: Name of the course administrator (if more than one name is mentioned)

:Emailimad07751@gmail.com	**Dr. Imad Sakban Awda**

Course objectives	
1. the basic principles of the 2. ecosystem, Give general idea about environment .and environmental health 3. Building a scientific foundation around the course topics that enables students to expand their ideas and understanding by reviewing relevant scientific .sources 4. Identify the types of environmental pollutants and their impact on our daily lives by studying the .diseases they cause 5Expanding scientific and academic research and trying to create unique and useful scientific research that enables .both students and professors to enter the job market	**Course objectives**

:Learning and teaching strategies

Lectures
.Brainstorming gave students the opportunity to brainstorm and discuss their ideas
.Intellectual questions and discussions
Continuous discussion through questions and answers in the classroom and motivating the student to think .independently and critically
.Focus on connecting lecture ideas to the community
Encouraging the adoption of vocabulary in the field of environmental health, which the student needs in his work **.**in the health field

4- Course structure (theoretical part) First course

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Introduction to ecology and ecosystems, basic concepts about environment.**	• **The student knows the basic concepts of ecology, ecosystems, and the relationship between living organisms and their environment .**	2	the first
Daily exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Definition of Biosphere, hydrology, Atmosphere, Lithosphere, and their components**	• **The student explains the components of the biosphere, including the hydrosphere, atmosphere, and lithosphere, and the**	2	second the

			functions of each.		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Food chain and food webs, natural life cycles**	• **The student explains the concepts of food chain, food webs, and natural life cycles.**	2	the third
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Energy flow in ecosystem and trophic levels**	• **The student explains how energy is transferred in an ecosystem through different trophic levels.**	2	Fourth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Basic concepts about pollution - Natural of pollution - General characteristics of pollution**	• **The student knows the basic concepts about pollution, its nature and general characteristi cs.**	2	Fifth and sixth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**General characteristics of source of pollution**	• **The student distinguishe s the sources of pollution, its types, and its impact on the environment .**	2	Seventh and eighth

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Atmospheric ozone layer depletion**	• **The student explains the causes of ozone depletion and its environment al effects.**	2	Ninth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Water pollution - Thermal pollution - Toxic metal pollution - Nitrate, phosphate and organic waste**	• **The student knows the types of water pollution such as thermal pollution, toxic metals, nitrates, phosphates, and organic waste.**	2	tenth, eleventh, and twelfth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Types and source of solid waste, control of solid waste and recycling**	• **The student explains the types of solid waste, its sources, and methods of controlling and recycling it.**	2	thirteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Radioactive wastes**	• **The student explains the sources of radioactive waste, its properties, environment al hazards, and safe disposal methods.**	2	fourteenth

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Noise pollution**	• **The student learns about noise pollution, its causes, its impact on public health, and possible ways to reduce it.**	2	fifteenth
Second theoretical course					
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Definition of environmental health, scope of environmental health***	• **The student knows the concept of environmental health, its scope and its impact on public health .**	2	the first
Daily exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Air polution***	• **The student explains the causes of air pollution and its effects on human health and the environment .**	2	second the The third
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Water pollution and purification method of water***	• **The student explains the sources of water pollution and methods of purifying it to ensure its safe use.**	2	Fourth

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Environmental and food safety***	• **The student understands the relationship between the environment, food safety, and methods of preventing food contaminatio n.**	2	Fifth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***insect and rodent control***	• **The student knows insect and rodent control strategies to reduce disease transmission .**	2	Sixth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Solid waste management***	• **The student explains solid waste management methods and their impact on the environment and public health.**	2	Seventh
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Child hood lead poisoning prevention***	• **The student explains the dangers of lead poisoning in children and ways to prevent it.**	2	The eighth

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Electromagnetic radiation***	• **The student knows the sources of electromagnetic radiation and its potential effects on health.**	2	Ninth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Sewage treatment***	• **The student explains the stages of wastewater treatment and its importance in protecting the environment.**	2	tenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Noise pollution***	• **The student explains the concept of noise pollution and its effects on mental and physical health.**	2	eleventh
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Water recreation illness***	• **The student knows the diseases associated with water recreational activities and ways to prevent them.**	2	twelfth

Exams and discussion	Presentation of the lecture via PowerPoint and discussion	***Housing environment and their effects on human health***	• **The student explains the impact of housing and the residential environment on human health and quality of life .**	2	thirteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Water recreation illness***	• **The student knows the impact of body arts such as) tattoos and piercing) and biological factors associated with disease transmission .**	2	fourteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Body art and their biological factors in disease transmission***	• **The student knows the concept of environmental health, its scope and its impact on public health .**	2	fifteenth
.11 Course Structure (Practical Part) Second Course					
Evaluation method	**Learning method**	**Name of unit or topic**	**Required learning outcomes**	**watches**	**week**
Exams and discussion	Present the lecture via PowerPoint and discuss	**Water pollution**	**The student explains the causes of water**	2	the first

	with the .students		**pollution and its effects on the environment and public health.**		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Sample preservation and storing sample**	**The student knows the methods of preserving and storing samples to ensure the accuracy of laboratory results.**	2	the second
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Determination of dissolved oxygen (DO)**	**The student explains how to measure dissolved oxygen(DO) and its importance in assessing water quality .**	2	the third
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Determination of biological oxygen demand BOD5**	**The student applies the steps of measuring biochemical oxygen demand (BOD_5) to determine the level of organic pollution.**	2	Fourth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Types of indicator microorganisms**	**The student distinguishes between the types of microorganisms that indicate**	2	Fifth

			water pollution.		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Culture methods of water**	**The student performs laboratory culture methods to isolate microorganisms in water samples.**	2	Sixth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Soil pollution**	**The student explains the causes of soil pollution, its sources, and its environmental impact.**	2	Seventh
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Waste water treatment (training visit)**	**The student concludes the stages of wastewater treatment through the training field visit.**	2	The eighth and ninth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Type indicator of microorganism**	• **The student distinguishes the types of indicator microorganismsand their importance in assessing environmental pollution.**	2	tenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Air pollution**	• **The student explains the sources of air pollution and its impact on**	2	eleventh

			the environment and human health.		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Air pollution by humidity of air**	• **The student explains the relationship between air pollution and humidity and their impact on air quality and respiratory health.**	2	twelfth The thirteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	**Air pollution by noise, acid rain, ozone**	• **The student knows the impact of air pollution resulting from noise, acid rain, and the ozone hole, and their environmental and health effects.**	2	fourteenth The fifteenth

Course Evaluation		
1. Discussion in the classroom by asking questions 2. Daily examsquiz 3. Monthly and final exams for theoretical vocabulary		
Learning and teaching resources		
Ministerial portfolio	**Required textbooks (methodology)**	
Environmental biology 2018 matthew r. fisher Fundamental of environmental second edition 2018 pranav kumar	**Main References (Sources)**	
	Recommended supporting books and references scientific journals, reports,) (.etc	

	Electronic references, websites	

Course nameBiostatistics
Course code
2026-Semester/Year: 2025

:Date of preparation of this description	
15/9/2025	
.Available forms of attendance : lecture in the classroom + laboratory	
Number of study hours (total) / Number of units (total) : 4 hours / 3 units	
: Name of the course supervisor (if more than one name is mentioned)	
.Msc .Suzan yaseen	
Course objectives	
Introducing the student to vital statistical measures and their applications in the field of public health or **Community health to enable** **For professionals who contribute to the development and modernization of public health programs** **Especially through their possession of scientific methods in the .field of statistical data analysis** **Medical and biological**	**Course objectives**

:Learning and teaching strategies

The education in this program includes theoretical education that focuses on studying scientific problems .1 using a purely scientific approach that aims to understand the basis of the problem and find solutions to it, and practical education that provides practical experience in conducting experiments and research through the .use of approved methods in conducting scientific research

Learning, both theoretical and practical, depends on cooperation between the student and the teacher to .2 understand the lesson as much as possible and overcome obstacles that hinder the student's understanding or .impede his/her experiments in the laboratory

Encourage students to use scientific books and articles, whether printed or electronic, because they greatly .3 .help in retaining information and provide an opportunity for presenting discussions and conclusions

Cognitive objectives

.Enabling the student to obtain the most important components of the applied statistics subject (1

.The student is able to obtain statistical methods related to data processing (2

Enabling the student to obtain methods for collecting and classifying data and conducting sample (3 .surveys

Course skill objectives

.Enabling students to calculate point index estimates and display the data table (1

.Enabling students to use period estimation methods and hypothesis testing (2

3 Enabling the student to classify girls and conduct surveys (

Course structure (theoretical part) .10

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Introduction to basic statistics***	• **The student will learn an introducti on to statistics and its importanc**	2	the first

			e in scientific research and data analysis.		
Daily exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Sources of data; Types of variables; Types of scales; Population; Sample; Sampling***	• **The student distinguishes between data sources, types of variables, types of measures the , difference between a population and a sample, and random sampling methods.**	2	the second
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Data presentation; Numerical; Tables; master table***	• **The student applies methods of displaying numerical data using tables, including the main table.**	2	the third
Exams and discussion	Present the lecture via PowerPoint and discuss	***Simple frequency distribution table; Class interval tables***	• **The student creates simple frequency**	2	Fourth

	with the .students		**distribution tables and class tables.**		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	*Graphs; Bar; Pie; Map; Histogram; Line graph*	• **The student draws different graphs such as bar, pie, map, histogram and line ,.**	2	Fifth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Data summarization; measures of central tendency***	• **The student summarizes data using measures of central tendency such as mean, mode, and median for simple data.**	2	Sixth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Arithmetic mean; Mode; Median; For simple data***	• **The student calculates measures of central tendency from data presented in a table of categories.**	2	Seventh
Exams and discussion	Present the lecture via	***Data presented by class interval table***	• **The student**	2	The eighth

	PowerPoint and discuss with the .students		**explains the concept of statistical summary of data and applies it in analysis.**		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Data summarization***	• **The student calculates measures of dispersion such as range, variance, standard deviation, and coefficient of variation for simple data.**	2	Ninth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Measures of variability***	• **The student applies the calculation of dispersion measures using simple frequency distribution tables.**	2	tenth

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Range; variance; Standard deviation; Coefficient of variation***	• **The student explains the concept of probability and its importance in statistics and research.**	2	eleventh
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***For simple data; data presented by simple frequency distribution table***	• **The student distinguishes between different types of probabilities and methods of calculating them.**	2	twelfth
Exams and discussion	Presentation of the lecture via PowerPoint and discussion	***Probability; concept of probability***	• **The student reviews the basic concepts of statistics and reinforces his understanding through exercises and applications.**	2	thirteenth
Exams and discussion	Present the lecture via PowerPoint	***Types of probability***	• **The student will learn**	2	fourteenth

	and discuss with the .students		**an introduction to statistics and its importance in scientific research and data analysis.**		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Review***		2	fifteenth

.11 Course Structure (Practical Part)

Evaluation method	**Learning method**	**Name of unit or topic**	**Required learning outcomes**	**watches**	**week**
Exams and discussion	Using the computer Excel program	***Introduction to basic statistics***	• **The student understands the basic concepts in statistics and their importance in data analysis and decision making.**	2	the first
Exams and discussion	Using the computer Excel program	***Sources of data; Types of variables; Types of scales; Population; Sample; Sampling***	• **The student distinguishes between data sources, types of variables,**	2	the second

			measurement scales, and defines the population, sample, and random sampling methods.		
Exams and discussion	Using the computer Excel program	***Data presentation; Numerical; Tables; master table***	• **The student presents data using numerical forms and tables, including a master table.**	2	the third
Exams and discussion	Using the computer Excel program	***Simple frequency distribution table; Class interval tables***	• **The student creates simple frequency distribution tables and class tables to display data in an organized manner .**	2	Fourth
Exams and discussion	Using the computer Excel program	*Graphs; Bar; Pie; Map; Histogram; Line graph*	• **The student draws various graphs such as bars,**	2	Fifth

			circles, maps, histograms, and line graphs to represent data visually.		
Exams and discussion	Using the computer Excel program	***Data summarization; measures of central tendency***	• **The student summarizes data using measures of central tendency such as mean, median, and mode for simple data.**	2	Sixth
Exams and discussion	Using the computer Excel program	***Arithmetic mean; Mode; Median; For simple data***	• **The student calculates measures of central tendency for data presented in category tables.**	2	Seventh
Exams and discussion	Using the computer Excel program	***Data presented by class interval table***	• **The student applies skills to summarize and analyze statistical data**	2	The eighth

			effectively.		
Exams and discussion	Using the computer Excel program	***Data summarization***	• **The student calculates measures of dispersion such as range, variance, standard deviation, and coefficient of variation for simple data.**	2	Ninth
Exams and discussion	Using the computer Excel program	***Measures of variability***	• **The student applies the calculation of dispersion measures using simple frequency distribution tables.**	2	tenth
Exams and discussion	Using the computer Excel program	***Range; variance; Standard deviation; Coefficient of variation***	• **The student understands the basic concepts in statistics and their importanc**	2	eleventh

			e in data analysis and decision making.		
Exams and discussion	Using the computer Excel program	***For simple data; data presented by simple frequency distribution table***	• **The student distinguishes between data sources, types of variables, measurement scales, and defines the population, sample, and random sampling methods.**	2	twelfth
Exams and discussion	Using the computer Excel program			2	thirteenth
Course Evaluation					
Daily exams, monthly and final theoretical and practical exams, classroom discussion					
Learning and teaching resources					
Ministerial portfolio			**Required textbooks (methodology)**		
			Main References (Sources)		
			Recommended supporting books and references (scientific (.journals, reports, etc		
			Electronic references, websites		

Course name
Nutrition
Course code
Nutrition
Semester/Year
Chapter Two \ 2025
Date of preparation of the description
15/9/2025
Available forms of attendance
Theoretical/Practical
Number of hours (total) / Number of units (total)
90 Hour, 4 units
Name of the course supervisor (if more than one name is mentioned): Name and university email
MṢc Hussein Abdul Hussein Mohammed .ataby88hussein@gmail.com
Course objectives (subject objectives)
The student learns about the most important components of food in general and for all age groups, .including women, children, and the elderly
Teaching and learning strategies
1. Giving theoretical lectures **2. Use the display screen method** **3. .Use open discussion method**

Course structure					
Evaluation method	**Learning method**	**Name of unit or topic**	**Required learning outcomes**	**watches**	**week**
Midterm and - daily exams **Reports -**	**Visual and audio**	**Definition of nutrition** **Food -** **Main - nutrients**	• **The student knows the concept of nutrition and its importance in maintaining general health.**	**2**	**the first**
Midterm and - daily exams **Reports -**	**Visual, audio and practical application**	**Energy calculation** **and physical activities**	• **The student explains the types of foods and their role as a source of energy and nutrients.**	**2**	**the second**
Midterm and - daily exams **Reports -**	**Visual, audio and practical application**	**Food components: proteins, carbohydrates** **Fats**	• **The student distinguishes between the major nutrients: carbohydrates, proteins, fats, vitamins, and minerals.**	**2**	**the third**

Midterm and - daily exams **Reports -**	**Visual, audio and practical application**	**large minerals**	• **The student calculates the energy the body needs according to age, gender, and level of physical activity.**	**2**	**Fourth**
Midterm and - daily exams **Reports -**	**Visual and audio**	**micro minerals**	• **The student explains the relationship between physical activity and nutritional needs.**	**2**	**Fifth**
Midterm and - daily exams **Reports -**	**Visual and audio**	**water-soluble vitamins**	• **The student explains the composition of food in terms of carbohydrates, proteins, and fats and their biological functions.**	**2**	**Sixth**
Midterm and - daily exams **Reports -**	**Visual and audio**	**fat-soluble vitamins**	• **The student distinguishes between major minerals and their importance in basic body functions.**	**2**	**Seventh**
Midterm and - daily exams **Reports -**	**Visual and audio**	**A deficiency**	• **The student learns about trace minerals and their vital roles in**	**2**	**The eighth**

			biochemical processes.		
Midterm and - daily exams Reports -	Visual and audio	D deficiency	• The student explains the functions of water-soluble vitamins, their sources, and symptoms of deficiency.	2	Ninth
Midterm and - daily exams Reports -	Visual and audio	Adolescent nutrition	• The student explains the functions of fat-soluble vitamins, their sources, and the effects of their deficiency on the body.	2	tenth
Midterm and - daily exams Reports -	Visual and audio	Nutrition for the elderly	• The student learns about the causes and symptoms of vitaminA deficiency and its effect on vision and immunity.	2	eleventh
Midterm and - daily exams Reports -	Visual and audio	Nutrition in the workplace	• The student explains the importance of vitaminD and the symptoms of its deficiency related to bone health.	2	twelfth
Midterm and - daily exams	Visual and audio	water	• The student understands	2	thirteenth

Reports -			**the nutritional needs of adolescents and the importance of nutritional balance at this stage.**		
Midterm and - daily exams **Reports -**	**Visual and audio**	**Fibers**	• **The student identifies the nutritional needs of the elderly and the effect of aging on absorption and metabolism.**	**2**	**fourteenth**
Midterm and - daily exams **Reports -**	**Visual and audio**	**Digestion and absorption of fats and proteins**	• **The student explains the importance of healthy nutrition in the work environment and its impact on productivity and health.**	**2**	**fifteenth**

Course Evaluation	
The grade is distributed out of 100 based on the tasks assigned to the student, such as daily .preparation, daily exams, oral and written exams, reports, etc	
Learning and teaching resources	
Nutritional slip	**Required textbooks (methodology if available)**

Joint lectures with the College of Health and Medical Technologies - Baghdad	Main References (Sources)
	Electronic references and websites

Course name
Epidemiology
Course code
Semester/Year
Second year/ Second semester 2026
Date of preparation of this description
15/9/2025
Available forms of attendance
Theoretical/Practical
Number of study hours (total) / Number of units (total)
hours 4 units 90
Course administrator name

Dr. Sami Ibrahim

Course objectives

.Definition of epidemiology and related concepts Application of the epidemiological model and the use of the natural history of health conditions((diseases To .provide health benefits to the community Calculating the incidence and spread of diseases and how to monitor diseases to limit their spread and prevent them Implementing disease prevention measures and providing .health care services Applying epidemiological studies to design and evaluate .disease control strategies and provide healthcare services	**Course objectives**
-	
-	

Teaching and learning strategies

:This course covers 1. .Lectures 2. .Discussion sessions 3. .Brainstorming 4. .Exchange ideas 5. .Daily projects	**Strategy**

Course structure (theoretical + practical)

Evaluation method	Learning method	Name of unit or topic	Required scientific outcomes	watches	week
Written test Reports Daily test	.Lectures Discussion .sessions .Brainstorming .Exchange ideas	History of Epidemiology	Study the history of epidemiology	2	the first
Written test Reports Daily test	.Lectures Discussion .sessions .Brainstorming	Definition of epidemiology and the purpose of studying epidemiology	Definition of epidemiology, its development over the years, and the	2	The second

	.Exchange ideas		objectives of epidemiology		
Written test Reports Daily test	.Lectures Discussion .sessions .Brainstorming .Exchange ideas	How diseases are transmitted and types of transmission methods	Factors and methods of disease transmission	2	the third
Written test Reports Daily test	.Lectures Discussion .sessions .Brainstorming .Exchange ideas	Factors leading to the spread of diseases and the epidemic triad	Knowing the epidemic triangle and what elements are required to achieve the disease, as well as studying examples of each point in the epidemic triad and what is the importance of the epidemic triad in the transmission of .diseases	2	Fourth
Written test Reports Daily test	.Lectures Discussion .sessions .Brainstorming .Exchange ideas	Methods of disease transmission	Knowing the methods of disease transmission, what is direct transmission, what is indirect transmission, how diseases are transmitted from one person to another, as well as how diseases are transmitted from animals to humans and what are the factors required for .disease transmission	2	Fifth
Written test Reports Daily test	.Lectures Discussion .sessions .Brainstorming	Environmental impact and its relationship to epidemiology	The impact of environmental factors on epidemiology and their impact on the	2	Sixth

	.Exchange ideas		spread of diseases among the population		
Written test Reports Daily test	.Lectures Discussion .sessions .Brainstorming .Exchange ideas	Disease control	Disease control strategy Transitional and disease control methods and what are the procedures followed to control diseases	2	Seventh
Written test Reports Daily test	.Lectures Discussion .sessions .Brainstorming .Exchange ideas	Description of diseases and their distribution according to place, time and place	Descriptive epidemiology and disease distribution	2	The eighth
Written test Reports Daily test	.Lectures Discussion .sessions .Brainstorming .Exchange ideas	herd immunity	Knowing the impact of vaccinating the largest possible number of people in society to eliminate and reduce infections and diseases and define what is called herd immunity	2	Ninth
Written test Reports Daily test	.Lectures Discussion .sessions .Brainstorming .Exchange ideas	Mortality rates	Mortality rate, types of mortality rates, and how to calculate each one	2	tenth
	.Lectures Discussion .sessions .Brainstorming .Exchange ideas	Types of epidemiological studies	Classification of types of epidemiological studies, explanation of each type, examples of each type, and the strengths and weaknesses of each .type	2	eleventh

		Prevalence and incidence rate of the disease	Calculating the incidence and prevalence rates of diseases among the population, types of disease incidence rates and disease prevalence, and what is the effect of increased prevalence on the population	2	twelfth
	.Lectures Discussion .sessions .Brainstorming .Exchange ideas	Descriptive epidemiological study	Descriptive epidemiology, its types and classifications	2	thirteenth
	.Lectures Discussion .sessions .Brainstorming .Exchange ideas	Analytical epidemiological study	Epidemiological analysis, its types, methods of measuring the association for each type, and its classifications	2	fourteenth
	.Lectures Discussion .sessions .Brainstorming .Exchange ideas	Epidemiological investigation	Investigating diseases and forming rapid response teams to limit the spread of diseases	2	fifteenth

Course Evaluation .11
Distribution of the grade out of 100 according to the tasks assigned to the student
Learning and teaching resources .12
Basic epidemiology, Gordis epidemiology sixth edition, world health organization, CDC,

Communicable Diseases :Course Name	
Course code	
2025-Semester/Year: -2025 2026	
:Date of preparation of this description	
2025/9/15	
.Available forms of attendance : lecture in the classroom	
Number of study hours (total) / Number of units (total) : 2 hours / 4 units	
: Name of the course supervisor (if more than one name is mentioned)	
	MSc ..Ameer Ali
Course objectives	
Recognition .1 on diseases that Move from person to last And animal to man Get to know .2 The student on Ways transmission diseases In the picture General And definitions used in The material .3 recognize The student on diseases that Caused by Viruses and bacteria Learn .4 how Controls or It is forbidden this h diseases	**Course objectives**

:Learning and teaching strategies

The education in this program includes theoretical education that focuses on studying scientific .1 problems using a purely scientific approach that aims to understand the basis of the problem and find solutions to it, and practical education that provides practical experience in conducting experiments and .research through the use of approved methods in conducting scientific research

Learning, both theoretical and practical, depends on cooperation between the student and the teacher .2 to understand the lesson as much as possible and overcome obstacles that hinder the student's .understanding or impede his/her experiments in the laboratory

Encourage students to use scientific books and articles, whether printed or electronic, because they .3 greatly help in retaining information and provide an opportunity for presenting discussions and .conclusions

Course structure (theoretical part - first course)

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	***Arthropod born viral diseases***	The student knows the diseases viral that Move on road Arthropods	**2**	**the first**
Daily exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	***Hepatitis virus A***	The student is known to have .viral hepatitis A	**2**	**the second**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	***Hepatitis virus B***	The student is known to have hepatitis B .virus	**2**	**the third**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	***Hepatitis C***	The student is known to have .hepatitis C	**2**	**Fourth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	***AIDS***	The student knows about .AIDS	**2**	**Fifth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	***Whooping cough***	The student knows the disease of cough The rooster	**2**	**Sixth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	***Diphtheria***	The student knows .diphtheria	**2**	**Seventh**
Exams and discussion	**Present the lecture via**	***Clostridia infections - tetanus***	The student .knows tetanus	**2**	**The eighth**

	PowerPoint and discuss with the .students				
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	***Tetanus neonatrum***	The student understands congenital .tetanus	**2**	**Ninth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	***Brucellosis***	The student is known as Malta .fever	**2**	**tenth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	***Anthrax***	The student .knows anthrax	**2**	**eleventh**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	***Bacterial meningitis***	The student is known as bacterial .meningitis	**2**	**twelfth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**		The student is known as bacterial .meningitis	**2**	**thirteenth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	***Viral meningitis***	The student knows viral .meningitis	**2**	**fourteenth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	***Revision of prevention measures***	Review what was explained during the chapter	**2**	**fifteenth**
Course structure (theoretical part - second course)					

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**General introduction to infectious diseases with historical review**	The student knows an introduction to .injury prevention	**2**	**the first**
Daily exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Transmission of infectious diseases**	The student understands .general definitions	**2**	**the second**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Isolation measures for infectious diseases**	The student understands the ways in which diseases are .transmitted	**2**	**the third**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Definitions**	The student knows the measures of .injury prevention	**2**	**Fourth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**		The student understands the relationship of epidemiology	**2**	**Fifth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**		The student knows what the pathogen .is	**2**	**Sixth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Viral diseases Measles**	The student knows .what a host is	**2**	**Seventh**

Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Rubella**	The student knows what the .environment is	**2**	**The eighth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Congenital rubella**	The student understands the chain of disease .occurrence	**2**	**Ninth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Chicken pox and herpes zoster**	The student understands the chain of disease .occurrence	**2**	**tenth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Small pox**	The student understands the chain of disease .occurrence	**2**	**eleventh**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Common cold and influenza**	The student understands the chain of disease .occurrence	**2**	**twelfth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Enter – virus, polyomyelitis**	The student understands the chain of disease .occurrence	**2**	**thirteenth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Rabies**	The student understands the chain of disease .occurrence	**2**	**fourteenth**
Exams and discussion	**Present the lecture via PowerPoint and discuss**	**Mumps and infectious mononucleosis**	The student understands the chain of disease .occurrence	**2**	**fifteenth**

	with the .students				

Course structure (practical part - first course)					
Evaluation method	**Learning method**	**Name of unit or topic**	**Required learning outcomes**	**watches**	**week**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Introduction to the meaning of prevention control	The student knows an introduction to .injury prevention	**2**	**the first**
Daily exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Definition of the technical terms used in the subject	The student understands general .definitions	**2**	**the second**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Transmission of infectious diseases	The student understands the ways in which diseases are .transmitted	**2**	**the third**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Isolation measures of infectious diseases	The student knows the measures of .injury prevention	**2**	**Fourth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Epidemiological triad	The student understands the relationship of epidemiology	**2**	**Fifth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Agent	The student knows .what the pathogen is	**2**	**Sixth**
Exams and discussion	**Present the lecture via PowerPoint and discuss**	Host	The student knows .what a host is	**2**	**Seventh**

	with the .students				
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Environment	The student knows what the .environment is	**2**	**The eighth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Chain of events in an infectious process – reservoir	The student understands the chain of disease .occurrence	**2**	**Ninth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Chain of events in an infectious process – portal of exit	The student understands the chain of disease .occurrence	**2**	**tenth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**		The student understands the chain of disease .occurrence	**2**	**eleventh**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Chain of events in an infectious process – agent transmission and entry	The student understands the chain of disease .occurrence	**2**	**twelfth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**		The student understands the chain of disease .occurrence	**2**	**thirteenth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	Chain of events of events in an infectious process – host	The student understands the chain of disease .occurrence	**2**	**fourteenth**
Exams and discussion	**Present the lecture via PowerPoint**		The student understands the	**2**	**fifteenth**

	and discuss with the .students		chain of disease .occurrence		

Course structure (practical part - second course)					
Evaluation method	**Learning method**	**Name of unit or topic**	**Required learning outcomes**	**watches**	**week**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Diseases statistics, incidence, prevalence, mortality rate and case fatality rate**	The student knows about statistics. diseases, an average injury, spread, an average Deaths And the rate Deaths	**2**	**the first**
Daily exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**		The student knows about statistics. diseases, an average injury, spread, an average Deaths And the rate Deaths	**2**	**the second**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**		The student knows about statistics. diseases, an average injury, spread, an average Deaths And the rate Deaths	**2**	**the third**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Epidemic measures in control of infectious diseases**	The student knows about epidemiological methods for controlling communicable .diseases	**2**	**Fourth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Health education in infection diseases**	The student knows about .health promotion	**2**	**Fifth**
Exams and discussion	**Present the lecture via**	**Notification of diseases**	The student knows about the	**2**	**Sixth**

	PowerPoint and discuss with the .students		notification. with diseases		
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**International measures in control of infectious diseases**	The student knows about measures International to control on diseases contagious	**2**	**Seventh**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Control of blood borne diseases**	The student knows about control over Combating diseases Movable With blood	**2**	**The eighth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**		The student knows about control over Combating diseases Movable With blood	**2**	**Ninth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**		The student knows about control over Combating diseases Movable With blood	**2**	**tenth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Control of water and food borne diseases**	The student knows about Combating diseases Movable on road water and food	**2**	**eleventh**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Control of arthropod borne diseases**	The student knows about Combating diseases Movable on road Arthropods	**2**	**twelfth**
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Visits to the communicable diseases center**	The student knows about Visits to center diseases contagious	**2**	**thirteenth**
Exams and discussion	**Present the lecture via PowerPoint and**	**Visit the TB Institute**	The student visit knows about	**2**	**fourteenth**

	discuss with the .students		to institute tuberculosis		
Exams and discussion	**Present the lecture via PowerPoint and discuss with the .students**	**Visit the isolation hospital**	The student visit knows about to hospital Insulation	**2**	**fifteenth**

Course Evaluation		
Daily exams, monthly and final theoretical and practical exams, classroom discussion		
Learning and teaching resources		
	Required textbooks (methodology)	
	Main References (Sources)	
	Recommended supporting books and references scientific journals, reports,) (.etc	
	Electronic references, websites	

Course name
Pharmaceuticals
Course code

Semester/Year
2025-2026
Date of preparation of the description
2025/9/15
Available forms of attendance
hall
Number of hours (total) / Number of units (total)
240 units 4
Name of the course supervisor (if more than one name is mentioned): Name and university email .7
Dr Ghufran Muhammad Qawwas .gh0ufrankw@gmail.com **MSc Hawra Bassem Mohammed .horahora9392@gmail.com**
General objective: The student should be familiar with Course objectives (course objectives) .8 .understanding the effects of medications and their various uses **1. Specific objective: To understand the mechanism of action of different types of drugs, drug .interactions, drug kinetics, and side effects of each drug**
Teaching and learning strategies .9
Educational lectures **Conducting important studies** **Scientific research to serve society** **Informative and explanatory videos**

Course structure (theoretical part) .10					
Evaluation method	**Learning method**	**Name of unit or topic**	**Required learning outcomes**	**watches**	**week**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Principles of Drug Therapy**	• **The student understands the basic principles of drug therapy and the mechanism of action of drugs in the body.**	**2**	**the first**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Pharmacokinetic & Pharmacodynamic**	• **The student distinguishes between pharmacokineticsand pharmacodynamics.**	**2**	**the -second**

Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Drugs Affecting the Autonomic Nervous System**	• **The student explains the effect of drugs on the autonomic nervous system and its role in controlling involuntary body functions.**	**2**	**the third**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Adrenergic system**	• **The student knows the drugs that affect the adrenergic systemand their clinical effects.**	**2**	**Fourth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Cholinergic system**	• **The student explains the effect of drugs on the cholinergic system and their medical uses.**	**2**	**Fifth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Drugs Affecting the Central Nervous System**	• **The student explains the drugs that affect the central nervous system and their effect on neurological and psychological functions.**	**2**	**Sixth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Drugs Affecting the Cardiovascular & Renal System I**	• **The student learns about the medications used to treat heart and kidney diseases - Part One.**	**2**	**Seventh**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Drugs Affecting the Cardiovascular & Renal System II**	• **The student explains the effect of drugs on the heart and kidneys - Part II - with clinical examples.**	**2**	**The eighth**

Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Drugs Affecting the Cardiovascular & Renal System III**	• **The student continues to explain cardiac and renal medications - Part Three - with a focus on compound medications and interactions.**	**2**	**Ninth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Antihyperlipidemic agents**	• **The student distinguishes between lipid-lowering agents, their types, and their pharmacological effects.**	**2**	**tenth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Review & Exam**	• **The student reviews what he has learned through a comprehensive review in preparation for the final exam.**	**2**	**eleventh**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Diabetes mellitus I**	• **The student explains the medications used to treat type 1 diabetes.**	**2**	**twelfth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Diabetes mellitus II**	• **The student explains the drug treatment for type 2 diabetes.**	**2**	**thirteenth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Oral Hypoglycemic agent**	• **The student knows oral hypoglycemic drugs, their mechanism of action and their indications.**	**2**	**fourteenth**

Exams, discussions and reports	Present the lecture through discussion	Drugs for Anemia	• The student explains the types of medications used to treat anemia and the mechanism of their effect in improving .blood conditions	2	fifteenth

Course structure (practical part)					
Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams, discussions and reports	Presentation of the lecture via PowerPoint discussion	Routs of drug administration	• The student knows the different methods and means of administering medication and their impact on the speed and effectiveness of treatment.	2	the first
Exams Discussion and reports	Presentation of the lecture via PowerPoint discussion	Onset and duration of drugs	• The student explains the onset time of the drug's effect and the duration of its effect in the body.	2	the second
Exams, discussions and reports	Presentation of the lecture via PowerPoint discussion	Drug toxicity on liver	• The student explains the toxicity of drugs and their harmful effects on the liver.	2	the third

Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Drug toxicity on liver II**	• **The student continues to study the toxicity of drugs on the liver with a focus on clinical cases.**	**2**	**Fourth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Routs of drug administration**	• **The student re-explains the methods of drug administration and compares them in terms of effectiveness and safety.**	**2**	**Fifth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Roots of drug administration II**	• **In the second part, the student delves into the study of drug administration methods with practical applications.**	**2**	**Sixth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Pesticide toxicity**	• **The student explains the toxicity of pesticides and their impact on human health and the environment.**	**2**	**Seventh**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Nicotine toxicity**	• **The student knows the toxicity of nicotine and its negative health effects.**	**2**	**The eighth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Drug-induced toxicity I**	• **The student explains the forms of drug toxicity and their causes - Part One.**	**2**	**Ninth**
Exams, discussions and reports	**Presentation of the lecture via PowerPoint discussion**	**Drug-induced toxicity II**	• **The student continues the study of drug toxicity - Part II - with a focus on symptoms and treatment.**	**2**	**tenth**

Exams, discussions and reports	Presentation of the lecture via PowerPoint discussion	Drug-induced toxicity III	• The student delves into the study of drug toxicity - Part III - with practical cases.	2	eleventh
Exams, discussions and reports	Presentation of the lecture via PowerPoint discussion	General introduction to practical toxicology	• The student is introduced to a general introduction to applied toxicology and its objectives.	2	twelfth
Exams and discussions and reports	Presentation of the lecture via PowerPoint discussion	Cardiac glycosides toxicity: Digitalis.	• The student explains the toxicity of cardiac glycosides such as digitalis and its clinical impact.	2	thirteenth
Exams, discussions and reports	Presentation of the lecture via PowerPoint discussion	Evaluation of drug toxicity on human	• The student evaluates methods of evaluating drug toxicities and their effects on humans.	2	fourteenth
Exams, discussions and reports	Presentation of the lecture via PowerPoint discussion	Cases on toxicity with foods and dietary supplements	• The student analyzes cases of poisoning related to foods and nutritional supplements and ways to deal with them.	2	fifteenth

Course Evaluation	
The grade is distributed out of 100 based on the tasks assigned to the student, such as daily .preparation, daily exams, oral and written exams, reports, etc	
Learning and teaching resources	
	Required textbooks (methodology if available)
	Main References (Sources)
	Electronic references and websites

Course name
computer applications
Course code
Semester/Year
Second semester 20262025/
Date of preparation of the description
20/11/2025
Available forms of attendance
.Lecture in classrooms
Number of hours (total) / Number of units (total)
hours / 2 units 3
Name of the course supervisor (if more than one name is mentioned): Name and university email
MSc Ihsan Ali Musa :Email Ehiq90@gmail.com
Course objectives (subject objectives)
.1 Providing a general idea about the computer as one of the basic tools in various fields, and explaining its importance as a means of processing data and performing digital tasks .2 Building a scientific foundation around the course topics so that students can expand their knowledge and understanding of various computer technologies by reviewing relevant scientific sources .3 Understand the importance of computers in our daily lives by studying the applications used in various fields, such as medicine, engineering, and education, and how to use computers to solve problems using scientifically correct methods .4 Studying modern technologies that play a fundamental role in software development and data analysis, such as artificial intelligence, cloud computing, and information security, enhances students' technical skills .5 Expanding scientific and academic research and striving to create unique and useful scientific research that enables both students and professors to develop new technical solutions that contribute to improving academic and professional performance and enhancing opportunities to enter the job market
Teaching and learning strategies
.1 Combining theoretical and practical learning: Learning in this course includes a theoretical understanding of the basic principles of computer applications, with a focus on analyzing technical problems and finding appropriate software solutions, in addition to practical learning that enables students to acquire applied skills in using various computer programs and tools

Student-faculty interaction and collaboration: Learning in this course relies on direct .2 interaction between students and faculties to understand and apply programming concepts in practice, while providing guidance to solve technical problems students may encounter during .projects and practical experiments **Encouraging research and the use of diverse sources: Students are encouraged to research .3 scholarly books and articles, both printed and electronic, as well as to access specialized training courses and educational platforms. This contributes to enhancing practical understanding and .enabling them to develop their programming and data analysis skills more deeply**

Course structure .10					
Evaluation method	**Learning method**	**Name of unit or topic**	**Required learning outcomes**	**wat ches**	**week**
Exams and discussion	Show lecture about Power Point Road And discussion . with students	**Computer security**	• **The student knows the concept of computer security and its importance in protecting data and systems.**	**2**	**the first**
Exams and discussion	Show lecture about Power Point Road And discussion . with students	**Forms of transgressions in the digital world**	• **The student distinguishes between forms of abuse and threats in the digital world and their impact on users.**	**2**	**the second**
Exams and discussion	Show lecture about Power Point Road And discussion .with students	**Computer privacy**	• **The student explains the concept of computer privacy and ways to maintain it.**	**2**	**the third**
Exams and discussion	Show lecture about Power Point Road	**Computer licenses**	• **The student knows the types of computer licenses and the**	**2**	**Fourth**

	And discussion .with students		**importance of adhering to them.**		
Exams and discussion	Show lecture about Power Point Road And discussion .with students	**intellectual property**	• **The student explains the concept of intellectual property and the protection of property rights in the digital domain.**	**2**	**Fifth**
Exams and discussion	Show lecture about Power Point Road And discussion .with students	**electronic hacking**	• **The student explains the phenomenon of cyber hacking and its various methods.**	**2**	**Sixth**
Exams and discussion	Show lecture about Power Point Road And discussion .with students	**Viruses**	• **The student knows computer viruses, their types and their impact on systems.**	**2**	**Seventh**
Exams and discussion	Show lecture about Power Point Road And discussion .with students	**Types of viruses**	• **The student distinguishes between different types of electronic viruses and the characteristics of each one.**	**2**	**The eighth**
Exams and discussion	Show lecture about Power Point Road	**Steps to protect against hacking**	• **The student applies steps and methods of protection against electronic hacking.**	**2**	**Ninth**

	And discussion .with students				
Exams and discussion	Show lecture about Power Point Road	**Introduction to Artificial Intelligence**	• **The student will have an introduction to artificial intelligence and its basic fields.**	**2**	**tenth**
Exams and discussion	Show lecture about Power Point Road And discussion .with students	**History of Artificial Intelligence**	• **The student reviews the history of the development of artificial intelligence and its most prominent milestones.**	**2**	**eleventh**
Exams and discussion	Show lecture about Power Point Road And discussion .with students	**Artificial intelligence techniques**	• **The student explains various artificial intelligence techniques such as machine learning and neural networks.**	**2**	**twelfth**
Exams and discussion	Show lecture about Power Point Road And discussion .with students	**Artificial intelligence applications**	• **The student learns about the applications of artificial intelligence in practical and industrial life.**	**2**	**thirteenth**
Exams and discussion	Show lecture about Power Point Road And discussion .with students	**Shift to artificial intelligence**	• **The student explains the process of digital transformation towards artificial intelligence and its importance.**	**2**	**fourteenth**

Exams and discussion	Show lecture about Power Point Road And discussion .with students	**Artificial Intelligence Ethics**	• **The student explains the ethics of artificial intelligence, its impact on society, and the responsible use of technology.**	**2**	**fifteenth**

Course Evaluation	
The grade is distributed out of 100 based on the tasks assigned to the student, such as daily .preparation, daily exams, oral and written exams, reports, etc	
Learning and teaching resources	
	Required textbooks (methodology if available)
Computer Basics and Office Applications (Part Two - Part Three) **Asst. Prof. Dr. Ziad Mohammed Abboud**	**Main References (Sources)**
	Electronic references and websites

Course Name ,Advanced Biostatistics
: Course code
Semester/Year: 20262025-
: Date this description was prepared 2025/9/15
.Available attendance forms : lecture in the classroom + laboratory
Number of study hours (total) / Number of units (total) : 4 hours / 3 units

: Name of the course administrator (if more than one name is mentioned)	
MṣcMohammed Faleh Younis	:Emailmuhammedfaleh@yahoo.com
Course objectives	
Course objectives	**Introducing the student to vital statistical measures and their applications in the field of public health or** **Community health to enable** **For professionals who contribute to the development and modernization of public health programs** **Especially through their possession of scientific .methods in the field of statistical data analysis** **Medical and biological**

:Learning and teaching strategies

27. The education in this program includes theoretical education that focuses on studying scientific problems using a purely scientific approach, aiming to understand the basis of the problem and find solutions to it, and practical education that provides practical experience in conducting experiments and .research using approved methods in conducting scientific research
28. Learning, both theoretical and practical, depends on cooperation between the student and the teacher to understand the lesson as much as possible and overcome any obstacles that hinder the student's .understanding or impede his or her experiments in the laboratory
29. Encourage students to use academic books and articles, whether printed or electronic, as they .greatly help retain information and allow for discussion and conclusions

Cognitive objectives

.Enabling the student to obtain the most important components of the applied statistics subject (1

.The student is able to obtain statistical methods related to data processing (2

Enabling the student to obtain methods for collecting and classifying data and conducting sample (3

.surveys

Course skill objectives

.Enabling students to calculate point index estimates and display the data table (1

.Enabling students to use period estimation methods and hypothesis testing (2

.Enabling the student to classify girls and conduct surveys (3

5- Course structure (theoretical part)

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Normal distribution curve***	• **The student explains the shape of the normal distribution curve and its statistical properties.**	2	the first

Daily exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Importance of NDC; Sampling***	• **The student explains the importance of the normal distribution curve in sampling and data analysis.**	2	the second
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***variation; Standard error of mean; 95% class interval .***	• **The student understands the concept of sampling variationand its impact on the results of the study.**	2	the third
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***variation; Standard error of mean; 95% class interval.***	• **The student calculates the standard errorof the mean and uses it in the estimates.**	2	Fourth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	*Probability; concept of probability*	• **The student explains the concept of the 95% confidence interval and its importance in estimating the accuracy of results.**	2	Fifth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***types of probability; Classical (priori); Relative frequency (posteriori)***	• **The student explains the concept of probability and its different types: classical probability (a priori) and probability by relative frequency(a posteriori).**	2	Sixth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***types of probability; Classical (priori); Relative frequency (posteriori)***	• **The student applies theT-test to analyze the differences between the means of two groups.**	2	Seventh
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***T-test***	• **The student uses theChi-square test to analyze distributions and qualitative differences.**	2	The eighth

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***T-test***	• **The student interprets an analysis of variance(ANOVA) to test differences between more than two groups.**	2	Ninth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Chi-square test***	• **The student calculates the simple linear correlation coefficient to understand the relationship between two variables.**	2	tenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Chi-square test***	• **The student reviews all previous statistical concepts and tests to enhance applied understanding.**	2	eleventh
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***ANOVA***	• **The student explains the shape of the normal distribution curve and its statistical properties.**	2	twelfth
Exams and discussion	Presentation of the lecture via PowerPoint and discussion		• **The student explains the importance of the normal distribution curve in sampling and data analysis.**	2	thirteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Correlation (simple linear correlation .(***	• **The student understands the concept of sampling variationand its impact on the results of the study.**	2	fourteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Review***	• **The student calculates the standard errorof the mean and uses it in the estimates.**	2	fifteenth
.11 Course Structure (Practical Part)					

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams and discussion	Using the computer Excel program	Normal distribution curve	**The student interprets the normal distribution curve and usesExcel to apply and analyze data related to it, while preparing for exams and discussions.**	2	the first
Exams and discussion	Using the computer Excel program	Importance of NDC; Sampling	**The student understands the importance of the normal distribution curve and sampling, and applies this using Excel while preparing , for exams and discussion.**	2	the second
Exams and discussion	Using the computer Excel program	variation; Standard error of mean; 95% class interval.	**The student explains the sample variance, standard error of the mean, and 95% confidence interval, and usesExcel to calculate and analyze them, in preparation for exams and discussion.**	2	the third
Exams and discussion	Using the computer Excel program	variation; Standard error of mean; 95% class interval.	**The student reviews the same concepts variability, standard) error, confidence interval) usingExcel and participates in exams and discussions.**	2	Fourth
Exams and discussion	Using the computer Excel program	**Probability; concept of probability**	**The student understands the concept of probability and its types, usesExcel in probability applications, and**	2	Fifth

			prepares for exams and discussions.		
Exams and discussion	Using the computer Excel program	types of probability; Classical (priori); Relative frequency (posteriori)	**The student distinguishes between types of probability (classical and recursive), and applies them viaExcel while preparing for , exams and discussions.**	2	Sixth
Exams and discussion	Using the computer Excel program	types of probability; Classical (priori); Relative frequency (posteriori)	**The student revisits the different types of probability usingExcel and submits exams and discussions.**	2	Seventh
Exams and discussion	Using the computer Excel program	T-test	**The student applies a T-test usingExcel to examine the differences between groups, while preparing for exams and discussion.**	2	The eighth
Exams and discussion	Using the computer Excel program	T-test	**The student reviews theT-test and uses Excel for calculations, in preparation for exams and discussion.**	2	Ninth
Exams and discussion	Using the computer Excel program	Chi-square test	**The student uses the Chi-square test viaExcel to analyze qualitative data, while preparing for exams and discussion.**	2	tenth
Exams and discussion	Using the computer Excel program	Chi-square test	**The student reviews theChi-square test and applies calculations inExcel while preparing for exams and discussion.**	2	eleventh
Exams and discussion	Using the computer Excel program	ANOVA	**and applies Analysis of Variance(ANOVA) using Excel preparing ,**	2	twelfth

			for exams and discussion.		
Exams and discussion	Using the computer Excel program			2	thirteenth
Course Evaluation .12					
Daily exams, monthly and final theoretical and practical exams, classroom discussion					
Learning and teaching resources .13					
Ministerial portfolio			**Required textbooks (methodology)**		
			Main References (Sources)		
			Recommended supporting books and references (scientific (.journals, reports, etc		
			Electronic references, websites		

Course name
Health survey
Course code
Health survey
semester/year
Second course (Community Health Department)
Description preparation date
2025/9/15
Available forms of attendance
theoretical
Number of hours (total) / Number of units (total)
hours 30
Course instructor name: Name and university email
Dr. Doha Jihad Muhammad **Doha.j.mohammad@nust.edu.iq**
Course objectives (course objectives)
1- .The student should be able to know the basic principles of health survey and its basic steps **2- .The student will be able to distinguish between different types of health surveys** **3- .Knows how to do a health check** **4- .Method of collecting and investigating data**
Teaching and learning strategies
Teaching and learning strategies for health survey **Teaching health surveys requires focus** on data collection tools, statistical analysis, field work, and .community case studies **:Here are the most important strategies used** **First: Teaching strategies** **1. Problem-based learning** **2. Inquiry-based teaching** **3. Cooperative learning -** **4. Clinical case-based learning-** **5. Interactive teaching -** **6. Experience-based learning-** **Second: Learning strategies for students** **1. Mind maps and conceptual diagrams** **2. Technology-based education -** **3. Brainstorming teaching technique** **4. Storytelling teaching strategy** **5. Learning through modeling**

Course structure

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Oral tests	Theoretical and practical lectures	Definition of health survey	to the Introduction definition of health survey	2	the first
Oral test	Presentation and discussion	Uses of health screening systems	Introducing students to the uses of public health survey systems	2	the second
Oral exam	Active learning and practical applications	Components of health screening systems	Understanding the components of public health screening systems	2	the third
Written test	Active learning	active monitoring	Understanding Active Surveillance	2	Fourth
Oral test	Presentations and images	passive monitoring	Understanding Passive Monitoring	2	Fifth
Oral test	Clinical case study	Health survey data sources	Knowledge of General Health Survey data sources	2	Sixth
Oral tests and questions	Lectures	Control center strategy	Focus on theCDC's Public Health Survey Strategy	2	Seventh
Oral tests and questions	Presentations and lectures	Health survey objectives	Health survey objectives: Understanding	2	The eighth
Oral test	Presentations and lectures	Health survey steps	Knowing the steps of the health survey	2	Ninth
Oral test	Clinical case analysis	How to choose a health survey	Knowing how to test the health scan	2	tenth
Written test	Lecture and discussions	Mechanism of occurrence of health events	Understanding the mechanism of health events	2	eleventh
Tests	Self-learning and presentation	How to evaluate a health survey	Understanding how to evaluate a general health survey	2	twelfth

Oral test	**Presentation**	**Health survey plans**	**Develop health survey plans**	**2**	**thirteenth**
Written test	**Presentation**	**Types of health survey**	**Knowing the types of health surveys**	**2**	**fourteenth**
Comprehensive written test	**Presentation**	**Successful health survey**	**Knowing what a successful health screening program looks like**	**2**	**fifteenth**

Course Evaluation	
The grade is distributed out of 100 based on the tasks assigned to the student, such as daily .preparation, daily exams, oral and written exams, reports, etc	
Learning and teaching resources	
"Principles and Practice of Public Health Surveillance" "Transforming Public Health Surveillance"	**Required textbooks (methodology if available)**
Public Health Surveillance "The Power of Public Health Surveillance"	**Main References (Sources)**
"Public Health Surveillance: A Tool for Targeting and Monitoring Interventions" "Concepts, Objectives and Analysis of Public Health Surveillance Systems"	**Electronic references and websites**

:Course name	
Toxicology	
: Course code	
:Semester/Year	
My semester (courses)	
:Date this description was prepared	
2025/9/15	
: Available attendance forms	
Lecture in the classroom + laboratory	
: Number of study hours (total) / Number of units (total)	
hours of theory + 2 hours of practical work per week / 3 units	
Name of the course administrator (if more than one name is mentioned)	
:Emailghoufrankw@gmail.com **:Emailhorahora9392@gmail.com**	**(Theoretical aspect)** **Dr. Ghufran Muhammad Mut'i' Qawas** **(Practical side)** **Msc Hawra. Basem Muhammad .**
6- Course objectives	
The most important objectives of this course are: Students will be able to: 1- Understanding the toxicants in the environment, describe their route enter the body. 2 -Describe metabolic process, distribution, and excretion from the body. 3 -Undertand the effect of toxicants in the living body. 4 -Know the fundamental problems of toxicants in the world 5 -Determine sources of toxicants 6 -enhance their interest in gaining information about toxicants from websites :This course aims to enable students to 1- Understand toxins in the environment and describe .their pathway into the body 2- Describe the process of metabolism, its .distribution, and its excretion from the body 3- Understanding the effect of toxins on the living .body	**Course objectives**

4- Knowing the main problems of toxic materials -4 .in the world 5- .Identifying sources of toxins -5 6- Encourage their interest in obtaining information about toxins .from websites	

:Learning and teaching strategies

DirectInstruction
Lectures (questions and discussion)
Laboratory skills
Whiteboard

Technology-Based **Learning**

Includes the use of technology tools such as educational videos, augmented reality, and e-learning.

ScaffoldingLearning

Interactive **Teaching**

Question- **Based Teaching**

ExperientialLearning

Course structure (theoretical part)

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
First semester					
1-Written ExamsMCQ 2-Evaluation through group discussions (Group Discussions & Debates) 3- OralExams	Present the lecture using PowerPoint, using diagrams on the board, and discuss with the .students	-Introduction to toxicology -definition and scope -relationship to other sciences - sources of toxic compounds - Movement of toxicants in the environment	Introduction to - Toxicology of Definition - toxicology terms Relationship - with other sciences Sources of toxic compounds **Transfer of - toxic substances into the environment**	2	1

1-Written ExamsMCQ 2-Evaluation through group discussions (Group Discussions & Debates) 3- OralExams	Present the lecture via PowerPoint, use diagrams on the board, and discuss with the .students	-Dose–response relationships -absorption and distribution -biotransformation and excretion	Dose-response relationships Absorption and - distribution - Biotransformatio n and excretion	**2**	2
1-Written) ExamsMCQ (2-Evaluation through group discussions (Group Discussions & Debates) 3- OralExams	Present the lecture using PowerPoint, using diagrams on the board, and discuss with the .students	- Classes of toxicant - toxicants in air -types of air toxicants - sources of air toxicants Examples of air toxicant -environmental effects of air toxicants	Categories of - toxic substances Toxic - substances in the air Types of toxic substances in the air Sources of toxic substances in the air Examples of toxic substances in the air **Environmental effects of toxic substances in the air**	**2**	3
1- Written) ExamsMCQ (Evaluation -2 through group discussions (Group Discussions & Debates) 3- Oral Exams	Present the lecture via PowerPoint, use diagrams on the board, and discuss with the .students	- Water and soil toxicants - Sources of water and soil toxicants - Examples of toxicant, lead, arsenic, cadmium, dioxins	- Water and soil toxins - Sources of water and soil toxins **Examples of toxic substances: lead, arsenic, cadmium, dioxins**	**2**	4
1- Written Exams)MCQ (-2 Evaluation through group discussions and debates 3- Oral Exams	Present the lecture via PowerPoint and discuss with the .students	Mercury, pesticides, nitrates and phosphates Oils and petroleum .	Mercury, pesticides, nitrates, phosphates, oils and petroleum	**2**	5

1- Written Exams)MCQ (Evaluation -2 through group discussions (Group Discussions & Debates) 3- Oral Exams	Present the lecture using PowerPoint, using diagrams on the board, and discuss with the .students	Occupational toxicants Regulation of exposure levels Routes of exposure	Occupational toxins Regulating exposure levels Exposure methods	**2**	6
1- Written Exams)MCQ (Evaluation -2 through group discussions (Group Discussions & Debates) 3- Oral Exams	Present the lecture using PowerPoint, using diagrams on the board, and discuss with the .students	Examples of industrial toxicants	Examples of industrial toxins.	**2**	7
1- Written Exams)MCQ (Evaluation -2 through group discussions (Group Discussions & Debates) 3- Oral Exams	Present the lecture using PowerPoint, using diagrams on the board, and discuss with the .students	Toxic action Mechanisms of acute toxicity	toxic effect Mechanisms of acute toxicity	**2**	8
1- Written Exams)MCQ (Evaluation -2 through group discussions (Group Discussions & Debates) 3- Oral Exams	Present the lecture using PowerPoint, using diagrams on the board, and discuss with the .students	Mechanisms of acute toxicity	Mechanisms of acute toxicity.	**2**	9
1- Written Exams)MCQ (Evaluation -2 through group discussions (Group Discussions & Debates) 3- Oral Exams	Present the lecture using PowerPoint, using diagrams on the board, and discuss with the .students	Organ toxicity, hepatotoxicity, mechanisms of hepatotoxicity Examples of hepatotoxicants carbon tetrachloride, ethanol	Organ toxicity, liver toxicity, mechanisms of liver toxicity Examples of liver toxic substances Carbon tetrachloride, ethanol.	**2**	10

1- Written Exams)MCQ (Evaluation -2 through group discussions (Group Discussions & Debates) 3- Oral Exams	Present the lecture using PowerPoint, using diagrams on the board, and discuss with the .students	Neurotoxicity	neurotoxicity	**2**	11
1- Written Exams)MCQ (Evaluation -2 through group discussions (Group Discussions & Debates) 3- Oral Exams	Present the lecture using PowerPoint, using diagrams on the board, and discuss with the .students	Nephrotoxicity, example metal (cadmium), antimicrobial agents(cephalosporin)	Nephrotoxicity, e.g. metal (cadmium), antimicrobial agents (cephalosporins)	**2**	12
1- Written Exams)MCQ (Evaluation -2 through group discussions (Group Discussions & Debates) 3- Oral Exams	Present the lecture using PowerPoint, using diagrams on the board, and discuss with the .students	Reproductive system toxicity	Reproductive system toxicity	**2**	13
1- Written Exams)MCQ (Evaluation -2 through group discussions (Group Discussions & Debates) 3- Oral Exams	Present the lecture using PowerPoint, using diagrams on the board, and discuss with the .students	Endocrine toxicology, Respiratory tract toxicology	Endocrine , Toxicology Respiratory Toxicology	**2**	14
1- Written Exams)MCQ (Evaluation -2 through group discussions (Group Discussions & Debates)	Present the lecture using PowerPoint, using diagrams on the board, and discuss with the .students	Immune system toxicology	immunotoxicology	**2**	15

3- Oral Exams					
. Course Structure (Practical Part)					
Evaluation method	**Learning method**	**Name of unit or topic**	**Required learning outcomes**	**watches**	**week**
Formative Assessment Practical and clinical assessment Summative Assessment	Present the lecture via PowerPoint, use diagrams on the board, conduct practical tests, and discuss .with students	General introduction to practical toxicology.	A general introduction to practical .toxicology	**2**	**1**
Formative Assessment Practical and clinical assessment Summative Assessment	Present the lecture via PowerPoint, use diagrams on the board, conduct practical tests, and discuss .with students	Acute toxicity study, determination of LD50	Acute toxicity study, determination of the lethal dose (LD50)	**2**	**2**
Formative Assessment Practical and clinical assessment Summative Assessment	Present the lecture via PowerPoint, use diagrams on the board, conduct practical tests, and discuss .with students	Drug toxicity on liver .	Drug toxicity on the liver	**2**	**3**
Formative Assessment Practical and clinical assessment Summative Assessment	Present the lecture via PowerPoint, use diagrams on the board, conduct practical tests, and discuss .with students	Nicotine toxicity.	Nicotine .toxicity	**2**	**4**
Formative Assessment Practical and clinical assessment Summative Assessment	Present the lecture via PowerPoint, use diagrams on the board, conduct practical tests, and discuss .with students	Metal toxicity.	Metal toxicity	**2**	**5**
Formative Assessment Practical and clinical assessment	Present the lecture via PowerPoint, use diagrams on the board, conduct practical	Culture media .	.Nutrient media	**2**	**6**

Summative Assessment	tests, and discuss .with students				
Formative Assessment Practical and clinical assessment Summative Assessment	Present the lecture via PowerPoint, use diagrams on the board, conduct practical tests, and discuss .with students	Bacterial toxin .	bacterial toxins	**2**	**7**
Formative Assessment Practical and clinical assessment Summative Assessment	Present the lecture via PowerPoint, use diagrams on the board, conduct practical tests, and discuss .with students	Fungal toxin .	nycotoxins	**2**	**8**
Formative Assessment Practical and clinical assessment Summative Assessment	Present the lecture via PowerPoint, use diagrams on the board, conduct practical tests, and discuss .with students	Detection of toxins in liquid material directly .	Direct detection of toxins in liquid materials	**2**	**9-10**
Formative Assessment Practical and clinical assessment Summative Assessment	Present the lecture via PowerPoint, use diagrams on the board, conduct practical tests, and discuss .with students	Detection of toxins in blood .	Blood toxin detection.	**2**	**11**
Formative Assessment Practical and clinical assessment Summative Assessment	Present the lecture via PowerPoint, use diagrams on the board, conduct practical tests, and discuss .with students	toxicity of pesticides.	**Pesticide toxicity.**	**2**	**12**
Formative Assessment Practical and clinical assessment Summative Assessment	Present the lecture via PowerPoint, use diagrams on the board, conduct practical tests, and discuss .with students	toxicity of antibiotics.	Antibiotic toxicity.		**13**
Formative Assessment Practical and	Present the lecture via PowerPoint , use diagrams on	Air toxicant	Air poisoning.		**14**

clinical assessment Summative Assessment	the board, conduct practical tests, and discuss .with students				
Formative Assessment Practical and clinical assessment Summative Assessment	Present the lecture via PowerPoint, use diagrams on the board, conduct practical tests, and discuss .with students	Water toxicant	water intoxication		**15**
Course Evaluation .12					
Daily exams, monthly and final theoretical and practical exams, classroom discussion **Student Performance Analysis** **PeerReview** **Compared to similar courses(Benchmarking)**					
Learning and teaching resources .13					
1. Mycotoxins, (2008) Editor: Leslie. 2. Poisonous plants in Iraq, (1980). Editor:Ali Alrawi 3. Poisonous plants in southern united states, (2005). Editor: John W. Everest et al 4. Algae (2006) Editor: Barsanti and Gualtieri Antibiotics .5 2011 Author Al-Marjani Faraj Mohammed			Required textbooks (methodology)		
1. TOXICOLOGY the basic science poisons Casarett & Doull ، s 8th ed. 2. Manual Of Methods Of Analysis Of Foods, (202). By: Food Safety And Standards Authority Of India Ministry Of Health And Family Welfare Government Of India, New Delhi. 3. The Pesticide Manual, (2012). Editor: C. MacBean			Main References (Sources)		
TOXICOLOGY and Text books Scientific journals and doctoral theses			Recommended supporting books and references scientific journals, reports,) (.etc		
PubMed (and toxicology search in medical research) International Information Network on the Course Topic			Electronic references, websites		

:Course NameBiostatistics	
: Course code	
Semester/Year: 2024-2025	
: Date this description was prepared 2025/9/15	
.Available attendance forms : lecture in the classroom + laboratory	
Number of study hours (total) / Number of units (total) : 4 hours / 3 units	
: Name of the course administrator (if more than one name is mentioned)	
	MSc. Suzan Yassen
Course objectives	
Introducing the student to vital statistical measures and their applications in the field of public health or Community health to enable **For professionals who contribute to the development and modernization of public health programs** **Especially through their possession of scientific .methods in the field of statistical data analysis** **Medical and biological**	**Course objectives**

:Learning and teaching strategies

30. The education in this program includes theoretical education that focuses on studying scientific problems using a purely scientific approach, aiming to understand the basis of the problem and find solutions to it, and practical education that provides practical experience in conducting experiments and .research using approved methods in conducting scientific research

31. Learning, both theoretical and practical, depends on cooperation between the student and the teacher to understand the lesson as much as possible and overcome any obstacles that hinder the student's .understanding or impede his or her experiments in the laboratory

32. Encourage students to use academic books and articles, whether printed or electronic, as they .greatly help retain information and allow for discussion and conclusions

Cognitive objectives

1. **Enabling the student to obtain the most important components of the applied statistics subject**
2. **.The student is able to obtain statistical methods related to data processing (2**
3. **Enabling the student to obtain methods for collecting and classifying data and (3 .conducting sample surveys**

Course skill objectives

1. **.Enabling students to calculate point index estimates and display the data table**
2. **.Enabling students to use period estimation methods and hypothesis testing**
3. **.Enabling the student to classify girls and conduct surveys**

Course structure (theoretical part)

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watc hes	week
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Introduction to basic statistics***	• **The student knows the introduction to statistics and its importance in data analysis.**	2	the first
Daily exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Sources of data; Types of variables; Types of scales; Population; Sample; Sampling***	• **The student distinguishes data sources, types of variables, types of measures, the concept of population, sample, and random sampling methods.**	2	the second

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Data presentation; Numerical; Tables; master table***	• **The student presents data using numerical forms and tables, including a master table.**	2	the third
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Simple frequency distribution table; Class interval tables***	• **The student creates simple frequency distribution tables andclass interval tables in an organized manner.**	2	Fourth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	*Graphs; Bar; Pie; Map; Histogram; Line graph*	• **The student draws various graphs such as bars, circles, maps, histograms, and line graphs.**	2	Fifth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Data summarization; measures of central tendency***	• **The student summarizes data using measures of central tendency such as mean, median, and mode for simple data.**	2	Sixth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Arithmetic mean; Mode; Median; For simple data***	• **The student applies the calculation of measures of central tendency to the data presented in the category tables.**	2	Seventh
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Data presented by class interval table***	• **The student summarizes the data and uses measures of dispersion.**	2	The eighth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Data summarization***	• **The student calculates measures of dispersion such as range, variance, standard deviation, and coefficient of variation for simple data.**	2	Ninth

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Measures of variability***	• **The student applies the calculation of dispersion measures using simple frequency distribution tables.**	2	tenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Range; variance; Standard deviation; Coefficient of variation***	• **The student understands the concept of probability and its different types.**	2	eleventh
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***For simple data; data presented by simple frequency distribution table***	• **The student reviews all previous concepts in basic statistics.**	2	twelfth
Exams and discussion	Presentation of the lecture via PowerPoint and discussion	***Probability; concept of probability***	• **The student knows the introduction to statistics and its importance in data analysis.**	2	thirteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Types of probability***	• **The student distinguishes data sources, types of variables, types of measures, the concept of population, sample, and random sampling methods.**	2	fourteenth
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	***Review***	• **The student presents data using numerical forms and tables, including a master table.**	2	fifteenth
.11 Course Structure (Practical Part)					
Evaluation method	**Learning method**	**Name of unit or topic**	**Required learning outcomes**	**watc hes**	**week**
Exams and discussion	Using the computer	***Introduction to basic statistics***	• **The student learns an introduction to**		the first

	Excel program		**statistics and applies concepts using Excel , while preparing for exams and discussions.**		
Exams and discussion	Using the computer Excel program	***Sources of data; Types of variables; Types of scales; Population; Sample; Sampling***	• **The student identifies data sources, types of variables, and measures, and uses Excel to represent these concepts, while preparing for exams and discussion.**		the second
Exams and discussion	Using the computer Excel program	***Data presentation; Numerical; Tables; master table***	• **The student presents data in numerical and tabular forms, including the main table, using Excel while preparing for , exams and discussion.**		the third
Exams and discussion	Using the computer Excel program	***Simple frequency distribution table; Class interval tables***	• **The student creates and applies simple frequency distribution tables and class tables via Excel preparing for , exams and discussion.**		Fourth
Exams and discussion	Using the computer Excel program	*Graphs; Bar; Pie; Map; Histogram; Line graph*	• **The student draws various graphs (bars, circles, maps, histograms, lines) using Excel while , preparing for exams and discussion.**		Fifth
Exams and discussion	Using the computer Excel program	***Data summarization; measures of central tendency***	• **The student summarizes data using measures of central tendency and applies them to Excel , preparing for exams and discussion.**		Sixth

Exams and discussion	Using the computer Excel program	***Arithmetic mean; Mode; Median; For simple data***	• **The student calculates the mean, median, and mode of simple data using Excel preparing for , exams and discussion.**		Seventh
Exams and discussion	Using the computer Excel program	***Data presented by class interval table***	• **The student applies summarization of data presented in category tables using Excel while preparing , for exams and discussion.**		The eighth
Exams and discussion	Using the computer Excel program	***Data summarization***	• **The student summarizes the data and uses dispersion measures viaExcel , preparing for exams and discussion.**		Ninth
Exams and discussion	Using the computer Excel program	***Measures of variability***	• **The student calculates measures of dispersion (range, variance, standard deviation, coefficient of variation) for data usingExcel preparing , for exams and discussion.**		tenth
Exams and discussion	Using the computer Excel program	***Range; variance; Standard deviation; Coefficient of variation***	• **The student applies data analysis presented in simple frequency distribution tables via Excel preparing for , exams and discussion.**		eleventh
Exams and discussion	Using the computer Excel program	***For simple data; data presented by simple frequency distribution table***	• **The student learns an introduction to statistics and applies concepts usingExcel , while preparing for exams and discussions.**		twelfth
Exams and discussion	Using the computer				thirteenth

	Excel program				
Course Evaluation .12					
Daily exams, monthly and final theoretical and practical exams, classroom discussion					
Learning and teaching resources .13					
Ministerial portfolio			**Required textbooks (methodology)**		
			Main References (Sources)		
			Recommended supporting books and references scientific journals,) (.reports, etc		
			Electronic references, websites		

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams and discussion	Show lecture about Power Point Road And discussion . with students	**Computer security**	• **The student knows the concept of computer security and its importance in protecting data and systems.**	2	**the first**
Exams and discussion	Show lecture about Power Point Road And discussion . with students	**Forms of transgressions in the digital world**	• **The student distinguishes between different forms of abuse and threats in the digital world.**	2	**the second**
Exams and discussion	Show lecture about Power Point Road And discussion .with students	**Computer privacy**	• **The student explains the concept of computer privacy and ways to maintain it.**	2	**the third**
Exams and discussion	Show lecture about Power Point Road And discussion .with students	**Computer licenses**	• **The student knows the types of computer licenses and the importance of adhering to them legally and ethically.**	2	**Fourth**
Exams and discussion	Show lecture about Power Point Road	**intellectual property**	• **The student explains the concept of intellectual property and its protection**	2	**Fifth**

	And discussion .with students		**in the digital field.**		
Exams and discussion	Show lecture about Power Point Road And discussion .with students	**electronic hacking**	• **The student explains the concept of hacking and its various methods.**	2	**Sixth**
Exams and discussion	Show lecture about Power Point Road And discussion .with students	**Viruses**	• **The student knows computer viruses and their impact on the system and security.**	2	**Seventh**
Exams and discussion	Show lecture about Power Point Road And discussion .with students	**Types of viruses**	• **The student distinguishes between different types of viruses and the characteristics of each type.**	2	**The eighth**
Exams and discussion	Show lecture about Power Point Road And discussion .with students	**Steps to protect against hacking**	• **The student applies steps and methods of effective protection against electronic hacking.**	2	**Ninth**
Exams and discussion	Show lecture about Power Point Road	**Introduction to Artificial Intelligence**	**The student will learn about the introduction to artificial intelligence and its basic concept.**	2	**tenth**

Exams and discussion	Show lecture about Power Point Road And discussion .with students	**History of Artificial Intelligence**	**The student reviews the history of the development of artificial intelligence and its most important milestones.**	2	**eleventh**
Exams and discussion	Show lecture about Power Point Road And discussion .with students	**Artificial intelligence techniques**	**The student explains the different techniques used in artificial intelligence such as machine learning and neural networks.**	2	**twelfth**
Exams and discussion	Show lecture about Power Point Road And discussion .with students	**Artificial intelligence applications**	**The student learns about the applications of artificial intelligence in various practical fields.**	2	**thirteenth**
Exams and discussion	Show lecture about Power Point Road And discussion .with students	**Shift to artificial intelligence**	**The student explains the process of digital transformation and the increasing reliance on artificial intelligence.**	2	**fourteenth**

Exams and discussion	Show lecture about Power Point Road And discussion .with students	**Artificial Intelligence Ethics**	**The student explains the ethics of artificial intelligence and its importance in the responsible use of technology.**	2	**fifteenth**

Course name
computer applications
Course code
semester/year
Second semester 2024/2025
Description preparation date
2025/9/15
Available forms of attendance
.Lecture in classrooms
Number of hours (total) / Number of units (total)
2 units/3hours
Course supervisor name (if more than one name is mentioned): Name and university email
M.M. Ihsan Ali Musa **:Email Ehiq90@gmail.com**
Course objectives (course objectives)
Providing a general idea about the computer as one of the basic tools in various fields, and .1 .explaining its importance as a means of processing data and performing digital tasks **Building a scientific foundation around the course topics so that students can expand their .2 knowledge and understanding of various computer technologies by reviewing relevant scientific .sources** **Understand the importance of computers in our daily lives by studying the applications used in .3 various fields, such as medicine, engineering, and education, and how to use computers to solve .problems using scientifically correct methods** **Studying modern technologies that play a fundamental role in software development and data .4 analysis, such as artificial intelligence, cloud computing, and information security, enhances .students' technical skills** **Expanding scientific and academic research and striving to create unique and useful scientific .5 research that enables both students and professors to develop new technical solutions that**

Course structure
contribute to improving academic and professional performance and enhancing opportunities to .enter the job market
Teaching and learning strategies
1. Combining theoretical and practical learning: Learning in this course includes a theoretical understanding of the basic principles of computer applications, with a focus on analyzing technical problems and finding appropriate software solutions, in addition to practical learning that enables students to acquire applied skills in using various computer programs .and tools 2. Student-faculty interaction and collaboration: Learning in this course relies on direct interaction between students and faculties to understand and apply programming concepts in practice, while providing guidance to solve technical problems students may encounter .during projects and practical experiments 3. Encouraging research and the use of diverse sources: Students are encouraged to research scholarly books and articles, both printed and electronic, as well as to access specialized training courses and educational platforms. This contributes to enhancing practical understanding and enabling them to develop their programming and data analysis skills .more deeply

Course Evaluation
The grade is distributed out of 100 based on the tasks assigned to the student, such as daily .preparation, daily exams, oral and written exams, reports, etc
Learning and teaching resources

	Required textbooks (methodology if available)
Computer Basics and Office Applications (Part Two - Part Three) **Asst. Prof. Dr. Ziad Mohammed Abboud**	**Main References (Sources)**
	Electronic references and websites

Chronic Diseases/Course :Course Name Second course / First (theoretical and practical parts) (theoretical and practical parts)	
: Course code	
Semester/Year: 202 62025-	
: Date this description was prepared 2025/9/15	
Available forms of attendance : theoretical lecture in the classroom + in the laboratories in the .practical section	
Number of study hours (total) / Number of units (total) : 90 semester hours / 4 units	
: Name of the course administrator (if more than one name is mentioned)	
:Email	**Dr. Nour Ghanem Abboud**
Course objectives	
The student should be familiar with the most important chronic diseases and .their impact on health The student should be able to distinguish the risk factors for chronic .diseases The student should learn ways to .prevent these diseases The student should distinguish his role in the field of prevention and control of .chronic diseases	**Course objectives**

:Learning and teaching strategies

Lectures
.Brainstorming gave students the opportunity to brainstorm and discuss their ideas
.Intellectual questions and discussions
Continuous discussion through questions and answers in the classroom and motivating the student to think independently and critically
.Explain to students the importance of scientific research in the field of chronic diseases
Encouraging the detection of health problems related to chronic diseases and identifying the needs of community members
Promoting the concept of prevention and control of chronic diseases

7- Course Structure (Theoretical and Practical Part) First Course

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams and discussion Homework and writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Epidemiology of chronic diseases**	Identify chronic diseases and their types Understanding its prevalence and distribution, assessing it associated risk factors, and implementing prevention and control strategies Enabling students to conduct and evaluate epidemiological .studies	2	**the first**

Exams and discussion and duties And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**high blood pressure**	Understanding the cause and risk factors of high blood pressure Recognizing symptoms and potential complications Gain knowledge about prevention and treatmer methods Lifestyle modifications to improve cardiovascular health	2	**the second**
Exams and discussion and duties And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Diabetes** Diabetes classification A. Type 1 diabetes; autoimmune diabetes; idiopathic diabetes b. Type 2 diabetes C. Gestational diabetes D. Other specific types of diabetes Risk factors for type 2 diabetes Clinical assessment of .diabetes Initial - laboratory .evaluation .Referral Additional - .risk factors Management - of chronic type .2 diabetes Health - prevention and	Knowing the types of diabetes, their causes, symptoms, and complications Learn how to deal with it through proper nutrition .and exercise Ability to measure blood sugar Knowing how to handle emergencies	2	**the third** **Fourth** **Fifth**

		education messages			
Exams and discussion and duties And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Cerebrovascular diseases Definition** Pathophysiology of stroke Clinical classification of .focal stroke Epidemiology Risk factors - - Complications of acute stroke Prevention-	Identify the types, causes, and risk factors of cerebrovascular .disease Describe the pathophysiological mechanism of each disease, and explain the clinical symptoms, diagnosis, and treatment of each .disease Evaluate appropriate .prevention strategies	2	**Sixth** **Seventh**
Exams and discussion and duties And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**drug addiction**	Understanding the concept Drugs, and some Theories explaining its use Knowing the harms caused by drug abuse Learn the methods prevention And how to achieve it	2	**The eighth** **Ninth**
Exams and discussion and duties And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**arthritis** Classification - rheumatoid arthritis Gout and pseudogout septic arthritis ankylosing spondylitis juvenile idiopathic arthritis	Understanding the nature of the disease, its types, cause and symptoms Learn about the different treatment methods, whethe .medicinal or non-medicin Knowing how to manage pain and reduce complications	2	**tenth** **eleventh** **twelfth** **thirteenth** **fourteenth**

		Still's disease Psoriasis psoriatic) (arthritis reactive arthritis Systemic lupus erythematosus	Knowing how to do appropriate physical activity for people with arthritis.		
		review		2	**fifteenth**

Course Structure (Theoretical and Practical Part) Second Course

Evaluation method	**Learning method**	**Name of unit or topic**	**Required learning outcomes**	**watches**	**week**
Exams and discussion and duties And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**peptic ulcer** Definition of) peptic ulcer PU (epidemiology Pathophysiology Risk factors for peptic ulcers Treatment Peptic ulcer prevention Patient awareness	Explanation of the definitio of ulcer Digestive disorders, their causes, risk factors, and common symptoms Knowing how to diagnose And its treatment and prevention.	2	**the first** **the second**
Exams and discussion and duties And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Obesity** WHO definition For adults For children under five years of age For children between the ages of five and nineteen Overweight vs. Obesity Causes of obesity Obesity classification health effects	Definition of obesity, its causes, and its relationship .to chronic diseases Identifying risk factors Learn strategies Prevention and treatment. Implementing effective strategies To reduce obesity	2	**the third** **Fourth**

		Obesity prevention			
Exams and discussion and duties And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**rheumatic fever** Definition Description Symptoms Diagnosis of rheumatic fever Main criteria Secondary criteria Treatment Preventive measures	Understanding the causes o fever Rheumatic Knowing the risk factors Know the main symptom and complications Understanding prevention and treatment methods	2	**Fifth** **Sixth** **Seventh**
Exams and discussion and duties And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Cancer**	Definition of the disease a its types, in addition to symptoms and causes. Knowing how cancer cells work inside the body Learn about different methods Treatment with focus on Modern treatments and recovery opportunities.	2	**The eighth** **Ninth**
Exams and discussion and duties And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**blindness**	Understand the causes and types of blindness, and kn its impact on the individua and society Learn about prevention an early intervention methods	2	**tenth** **eleventh**

			Acquire communication skills With blind people and deal with their needs Private		
Exams and discussion and duties And writing the practical report	Present the lecture via PowerPoint and discuss with the .students	**Coronary heart disease**	Identify and understand the causes, symptoms, and risk factors of .coronary heart disease Learn about the different methods of diagnosis and treatment .of these diseases Focus on the importance of lifestyle changes and their impact on disease .progression	2	**twelfth** **thirteenth** **fourteenth**
		review		2	**fifteenth**

Course Evaluation .	
1. Discussion in the classroom by asking questions 2.) Daily examsquiz) 3. Writing practical reports at the end of each practical session 4. Monthly and final exams for theoretical and practical vocabulary	
Learning and teaching resources .	
	Required textbooks (methodology)
Guide to the care of patients with chronic diseases in health centers	**Main References (Sources)**
1- Inflammation, lifestyle, and chronic diseases Bharat B. Aggarwal, Sunil Krishnan, Sushovan Guha 2011 2- Chronic Diseases: New Perspectives for the Healthcare Professional: 2011 Edition	**Recommended supporting books and references (scientific journals, reports, (.etc**

The educational website of Al-Furat Al-Awsat Technical University and the website of the Technical Institute/Karbala ww	**Electronic references, websites**

Course Name: Research Methods /course Second (theoretical part)	
: Course code	
Semester/Year: 202 62025-	
: Date this description was prepared 2025/9/15	
.Available forms of attendance : lecture in the classroom	
Number of study hours (total) / Number of units (total) : 30 semester hours / 15 units	
: Name of the course administrator (if more than one name is mentioned)	
:Email**youssef.a.assaad@nust.edu.iq**	**Dr. Youssef Anwar Asaad**
Course objectives	
1. how to prepare research Giving a general idea on . properly 2. Learn about the different types of studies, how to .conduct them, and the objectives and constraints of each study 3. Learn about research modeling methods and .conducting statistical analyses 4. Expanding scientific and academic research and trying to create unique and useful scientific research that .enables both students and professors to enter the job market	**Course objectives**

:Learning and teaching strategies

Lectures
.Brainstorming gave students the opportunity to brainstorm and discuss their ideas
.Intellectual questions and discussions
Continuous discussion through questions and answers in the classroom and motivating the student to .think independently and critically
.Focus on connecting lecture ideas to the community
Encouraging the adoption of vocabulary in the field of scientific research methods, which the student **.** needs in his work in the health field

Course structure (theoretical part)

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Basic components of .research	**:The student should know** Research definition, methods, des Types of research Basic elements of research	2	1
Daily exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Study design	**:The student should know** Steps for designing a research stu Defining the research problem research question, formulating the (hypothesis	2	3+2

			Study design (selecting the type o study, determining the sample, (determining the variables Data collection and analysis		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Formulating the research question A. Origins of the research question B. Characteristics of a good research question C. Formulating the research question and study plan	**:The student should know** Steps to formulate a research question Defining the research problem defining the research area,) (identifying the knowledge gap Characteristics of a good research question (clarity, focus, etc.) Data collection and analysis	2	5+4
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Selecting study subjects: identification, sampling, and recruitment	**:The student should know** Steps for selecting research topics Define (define criteria, define targ (group Sample (determining sample size, choosing the method of taking it, (.etc Recruitment (specify recruitment (...method Research Ethics	2	7+6
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Sample Size Estimation: Basic Assumptions and Principles	**:The student should know** Hypotheses (determining the level of precision, confidence, and effec (size Basic principles (representativene (and statistical accuracy	2	9+8

			Factors affecting sample size (leve of precision, confidence, effect siz (and variance in the data Methods of estimating sample size (using formulas and (statistical programs		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Sample size and power estimation A. Hypotheses B. Basic statistical principles	**:The student should know** Hypotheses (determining the level of precision, confidence, and effec (size Basic principles (representativene (and statistical accuracy Factors affecting sample size (leve of precision, confidence, effect siz (and variance in the data Methods of estimating sample size (using formulas and (statistical programs	2	11+10
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Study ...designs .1 Descriptive studies A. Status Report b. Case series C. Cross-sectional study D. Correlation studies	**:The student should know** Types of descriptive studies and their characteristics Status Report (Definition, Purpose (Characteristics Case series (definition, purpose, (characteristics Correlation studies (determining the relationship between two (variables	2	14+13+12
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	review	Ensure the student's understanding of the course content and his ability to formulate or create a complete and integrated scientific research	2	15
Course Evaluation					
Discussion in the classroom by asking questions) Daily exams quiz) Monthly and final exams for theoretical vocabulary					

Learning and teaching resources .		
Ministerial portfolio	**Required textbooks (methodology)**	
Department Of Computer Science And Engineering Malla Reddy College Of Engineering & Technology (Autonomous Institution – UGC, Govt. of India)	**Main References (Sources)**	
	Recommended supporting books and references scientific journals, reports,) (.etc	
	Electronic references, websites	

Course Name: Health Administration /course Second (theoretical part)	
: Course code	
Semester/Year: 202 62025-	
: Date this description was prepared2025/9/15	
.Available forms of attendance : lecture in the classroom	
Number of study hours (total) / Number of units (total) : 30 semester hours / 15 units	
: Name of the course administrator (if more than one name is mentioned)	
Dr. Youssef Anwar Asaad	:Email**youssef.a.assaad@nust.edu.iq**
Course objectives	
Course objectives	To give a general idea about the concept of health the health system and how to manage health , administration . care Understanding basic terms in healthcare (planning, (organization, communication, electronic management Expanding scientific and academic research and trying to create unique and useful scientific research that enables both .students and professors to enter the job market

:Learning and teaching strategies

Lectures
.Brainstorming gave students the opportunity to brainstorm and discuss their ideas
.Intellectual questions and discussions
Continuous discussion through questions and answers in the classroom and motivating the student to .think independently and critically
.Focus on connecting lecture ideas to the community
Encouraging the adoption of vocabulary in the field of health management, which the student needs in **.** his work in the health field

8- Course structure (theoretical part)

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watches	week
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Definitions in management	**For the student to recognize and :understand** Basic concepts and terms in manageme (health management) Quality, safety and health efficiency Primary, secondary and tertiary health c	2	1
Daily exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Management elements	**The student will understand the basic :elements of health management** :Planning :organization	2	2

			:Guidance :Censorship		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Planning standards and types	**:The student should know** Planning criteria (clarity, realism...) Types of planning (strategic, (...tactical	2	3
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Planning stages	**The student should be familiar with t :basic stages of planning** Determine health goals to be achieved Analysis of the current situation Develop strategic plans Implementing plans Evaluation of results	2	4
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Organization: Definition, Activities, Structures, Organizationa l Chart and Workflow	**:The student should know** The concept of organization in health administration Organizational structures and charts in healthcare	2	5
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Communica tion and Public Relations Definition of communicat ion communicat ion process	**:The student should understand** The importance, types, and skills of effective communication in health management The importance, types, and skills of pub relations in health management Communication and Public Relations Strategies	2	6
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Communica tion jobs	**:The student should understand** Communication functions (transferring (...information, building relationships Communication skills (active listening, verbal, non-verbal and (written communication	2	7
Exams and discussion	Present the lecture via PowerPoint and	Types of communicat ion	**:The student should know** Types of communication in the health sector	2	8

	discuss with the .students	Benefits of communicat ion Communica tion barriers	Benefits of communication (improving the quality of healthcare, reducing error (...building trust Communication barriers (language, (.culture, technology, etc		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Motivation	**:The student should understand** The importance of motivation in improving individuals' health Types of motivation (internal and extern Motivation strategies (rewards...)	2	9
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Health education	**:The student should understand** The importance of health education in increasing health awareness among individuals Types of health education (individual an (group Health goals (improving public (...health, reducing diseases	2	10
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	The program	**:The student should understand** Program concept and importance Health programs and their implementati mechanism Program elements (setting goals and (...resources Types of programs (prevention, (...treatment Program Evaluation (assessment of effectiveness, efficiency, and (satisfaction	2	11
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Problem solving	**:The student should understand** Problem definition (identify and describ (the health problem Mechanisms for solving health problem Steps to solve the health problem Health problem-solving skills	2	12
Exams and discussion	Present the lecture via	Leadership	**:The student should understand**	2	13

	PowerPoint and discuss with the .students	Definition of leadership and leader Characteristics of a leader Leaders' roles	Definition of leadership The importance of leadership in health management Leader characteristics (vision, (...communication Leader roles (setting goals, directing (...the team		
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	eHealthcare management	**:The student should understand** Definition of e-healthcare and its importance Components of e-healthcare Electronic healthcare management	2	14
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Evaluation of health services programs	**:The student should know** The concept of evaluating health servic programs Steps and criteria for evaluating health services programs Health Services Program Evaluation Tools	2	15

Course Evaluation
Discussion in the classroom by asking questions Daily examsquiz Monthly and final exams for theoretical vocabulary

Learning and teaching resources .12		
Ministerial portfolio	**Required textbooks (methodology)**	
pm4dev, 202 -management for development series ©	**Main References (Sources)**	
	Recommended supporting books and references scientific journals, reports,) (.etc	
https://publichealth.tulane.edu/blog/communication-in-healthcare/	**Electronic references, websites**	

Course Name: Health Administration/course Second (theoretical part)
: Course code

Semester/Year: 202 6 --2025

: Date this description was prepared2025/9/15

.Available forms of attendance : lecture in the classroom

Number of study hours (total) / Number of units (total) : 30 semester hours / 15 units

: Name of the course administrator (if more than one name is mentioned)

:Email**youssef.a.assaad@nust.edu.iq**	**Dr. Youssef Anwar Asaad**

Course objectives

To give a general idea about the concept of health the health system and how to manage health , administration . care Understanding basic terms in healthcare (planning, (organization, communication, electronic management Expanding scientific and academic research and trying to create unique and useful scientific research that enables both .students and professors to enter the job market	**Course objectives**

:Learning and teaching strategies

Lectures
.Brainstorming gave students the opportunity to brainstorm and discuss their ideas
.Intellectual questions and discussions
Continuous discussion through questions and answers in the classroom and motivating the student to think .independently and critically
.Focus on connecting lecture ideas to the community
Encouraging the adoption of vocabulary in the field of health management, which the student needs in his **.** work in the health field

Course structure (theoretical part)

Evaluation method	Learning method	Name of unit or topic	Required learning outcomes	watc hes	week

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Definitions in management	• **The student knows the definitions and basic concepts of management.**	2	1
Daily exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Management elements	• **The student identifies the main management elements and their importance in the administrative process.**	2	2
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Planning standards and types	• **The student explains the planning criteria and its different types.**	2	3
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Planning stages	• **The student explains the planning stages step by step.**	2	4
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Organization: Definition, Activities, Structures, Organizational Chart and Workflow	• **The student knows the concept of organization, its activities, types of organizational structures, and draws the organizational chart and work flow.**	2	5
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Communication and Public Relations Definition of communication communication process	• **The student explains the concept of communication and its importance in public relations.**	2	6
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Communication jobs	• **The student describes the communication process and its basic components.**	2	7
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Types of communication Benefits of communication Communication barriers	• **The student explains the different communication functions.**	2	8

Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Motivation	• **The student distinguishes between different types of communication.**	2	9
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Health education	• **The student learns the benefits of effective communication within the organization.**	2	10
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	The program	• **The student explains communication barriers and how to overcome them.**	2	11
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Problem solving	• **The student explains the concept of motivation and its importance in increasing productivity.**	2	12
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Leadership Definition of leadership and leader Characteristics of a leader Leaders' roles	• **The student knows health education and its role in raising the level of health awareness.**	2	13
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	eHealthcare management	• **The student describes how to prepare and implement programs in health administration.**	2	14
Exams and discussion	Present the lecture via PowerPoint and discuss with the .students	Evaluation of health services programs	• **The student learns methods of solving problems and making decisions.**	2	15
Course Evaluation					
Discussion in the classroom by asking questions) Daily examsquiz) Monthly and final exams for theoretical vocabulary					
Learning and teaching resources					

Ministerial portfolio	**Required textbooks (methodology)**	
pm4dev, 202 -management for development series ©	**Main References (Sources)**	
	Recommended supporting books and references (scientific (.journals, reports, etc	
https://publichealth.tulane.edu/blog/communication-in-healthcare/	**Electronic references, websites**	