Laboratory Equipment Course Description Form

1. Course Name
Laboratory Equipment
2. Course Code
MLT114
3. Semester / Level
First /First
4. Description preparation date
9 / 9 / 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 / 3
7. Course administrator name
Raihan Jabbar Jasim raihan.jj@ntu.edq.iq
8. Course Objectives

Course Objectives	• Cover and understand the various tools and devices used in medical laboratories

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Types of microscope and its uses	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Second	3	Light microscopy, working principle and its parts	Explanation of the lecture with the presence of means of	Classroom and laboratory	**Exams**

			illustration and practical application		
Third	3	Microscope maintenance How to maintain its durability	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Electronic scale, types and parts	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	The principle of operation and operation of the electronic balance	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Electronic Scale Maintenance	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Definition of a photometer	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Light and wave length	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	Beer-Lambert's Law	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Optical spectrometer	Explanation of the lecture with the presence of means of	Classroom and laboratory	**Exams**

			illustration and practical application		
Eleventh	3	The working principle of the optical spectrometer device	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Types of optical spectrometers	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Parts of the optical spectrometer	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Maintenance of the optical spectrometer	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Flame Photometer	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

11. Course Evaluation
Daily, monthly and final exams as well as weekly reports
12. Learning and Teaching Resources
Textbooks
Main references
Scientific research
Scientific resources within the Internet

Fundamentals of Nursing Course Description Form

1. Course Name
Fundamentals of Nursing
2. Course Code
7ML11
3. Semester / Level
First /First
4. Description preparation date
9 / 9 / 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 / 3
7. Course administrator name
Tagreid Mustafa Zaiyn tagreid.mz@ntu.edu.iq
8. Course Objectives

Course Objectives	• Identify the basics of nursing, first aid, laboratory and professional safety in the field of nursing and ways to deal with the patient during his presence in medical laboratories

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Introduction to nursing and the need for it, the nursing process - stages of the nursing process.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Second	3	Medical examination and methods	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Third	3	Vital signs – temperature – the body's homeostasis – how to measure them	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	The pulse - its definition - the factors affecting it - how to measure it	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Breathing - its definition - factors affecting it - how to calculate it	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Blood pressure - definition - factors affecting it - cases of low and high blood pressure - how to measure pressure	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Laboratory health and safety - definition - foundations - the most important factors affecting it	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	The most important factors that affect the health of laboratory workers - natural factors - the most important diseases caused by them	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Ninth	3	Chemical agents - the most important diseases and conditions caused by them	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Psychological factors - the most important diseases and conditions caused by them	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eleventh	3	Biological factors - their types - their impact on laboratory workers - the most important diseases caused by them	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	First aid - definition - paramedic and qualifications - principles of first aid	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Ambulance for wounds and bleeding	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Ambulance burns - ambulance types of fractures	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Artificial respiration and suffocation	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

11. Course Evaluation
Daily, monthly and final exams as well as weekly reports

12. Learning and Teaching Resources
Textbooks
Main references
Scientific research
Scientific resources within the Internet

First Aid Course Description Form

1. Course Name
First aid
2. Course Code
MLT120
3. Semester/Level
Second /First
4. Description preparation date
9 / 9 / 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 / 3
7. Course administrator name
Asmaa Abdulhaq Muhammad asmaa.am@ntu.edu.iq
8. Course Objectives

Course Objectives	• Ability to take whatever it takes to sustain life • The student's knowledge of first aid nursing and how to rescue emergency cases before transferring them to the hospital

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Introduction to First Aid and EMS Emergency Medicine System	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Second	3	EMS System Components , Administration, Policy, Organization and Equipment	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Third	3	First aid kit, look, feel and contents Airway and breathing, improvised uses, workplace first aid kit, historical first aid kits.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Ambulance, transport, work with hospital staff, work with training of public safety agencies.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	The emotional side of emergency care, death and dying, dealing with patient and family members Primary care for the dying patient, and critically ill patients.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Physical signs of death, hypothetical signs of death, final signs of death, medical examinations	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Anxiety, pain, fear, hostility, depression, mental health dependence, receiving bad news	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Eighth	3	Infectious diseases (modes of transmission), risk reduction and prevention regime. Scene safety and personal protection.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	Trauma, motor trauma. Bleeding types, causes and treatment.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Trauma types, causes and management.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eleventh	3	Wounds, soft tissue injuries, eye injuries, facial and throat injuries.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Chest injuries, abdominal injuries, head and spine injuries.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Heart structure, circulatory function and atherosclerosis.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Heart attack, signs and symptoms	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Physical signs of cardiogenic shock, sudden death and congestive heart failure	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
11. Course Evaluation					

Daily, monthly and final exams as well as weekly reports
12. Learning and Teaching Resources
Textbooks
Main references
Scientific research
Scientific resources within the Internet

Histology Course Description Form

1. Course Name
Histology
2. Course Code
MLT118
3. Semester /Level
First /First
4. Description preparation date
9 / 9 / 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 / 3
7. Course administrator name
Mustafa Talib Khalf mustafa.tk@ntu.edu.iq
8. Course Objectives

Course Objectives	• Give a general idea of the general anatomy of the human body, see the structure of the organs and study all their constituent histological structures under a microscope.

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Define some terms that deal with histology and cytology,	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Second	3	Microscope and its parts	Explanation of the lecture with the presence	Classroom and laboratory	**Exams**

			of means of illustration and practical application		
Third	3	Cell shapes	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Simple epithelial tissue	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Stratified epithelial tissue	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Connective tissue	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Soft connective tissue	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Dense connective tissue	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	Specialized connective tissue – blood	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Specialized connective tissue - cartilage	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Eleventh	3	Specialized connective tissue – hard bone	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Specialized connective tissue – spongy bone	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Muscle tissue – heart muscle	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Muscle tissue – skeletal muscle	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Muscle tissue – smooth muscle	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

11. Course Evaluation
Daily, monthly and final exams as well as weekly reports
12. Learning and Teaching Resources
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Anatomy Course Description Form

1. Course Name
Anatomy
2. Course Code
TID110
3. Semester/Level
Second /First
4. Description preparation date
9 / 9 / 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
60 / 4
7. Course administrator name
Dr. Ansam Hussein Ali ansam.ha@ntu.edu.iq
8. Course Objectives

Course Objectives	• The student's knowledge of the anatomy of the human body and organs, as well as knowledge of the relationship between them.

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Anatomical trends and body surfaces	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Second	3	Anatomy of the heart, its location according to the chest wall and the number of shades	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Third	3	Anatomy of the lungs, its location according to the chest wall and the number of ribs	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Abdominal anatomy and dividing the abdomen vertically and horizontally	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Anatomy of the stomach - its sections and its relationship to other organs	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Anatomy of the liver and spleen and their location according to bodily surfaces	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Anatomy of the small intestine and its relationship to other organs in the abdominal cavity	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Anatomy of the cecum and its location within the abdominal cavity	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	Bile cyst anatomy and location	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Anatomy of the uterus and its location within the pelvic cavity	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Eleventh	3	Skeleton, Skull and Spine	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Shoulder bones, plank and collarbone	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Forearm bone and parts	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Hand and thigh bones	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Pelvic bones and lower limbs	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

11. Course Evaluation
Daily, monthly and final exams as well as weekly reports
12. Learning and Teaching Resources
Textbooks
Main references
Scientific research
Scientific resources within the Internet

Course Description Form Laboratory Techniques and Quality Control

1. Course Name
Laboratory techniques and quality control
2. Course Code
MLT112
3. Semester / Level
Second/First
4. Description preparation date
9 / 9 / 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 / 3
7. Course administrator name
Raihan Jabbar Jasim raihan.jj@ntu.edq.iq
8. Course Objectives

Course Objectives	● Identify the different laboratory techniques for detecting various diseases within different body fluids ● Identify the basics of quality control

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Introduction to laboratory techniques, including the basics of testing techniques for diagnosing various diseases, how to manage the laboratory, prepare samples, classify and teach	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

		them, and occupational safety			
Second	3	Definition of microorganisms, their composition, classification and ways of living	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Third	3	The mechanism of action of bacteria in terms of metabolism, nutrition, reproduction and growth	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Sterilization methods and tools used in it	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Methods of detecting bacteria through the use of coloring with special chemical colorants	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Methods of detecting bacteria through culture in different culture media	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Bacterial culture methods depending on the type of culture medium and the type of bacteria	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Different methods of collecting bacterial samples	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	Methods of preserving bacterial samples and how to deliver them to the laboratory	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Tenth	3	Introduction to blood and its components	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eleventh	3	Methods of preserving blood samples and anticoagulants	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Definition of hemoglobin Hb and the different ways to determine its levels	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Definition of the volume of compressed blood cells PCV and the different methods for determining their levels	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Definition of ESR and different methods for determining ESR levels	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Definition of white blood cells and the different ways to detect their levels	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

11. Course Evaluation
Daily, monthly and final exams as well as weekly reports
12. Learning and Teaching Resources
Textbooks
Main references
Scientific research
Scientific resources within the Internet

Computer Course Description Form

1. Course Name
Computer
2. Course Code
NTU102
3. Semester / Level
First / First
4. Description preparation date
9 / 9 / 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
2 / 30
7. Course administrator name
Abo Dhar Saad Mohsen abuther.sm@ntu.edu.iq
8. Course Objectives

Course Objectives	• The student is familiar with the different computer applications and can distinguish between the types of software that can be dealt with

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	The concept of networks and their types - the concept of the Internet and its operation	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Second	3	Description of the home screen and its components	Explanation of the lecture with the presence of means of	Classroom and laboratory	**Exams**

		-How to connect to the World Wide Web	illustration and practical application		
Third	3	How to take advantage of popular search engines such as Google	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Learn how to search for information and how to access it	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Excel program to identify the concept of the program - benefits - specifications, features and methods of operation	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Learn about the home screen and its components and contain various menus and active tools	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	The concept of the cell - the types of basic data and how to enter it	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	How to save a work page - Close the program and close the file	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	Using some functions provided by the program such as count, SQRT, Ave, sum, Min, Max and other	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

		relevant useful statistical functions			
Tenth	3	Learn about the editing process provided by the software and	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eleventh	3	How to copy data or transfer data and learn about the concept of copying calculations as well as the concept of relative cells and absolute cells	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Control cell width – change its style and theme through the use of formatting tools	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Word program to identify the concept of the program - its benefits - specifications, features and methods of operation	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Various Word applications	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	SPSS Statistical Program - Program Concept and Operation	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

11. Course Evaluation

Daily, monthly and final exams as well as weekly reports

12. Learning and Teaching Resources

Textbooks , Main references , Scientific resources within the Internet

Human Rights and Democracy Course Description Form

1. Course Name
Human Rights and Democracy
2. Course Code
MLT114
3. Semester / Level
First /First
4. Description preparation date
9 / 9 / 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
2 / 30
7. Course administrator name
Adnan Abdulkarim Khalil adnan.akh@ntu.edu.iq
8. Course Objectives

Course Objectives	• Identify the freedoms due to members of society and the role of each individual in terms of rights and duties, as well as identify the various state policies

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	2	The concept of freedom and democracy	Explanation of the lecture with the presence of means of illustration	Classroom and laboratory	**Exams**
Second	2	Rights and duties of the citizen	Explanation of the lecture with the presence of means of illustration	Classroom and laboratory	**Exams**
Third	2	The concept of the state and government	Explanation of the lecture with the presence of means of illustration	Classroom and laboratory	**Exams**

Fourth	2	Intellectual and cultural freedom	Explanation of the lecture with the presence of means of illustration	Classroom and laboratory	**Exams**
Fifth	2	Economic and social freedom	Explanation of the lecture with the presence of means of illustration	Classroom and laboratory	**Exams**
Sixth	2	Right to vote and participate in elections	Explanation of the lecture with the presence of means of illustration	Classroom and laboratory	**Exams**
Seventh	2	Freedom to form trade unions and associations	Explanation of the lecture with the presence of means of illustration	Classroom and laboratory	**Exams**
Eighth	2	Freedom of social security and health care	Explanation of the lecture with the presence of means of illustration	Classroom and laboratory	**Exams**
Ninth	2	Democracy, its goals and ways to achieve it	Explanation of the lecture with the presence of means of illustration	Classroom and laboratory	**Exams**
Tenth	2	Forms of democracy	Explanation of the lecture with the presence of means of illustration	Classroom and laboratory	**Exams**
Eleventh	2	Democracy in Iraq	Explanation of the lecture with the presence of means of illustration	Classroom and laboratory	**Exams**
Twelfth	2	People's participation in legislative work	Explanation of the lecture with the presence of means of illustration	Classroom and laboratory	**Exams**
Thirteenth	2	The referendum and its types and causes	Explanation of the lecture with the presence of means of illustration	Classroom and laboratory	**Exams**
Fourteenth	2	Popular referendum and popular solution	Explanation of the lecture with the presence of means of illustration	Classroom and laboratory	**Exams**
Fifteenth	2	Election of the Iraqi Transitional National Assembly	Explanation of the lecture with the presence of means of illustration	Classroom and laboratory	**Exams**

11. Course Evaluation
Daily, monthly and final exams as well as weekly reports
12. Learning and Teaching Resources
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Sport Course Description Form

1. Course Name
Sport
2. Course Code
NTU104
3. Semester/Level
Second /First
4. Description preparation date
9 / 9 / 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
2 / 30
7. Course administrator name
Ali Yahya Ahmad ali.ya@ntu.edu.iq
8. Course Objectives

Course Objectives	• The course aims to provide the student with the concept of exercises and their historical development, introduce him to the different exercise schools, introduce him to the original and derived exercise situations and special situations, develop the basic motor skills of exercise, as well as identify some types of sports, their laws and benefits.

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	2	Introduction to sport and its benefits	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and sports hall	**Exams**

Second	2	Terms in the anatomy of the human body	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and sports hall	**Exams**
Third	2	The skeletal system of the human body	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and sports hall	**Exams**
Fourth	2	Muscular system of the human body	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and sports hall	**Exams**
Fifth	2	The nervous system of the human body	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and sports hall	**Exams**
Sixth	2	Sports Medicine and Sports Injuries	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and sports hall	**Exams**
Seventh	2	First aid for sports injuries	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and sports hall	**Exams**
Eighth	2	Fatigue and ways to treat it	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and sports hall	**Exams**
Ninth	2	Ethics and sportsmanship	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and sports hall	**Exams**

Tenth	2	Football Laws	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and sports hall	**Exams**
Eleventh	2	Basketball Laws	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and sports hall	**Exams**
Twelfth	2	Volleyball Laws	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and sports hall	**Exams**
Thirteenth	2	Tennis Laws	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and sports hall	**Exams**
Fourteenth	2	Swimming radiance and its benefits	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and sports hall	**Exams**
Fifteenth	2	Athletes of the arena and the field and its laws	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and sports hall	**Exams**

11. Course Evaluation
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Laboratory and Workshop Safety Course Description Form

1. Course Name
Safety of laboratories and workshops
2. Course Code
TID108
3. Semester/Level
First /First
4. Description preparation date
9 / 9 / 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
2 / 30
7. Course administrator name
Tagreid Mustafa Zaiyn tagreid.mz@ntu.edu.iq
8. Course Objectives

Course Objectives	• Identify the rules of safety and security and the ability to deal with sources of hazards in laboratories and workshops

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Basic equipment to be available in the laboratory (laboratory arrangements)	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Second	3	Safety precautions when handling laboratory	Explanation of the lecture with the presence of means of	Classroom and laboratory	**Exams**

		instruments, chemicals	illustration and practical application		
Third	3	Safety precautions upon completion of laboratory work	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Fires and their types	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
fifth	3	Fire extinguishing means	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Personal Protective Equipment	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Chemical hazards - and how to deal with them	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Radiological hazards	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	Biological hazards	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Laboratory (medical) waste disposal	Explanation of the lecture with the presence of means of	Classroom and laboratory	**Exams**

			illustration and practical application		
Eleventh	3	First aid in laboratories	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Use of warning signs in the laboratory	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Environmental factors and their impact on safety and health (light, noise, heat, humidity)	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Safety in Field Studies	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Chemical and medical storage methods	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

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Course Description Form for Micro techniques

1. Course Name
Micro techniques
2. Course Code
MLT113
3. Semester/Level
First /First
4. Description preparation date
9 / 9 / 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 / 3
7. Course administrator name
Mustafa Taleb Khalaf mustafa.tk@ntu.edu.iq
8. Course Objectives

Course Objectives	• Give a general idea of how to prepare permanent tissue segments for different organs of the body

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Define some terms that deal with histology and cytology,	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Second	3	Sample collection methods	Explanation of the lecture with the presence of means of	Classroom and laboratory	**Exams**

			illustration and practical application		
Third	3	Steps for the preparation of tissues for the purpose of study, fixation and fixatives	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Routine and special fixatives	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Sample washing solutions	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Drying and types of dryers	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Clearing	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Infiltration and embedding medium	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	Casting and Triming	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Sectioning	Explanation of the lecture with the presence of means of	Classroom and laboratory	**Exams**

			illustration and practical application		
Eleventh	3	Microtomes	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Staining	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Routine colorants for tissue slides	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Special colorants for tissue slides	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Microscopy	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

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Arabic Course Description Form

1. Course Name
Arabic Language
2. Course Code
NTU103
3. Semester / Level
First /First
4. Description preparation date
9 / 9 / 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 / 3
7. Course administrator name
Dr. Layla Talal Ahmad layla.ta@ntu.edu.iq
8. Course Objectives

Course Objectives	• It aims to enable students with Arabic language skills and issues at all levels: phonetic, morphological, grammatical, semantic, stylistic, and written

9. Teaching and Learning Strategies
• Adequate explanation of the course • Daily Tests • Student groups
10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Introduction to linguistic errors	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Second	3	Rules for writing an elongated and	Explanation of the lecture with the presence of means of	Classroom	**Exams**

		compartment thousand	illustration and practical application		
Third	3	Al-Daad and Al-Zaa	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Fourth	3	Hamza writing	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Fifth	3	Punctuation	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Sixth	3	Noun and verb and differentiate between them	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Seventh	3	Effects	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Eighth	3	Number	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Ninth	3	Applications of common linguistic errors	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Tenth	3	Noon and Tanween	Explanation of the lecture with the presence of means of	Classroom	**Exams**

			illustration and practical application		
Eleventh	3	Formal aspects of administrative discourse	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Twelfth	3	Meanings of prepositions	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Thirteenth	3	Solar and lunar letters	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Fourteenth	3	T tied and long	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Fifteenth	3	T Open	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**

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Physiology Course Description Form

1. Course Name
Physiology
2. Course Code
TID106
3. Semester / Level
Second /First
4. Description preparation date
9 / 9 / 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
60 / 4
7. Course administrator name
Dr. Ansam Hussein Ali Ansam.ha@ntu.edu.iq
8. Course Objectives

Course Objectives	• The student's knowledge of the function of each organ in the human body and its role in the balance of the body

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Blood – its components – blood swab – blood volume – red blood cells – number of red blood cells – shape – method of counting them	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Second	3	Leukocytes - their number - types - the normal proportions of each type - the work of white blood cells.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Third	3	Blood clotting – blood acidity – blood discs and their function.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Anemia – types of anemia.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Jaundice - its types - causes of jaundice - erythrocyte decomposition.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Cardiovascular system – Overview of the anatomy of the circulatory system – Anatomy of the heart – Heart valves.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	The location of the heart relative to the surface of the living body - the heart as a pump - cardiac subtraction.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	ECG – cardiac sounds – cardiac valve areas – natural sounds.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Ninth	3	Arterial blood pressure – silent blood flow – atmospheric pressure – blood pressure measurement.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Factors affecting blood pressure - high - low - central control of blood vessels - measurement of high blood pressure - low.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eleventh	3	Respiratory system – respiratory muscles – diaphragm – diaphragm function relative to the lungs.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Respiratory volumes – spare volume of exhalation – reserve volume of inhalation – vital capacity – factors affecting vital capacity.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Diseases that affect the effectiveness of respiratory volumes – nasal function.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Pulmonary alveoli function	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Digestive system – mouth – pharynx.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

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Analytical Chemistry Course Description Form

1. Course Name
Analytical Chemistry
2. Course Code
MLT115
3. Semester / Level
First /First
4. Description preparation date
9 / 9 / 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 / 3
7. Course administrator name
Mohand Habib Ahmad mohaned.ha@ntu.edu.iq
8. Course Objectives

Course Objectives	• Give a general idea of organic and biochemical compounds, which increases the student's knowledge and ability to conduct experiments and various chemical reactions

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	atoms, elements, contamination of radioactive isomers with radioactive isomers, contamination with elements.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Second	3	The relationship between atoms, molecules and energy, according to the theory of the new atom. (Debroguli's equation). Article and classification.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Third	3	Chemical bonds, covalent, isonic, coordination, hydrogen	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Analysis methods. Qualitative, quantitative and statistical methods of quantitative analysis, errors in quantitative analysis	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Methods of expressing the concentration of solution, mollein solution, natural solution	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Preparation of the mullein solution, dilution, questions	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Percentage and ppm composition	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Chemical balance, ionization, water constant (PH and POH)	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Ninth	3	Ionization of weak electrolytes. Calculate the pH of weak acids and weak bases.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Neutral solutions and classification	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eleventh	3	Calculation of neutral solutions	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Volumetric analysis, classification, standard solution, examples.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Neutralization, oxidation, and reduction reactions	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Reagent theory, interaction, properties, examples.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Principles of colorimetry	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

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Organic Chemistry Course Description Form

1. Course Name
Organic Chemistry
2. Course Code
MLT119
3. Semester/Level
Second /First
4. Description preparation date
9 / 9 / 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 / 3
7. Course administrator name
Abeer Salih Hasan abeer.sa@ntu.edu.iq
8. Course Objectives

Course Objectives	• Give a general idea of organic and biochemical compounds, which increases the student's knowledge and ability to conduct experiments and various chemical reactions

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Introduction to Organic Chemistry Organic compounds found in nature	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Second	3	Contamination with organic compounds	Explanation of the lecture with the presence	Classroom and laboratory	**Exams**

			of means of illustration and practical application		
Third	3	Hydrocarbons, classification, alkanes, alkenes, alkynes, benzene example, nomenclature, properties	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Alcohols, classification and properties	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Aldehydes, preparation, classification, properties	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Ketones, classification, properties, preparation	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Ketone preparation	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Carboxylic acids, classification, properties	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	Classification of carboxylic acids	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Classification of carboxylic acids	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Eleventh	3	Properties of carboxylic acids	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Physical properties of organic compounds	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Separation of organic compounds	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Purification of organic compounds. Filtration and extraction	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Melting points and boiling points	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

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Medical Terminology Course Description Form

1. Course Name
Medical terminology
2. Course Code
TID109
3. Semester / Level
Second /First
4. Description preparation date
9 / 9 / 2024
5. Available attendance formats
attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
2 / 30
7. Course administrator name
Ghofran luaay Naji ghofranluaay95@gmail.com
8. Course Objectives

Course Objectives	• The student's knowledge of comprehensive and detailed information about the terminology used to describe the organs and structures of the human body, the different types of tests and their medical abbreviations, andenable him to understand the bulk of the discussions in English for any topic within the systematic lectures, seminars and external conferences.

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Introduction to Medical Terminology	Explanation of the lecture with the presence of means of	Classroom and laboratory	**Exams**

			illustration and practical application		
Second	3	Root	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Third	3	Prefix	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Subsequent	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Mobile Splicing Rules	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Connecting forms	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Medical terminology and pathology	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Terminology of the heart, circulation and nervous system	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	Gastrointestinal and urinary terminology	Explanation of the lecture with the presence of means of	Classroom and laboratory	**Exams**

			illustration and practical application		
Tenth	3	Lymphatic system terminology	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eleventh	3	Respiratory terminology	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Teeth and maxillofacial	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Terms of conditions and trends	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Musculoskeletal terminology	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Terminology of the skeletal system	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

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Blood Transfusion Course Description Form

1. Course Name
Blood transfusion
2. Course Code
MLT116
3. Semester / Level
First /First
4. Description preparation date
9 / 9 / 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 / 3
7. Course administrator name
Huthaifa.A.Mansour huthaifa.assim@ntu.edu.iq
8. Course Objectives

Course Objectives	• Identify the characteristics , sections and importance of blood bank and how to perform blood transfusions

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Introduction to Blood Transfusions	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Second	3	Blood components, blood collection, donor selection,	Explanation of the lecture with the presence of means of	Classroom and laboratory	**Exams**

		physiological examination and collection time.	illustration and practical application		
Third	3	Blood type, ABO system , Rh factor and Lewis system	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Blood type classification (long and short)	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Direct and indirect comb blood test	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	The process of cross-matching testing and reporting and recording of results.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	The importance of blood transfusion and its relationship to blood diseases	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Care of pregnant women and leukemia in infants	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	Division of blood, methods of use and division.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Tenth	3	Blood components after storage and anticoagulants	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eleventh	3	Disadvantages of blood transfusion	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Anticoagulants, their types, properties, methods of preparation and storage	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Education of test samples and methods of recording the history of medical conditions	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Quality control, tools, people, and method	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Blood transfusion tools and fluid administration.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

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Statistics Course Description Form

1. Course Name
Statistics
2. Course Code
TID202
3. Semester / Level
Second / Second
4. Description preparation date
9 / 9/ 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (College) / Number of Units (College)
2 / 30
7. Course administrator name
Mustafa Talib Khalf mustafa.tk@ntu.edu.iq
8. Course Objectives

Course Objectives	• Ability to deal with various statistical methods and their vital applications within the field of medical laboratories.

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Basic concepts in mathematics	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Second	3	Division equation	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Third	3	Purpose and continuity	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**

Fourth	3	Biostatistics	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Fifth	3	Statistical concepts	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Sixth	3	The concept of probability	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Seventh	3	Calculation and counting techniques	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Eighth	3	Probability distribution	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Ninth	3	Frequency distribution table	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Tenth	3	Measures of central tendency	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Eleventh	3	Methods of data classification and tabulation	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Twelfth	3	Derivative	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Thirteenth	3	Derivative of Trigonometric Functions	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Fourteenth	3	Integration	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Fifteenth	3	Deviation and contrast	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**

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Professional Ethics Course Description Form

1. Course Name
Professional Ethics
2. Course Code
NTU204
3. Semester / Level
First / Second
4. Description preparation date
9 / 9/ 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
2 / 30
7. Course administrator name
Adnan Abdulkarim Khalil adnan.akh@ntu.edu.iq
8. Course Objectives

Course Objectives	• Identify the basic ethics of the profession for workers in medical specialties and qualify the graduate to deal professionally with his profession and achieve compatibility with himself and his professional environment (the patient, his companions, health workers and medical devices).

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	- Principles of professional ethics in the stages of civilizational developments.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**

		- Principles of professional ethics in Arab and Islamic civilization. - Etiquette of dealing with patients in hospitals since ancient times until now.			
Second	3	Professional behavior: definition, concept, practical applications, relationship between employees and their superiors.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Third	3	Basic ethics of the profession - Characteristics of professional ethics as a guide and guide for behavior. - How to employ professional ethics from the position of the guide to the behavior of the individual and his emotions and his ability to make the appropriate decision. -Characteristics and qualities of health workers... - Appearance, behavior and commitment. Moral and legal rights of the patient	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Fourth	3	Behavioral / human - interactive - collective patterns. Its definition, nature, motives, interpretations, and factors affecting it.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Fifth	3	Communication/linguistic and non-linguistic styles - Definition, types, effects, design of successful communication methods. - How communication styles affect behavior, listening and listening, and how to practice it with practical examples.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Sixth	3	Behavioral attitudes and tendencies.	Explanation of the lecture with the presence of means	Classroom	**Exams**

		- Definition, classification, factors affecting them, methods of measurement.	of illustration and practical application		
Seventh	3	Values, customs and traditions. - Definition, classification, factors affecting them, methods of measurement.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Eighth	3	Personality styles and how to deal with them. - Definition of personality - types - relationship to the profession. - Technician's personality and manifestations	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Ninth	3	Conditions for improving mental health - Definition, factors affecting it, prevention of mental illness, the role of mental health in professional preparation.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Tenth	3	Conditions of professional compatibility and associated employment relationship. - Concept, conditions, poor professional availability.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Eleventh	3	Job description of the graduate's work	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**

Twelfth	3	- Behavioral dealing with the patient. - Receiving the patient, dealing with him, gaining his trust and maintaining the secrets of the profession. - Scheduling the requirements of the required procedure. - Maintaining the patient's needs.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Thirteenth	3	Behavioral handling of medical devices and equipment. - Daily access to devices, tools, solutions and other requirements and preparing them for daily work, sustaining, maintaining and maintaining them. - Preparing the necessary medicines for work and good disposition of them.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**

Fourteenth	3	Occupational Safety -Prevention of work hazards and accidents. - Prevention of the risks of bacterial, toxic and radioactive contamination. - Prevention of thoughts of infection with infectious and communicable diseases. - Avoid wrong practices in the field of work.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Fifteenth	3	Applications in professional conduct. - Field visits to hospitals and other health institutions to view and exchange experience and information.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**

11. Course Evaluation
Daily, monthly and final exams as well as weekly reports
12. Learning and Teaching Resources
Textbooks
Main references
Scientific resources within the Internet

Fundamentals of Bacteriology Course Description Form

1. Course Name
Fundamentals of Bacteriology
2. Course Code
MLT210
3. Semester/Level
First / Second
4. Description preparation date
9/9/2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 / 3
7. Course administrator name
Mohammad Hasan Mohammad mohammed.hasan@ntu.edu.iq
8. Course Objectives

Course Objectives	• It aims to provide a broad introduction to bacteriology, classification of bacteria, bacterial cell structure and mode of operation, bacterial growth and methods of estimation and factors affecting it, metabolism, genetics and the biological and economic importance of bacteria.

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Introduction to Bacteriology	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Second	3	The structure and shape of bacteria, the classification of bacteria, the chemical composition and secondary structure of the bacterial cell.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Third	3	Physiology of bacteria, growth requirements, types of nutrition and factors affecting growth.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Sterilization and disinfection . Classification of sterilization, physical and chemical methods.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Tools, equipment and devices used in the diagnosis of bacteria	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Infections, sources of infection, virulence, toxins and enzymes related to bacteria	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Cultivation media and their types	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Chemical tests for the detection of bacteria	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Ninth	3	Anaerobic bacteria	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
X	3	Clostridium	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eleventh	3	Aerobic bacteria	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	staphylococcus, general characteristics, toxin production, enzyme, immunomodulator, Allergy test.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	streptococci, general characteristics, toxin production, enzyme, immunomodulator, Allergy test.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Bacilli (Anthrax), general characteristics, toxin production, enzyme, immunomodulatory, allergy test.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Bordetella and Haemophilus, general characteristics, toxin production, enzyme, immunomodulatory, allergy test.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

11. Course Evaluation
Daily, monthly and final exams as well as weekly reports
12. Learning and Teaching Resources
Textbooks
Main references
Scientific research
Scientific resources within the Internet

Immunology Fundamentals Course Description Form

1. Course Name
Fundamentals of Immunology
2. Course Code
MT214
3. Semester/Level
First / Second
4. Description preparation date
9 / 9/ 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 / 3
7. Course administrator name
Dr. Hanan Shahab Ahmad hanan.sha@ntu.edu.iq
8. Course Objectives

Course Objectives	• The course aims to clarify the basic elements and terminology used in immunology, with a focus on the important elements in the defense of the body: natural immunity: chemical, biochemical, physiological and cellular immune barriers with emphasis on antivirals.

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Definition of immunity, its types and its relationship to other natural and biological medicine sciences	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Second	3	Natural immunity and components of the immune system, factors affecting immunity and natural immune mechanisms	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Third	3	Acquired immunity and its types	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Congenital immunity and its types	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	(Immunization) Vaccines and their types, their importance, how to prepare the vaccine schedule, with duration. Require the student to prepare a report on vaccines.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Complement system, definition. Chemical-physical properties and the proportion of their components in the body	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Antigens, types, sizes and methods of detection	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Eighth	3	Antibodies types, sizes and methods of detection	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	Interaction links between antigens and antibodies responsible for interaction, types of reactions, affinity, monovalent and polyvalent antigen effects.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Synergy definition and application	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eleventh	3	Indirect conjugation - Latex test - Pregnancy Test - Comp Test	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	General instructions for the laboratory guide the student about immunity and the laboratory.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Viral hepatitis principle, causative agent, method of infection and laboratory diagnostic method	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Rose – Bengal method	Explanation of the lecture with the presence of means	Classroom and laboratory	**Exams**

			of illustration and practical application		
Fifteenth	3	Toxoplasmosis test	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

11. Course Evaluation
Daily, monthly and final exams as well as weekly reports
12. Learning and Teaching Resources
Textbooks
Main references
Scientific research
Scientific resources within the Internet

Primary Course Description Form

1. Course Name
Protozoa
2. Course Code
MLT206
3. Semester / Level
First / Second
4. Description preparation date
9 / 9/ 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (College) / Number of Units (College)
45 / 3
7. Course administrator name
Tuqa Abd Muhammad tuqa.mohamad@ntu.edu.iq
8. Course Objectives

Course Objectives	• Introducing the student toprimary parasites (protozoa), methods of diagnosis and the diseases they cause, and familiarity with their epidemiological information, which helps to prevent and eradicate the prevailing parasitic diseases.

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Introduction to parasites	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Second	3	Classification of parasites	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Third	3	Host and its types	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Classification of protozoans and their specifications	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Roots	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Antamoeba: form, pathogenesis and diagnostic methods	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Flagella	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Giardiasis - Trichomonas: form, pathogenesis and diagnostic methods	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	Leishmaniasis: form, pathogenesis and diagnostic methods	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Tenth	3	Trypanosoma: form, pathogenesis and diagnostic methods	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eleventh	3	Ciliary	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Plantidium: form, pathogenesis and diagnostic methods	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Spores	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Plasmodium: form, pathogenesis and diagnostic methods	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Toxoplasma: form, pathogenesis and diagnostic methods	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

11. Course Evaluation
Daily, monthly and final exams as well as weekly reports
12. Learning and Teaching Resources
Textbooks
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Scientific research
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Pathogenic Bacteriology Course Description Form

1. Course Name
Pathogenic bacteria
2. Course Code
MLT210
3. Semester / Level
Second / Second
4. Description preparation date
9 / 9/ 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 3
7. Course administrator name
Mohammad Hasan Mohammad mohammed.hasan@ntu.edu.iq
8. Course Objectives

Course Objectives	• It aims to introduce the bacteria that cause diseases to humans and animals and the different ways to detect them and how to prevent and treat them in the event of infection

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	staphylococcus, general characteristics, toxin production, enzyme, immunomodulator, Allergy test.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Second	3	streptococci, general characteristics, toxin production, enzyme, immunomodulator, Allergy test.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Third	3	Bacilli (Anthrax), general characteristics, toxin production, enzyme, immunomodulatory, allergy test.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Bordetella and Haemophilus, general traits.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Production of toxins for Bordetella and Haemophilus bacteria, enzyme, immunomodulatory, allergy testing.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Mycobacterium bacteria, general characteristics, toxin production, enzyme, immunomodulatory, allergy test.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Corynebacterium, general characteristics, toxin production, enzyme, immunomodulatory, allergy test.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Pneumococcus, general characteristics, toxin production, enzyme,	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

		immunology, allergy test.			
Ninth	3	Salmonella bacteria, general characteristics, toxin production, enzyme, immunomodulatory, allergy test.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Escherichia coli bacteria, general characteristics, toxin production, enzyme, immunomodulatory, allergy test.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eleventh	3	Klebsiella, general characteristics, toxin production, enzyme, immunity, allergy test.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Pseudomonas (Pseudomonas), general characteristics, toxin production, enzyme, immunomodulatory, allergy test.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Brucella bacteria, general characteristics, toxin production, enzyme, immunology, allergy test.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Francisella bacteria, general characteristics, toxin production, enzyme, immunomodulatory, allergy test.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Fifteenth	3	Chlamydia, general characteristics, toxin production, enzyme, immunomodulatory, allergy test.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

11. Course Evaluation
Daily, monthly and final exams as well as weekly reports
12. Learning and Teaching Resources
Textbooks
Main references
Scientific research
Scientific resources within the Internet

Worms Course Description Form

1. Course Name
Worms
2. Course Code
ML213
3. Semester / Level
Second / Second
4. Description preparation date
9 / 9/ 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 / 3
7. Course administrator name
Tuqa Abd Muhammad tuqa.mohamad@ntu.edu.iq
8. Course Objectives

Course Objectives	• Definition of parasitology and a detailed study of parasites that infect humans and animals (general form and life cycle) and definition of the medical and economic importance of their role in disease, in addition to studying how to identify and resist them and prevent exposure to infection and how to eliminate them

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Introduction to parasites	Explanation of the lecture with the presence of means of	Classroom and laboratory	**Exams**

			illustration and practical application		
Second	3	Classification of parasites	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Third	3	Various general methods of diagnosing parasites	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Tapeworms, their types and life cycle	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Methods for diagnosing tapeworms	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Worms of trypanosis, types and life cycle.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Methods for diagnosing worms	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Hidden human spores, their types and life cycle.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Ninth	3	Methods for diagnosing human cryptworms	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Dwarf squamous worms, types and life cycle	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eleventh	3	Methods for diagnosing dwarf squamous worms	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Liver trypanosomiasis and diagnostic methods	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Lung trypanosomiasis and methods of diagnosis	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Nematodes, types, life cycle and methods of diagnosis	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Quarterly worms, types, life cycle and methods of diagnosis	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
11. Course Evaluation					
Daily, monthly and final exams as well as weekly reports					
12. Learning and Teaching Resources					
Textbooks , Main references , Scientific research , Scientific resources within the Internet					

Biochemistry Course Description Form

1. Course Name
Biochemistry
2. Course Code
MLT208
3. Semester / Level
First / Second
4. Description of preparation date
9 / 9/ 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 / 3
7. Course administrator name
Dr. Maha Elttayef Jasim maha.aj@ntu.edu.iq
8. Course Objectives

Course Objectives	• Introducingchemical compounds and enriching the student with adequate information that enables him to understand the vital activities within the human body, and clarify the different methods used in diagnosing diseases.

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Introduction to methods of collecting blood and urine samples and methods of preservation	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Second	3	strays	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Third	3	Rare metals and diseases associated with low levels	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Acid-base balance and problems caused by its imbalance	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Carbohydrates	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Digestion and absorption in normal and abnormal states	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Glucose tolerance test	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Glucose metabolism and the hormones responsible for regulating it	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	Diabetes and its types	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Proteins	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Eleventh	3	Types of abnormal proteins and diseases resulting from them	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Types of proteins and ways to digest them	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Electrorelay of body fluid proteins	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Liver function	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Kidney function	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

11. Course Evaluation
Daily, monthly and final exams as well as weekly reports
12. Learning and Teaching Resources
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Arabic Course Description Form

1. Course Name
Arabic Language
2. Course Code
NTU202
3. Semester / Level
Second / Second
4. Description preparation date
9 / 9/ 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
2 / 30
7. Course administrator name
Dr. Layla Talal Ahmad layla.ta@ntu.edu.iq
8. Course Objectives

Course Objectives	• Introducing the Arab culture by understanding the rules and principles of the Arabic language and enabling students to master their Arabic language through the ability to write the correct texts and the appropriate expression of various situations and situations within their medical specialization.

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	2	Language is human identity	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Second	2	The Arabic language and its origins	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**

Third	2	Syntax	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Fourth	2	Counting rules	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Fifth	2	The style of the condition in the Arabic language	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Sixth	2	Dictation and writing	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Seventh	2	Punctuation	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Eighth	2	Calligraphy	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Ninth	2	Arabic literature	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Tenth	2	The merits of writing for Al-Jahiz	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Eleventh	2	Short Story (Tigers on the Tenth Day)	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Twelfth	2	The poem of the night lover by Nazik Al-Malaika	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Thirteenth	2	Study of Surat Al-Fajr	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**
Fourteenth	2	T tied	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**

Fifteenth	2	Communication in the language	Explanation of the lecture with the presence of means of illustration and practical application	Classroom	**Exams**

11. Course Evaluation
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12. Learning and Teaching Resources
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Immunology and Pathogenesis Course Description Form

1. Course Name
Immunology and pathogenicity
2. Course Code
MLT216
3. Semester / Level
Second / Second
4. Description preparation date
9 / 9/ 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 / 3
7. Course administrator name
Dr. Hanan Shahab Ahmad hanan.sha@ntu.edu.iq
8. Course Objectives

Course Objectives	• The course aims to clarify the basic elements and terminology used in immunology, with a focus on the important elements in the defense of the body: natural immunity: chemical, biochemical, physiological and cellular immune barriers with a focus on antivirals , as well as the different mechanisms taken by microorganisms to resist the body's immunity and the different mechanisms for causing diseases.

9. Teaching and Learning Strategies
• Adequate explanation of the course • Daily Tests • Student groups • Field visits
10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method

First	3	Definition of immunity, its types and its relationship to other natural and biological medicine sciences	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Second	3	Immune response and its types	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Third	3	The biological mechanisms causing pathological conditions.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Immunization or immunity against viruses and their types - Specialized immunity - Non-specialized immunity	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Immunization or immunity against bacteria and their types - Specialized immunity - Non-specialized immunity	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Immunization or immunity against parasites and their types - Specialized immunity - Non-specialized immunity	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Immunization or immunity against fungi and its types - Specialized immunity - Non-specialized immunity	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Eighth	3	Mechanisms of neutralization or neutralization of bacterial and fungal toxins	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	Osmosis and phagocytosis	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Autoimmune and theories of the formation of various autoimmune diseases	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eleventh	3	Types of immune diseases - Systemic lupus erythematosus - Rheumatoid arthritis	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	The mechanism of Rh factor in hemolysis at birth	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Hypersensitivity	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	ELIZA Test	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	RIA Test	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

11. Course Evaluation

Daily, monthly and final exams as well as weekly reports

12. Learning and Teaching Resources

Textbooks , Main references , Scientific research , Scientific resources within the Internet

Cellular Hematology Course Description Form

1. Course Name
Cellular blood diseases
2. Course Code
MT217
3. Semester / Level
Second / Second
4. Description preparation date
9 / 9/ 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 / 3
7. Course administrator name
Sayar Aswad Ali sayar.aswad@ntu.edu.iq
8. Course Objectives

Course Objectives	• Introducing hematology and focusing on understanding the normal mechanism of action of blood components in addition to the accompanying pathological conditions and for various reasons.

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Introduction to the importance of blood diseases and the study of blood components	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Second	3	Hemostasis, its definition and types and the role of blood vessels	Explanation of the lecture with the presence of means	Classroom and laboratory	**Exams**

		and platelets in the hemostasis process	of illustration and practical application		
Third	3	Blood clotting factors	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	The mechanism of the blood clotting process	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Hemoglobin and problems associated with low and high blood	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Red blood cells, their mechanism of formation and functions, and the problems associated with their imbalance	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Tools, equipment and devices used to diagnose various blood diseases	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	White blood cells and the mechanism of their formation	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	White blood cell functions	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Tenth	3	Causes and symptoms associated with white blood cell deficiency	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eleventh	3	Causes and symptoms associated with increased white blood cells	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Leukemia, its causes and types	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Acute and chronic myelogenous leukemia	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Monocytic leukemia	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Differential white blood cell test	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

11. Course Evaluation
Daily, monthly and final exams as well as weekly reports
12. Learning and Teaching Resources
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Crimes of the Baath Regime in Iraq Course Description Form

1. Course Name
Crimes of the Baath regime in Iraq
2. Course Code
NTU203
3. Semester / Level
First / Second
4. Description preparation date
9 / 9/ 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
2 / 30
7. Course administrator name
Adnan Abdulkarim Khalil adnan.akh@ntu.edu.iq
8. Course Objectives

Course Objectives	• Introducing the Baath regime and its emergence in Iraq and the types of crimes practiced by it over decades and studying the motives behind the implementation of various crimes against the Iraqi people.

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Basic political terminology	Explanation of the lecture with the presence of means of illustration	Classroom	**Exams**
Second	3	The emergence of the Baath Party in Iraq	Explanation of the lecture with the	Classroom	**Exams**

			presence of means of illustration		
Third	3	Types of crime	Explanation of the lecture with the presence of means of illustration	Classroom	**Exams**
Fourth	3	Causes and motives of the crime	Explanation of the lecture with the presence of means of illustration	Classroom	**Exams**
Fifth	3	Perpetrators of Baath regime crimes	Explanation of the lecture with the presence of means of illustration	Classroom	**Exams**
Sixth	3	The United Nations' view of the crimes of the Baath regime	Explanation of the lecture with the presence of means of illustration	Classroom	**Exams**
Seventh	3	Human rights and crimes of the Baath regime	Explanation of the lecture with the presence of means of illustration	Classroom	**Exams**
Eighth	3	Human rights violations by the Baath regime	Explanation of the lecture with the presence of means of illustration	Classroom	**Exams**
Ninth	3	Military crimes	Explanation of the lecture with the presence of means of illustration	Classroom	**Exams**
Tenth	3	Political crimes	Explanation of the lecture with the presence of means of illustration	Classroom	**Exams**
Eleventh	3	Economic crimes	Explanation of the lecture with the presence of means of illustration	Classroom	**Exams**

Twelfth	3	Civil offenses	Explanation of the lecture with the presence of means of illustration	Classroom	**Exams**
Thirteenth	3	Social crimes	Explanation of the lecture with the presence of means of illustration	Classroom	**Exams**
Fourteenth	3	Genocide	Explanation of the lecture with the presence of means of illustration	Classroom	**Exams**
Fifteenth	3	Mass graves	Explanation of the lecture with the presence of means of illustration	Classroom	**Exams**

11. Course Evaluation
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Medical Mycology Course Description Form

1. Course Name
Medicinal fungi
2. Course Code
MT212
3. Semester / Level
Second / Second
4. Description preparation date
9 / 9/ 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (College) / Number of Units (College)
45 / 3
7. Course administrator name
Alyaa Salih Jwad alya.sj@ntu.edu.iq
8. Course Objectives

Course Objectives	• Introducing medical mycology, the nature of its formation and reproduction, important methods of diagnosis and isolation, as well as its economic and medical importance.

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Definition and classification of medicinal fungi	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Second	3	Farming characteristics of fungi and types of culture media	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Third	3	Methods of growing and insulating fungi	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Tools, equipment and devices used in the diagnosis of fungi	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Biochemical tests used to diagnose fungi	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Microscopic tests used to diagnose fungi	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	General basics in the treatment of fungal diseases	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Dermal fungi	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	Candidiasis	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Cryptococci Ghati	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Eleventh	3	Cytocytopenia	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Aspergillosis	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Trichophytosis sporosis	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Fungicidal antibiotics	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Various antibiotics produced from fungi	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

11. Course Evaluation
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Virus Course Description Form

1. Course Name
Viruses
2. Course Code
MLT209
3. Semester / Level
I / II
4. Description preparation date
9 / 9/ 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 3
7. Course administrator name
Raihan Jabbar Jasim raihan.jj@ntu.edq.iq
8. Course Objectives

Course Objectives	• It aims to introduce the nature of viruses and their relationship with living organisms and study their properties , medical and economic importance.

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Introduction, general characteristics of the virus, its structure and classification based on DND or RNA	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Second	3	Mechanisms of isolation and development of viruses	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Third	3	Chemotherapy, antivirals and vaccines	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Tools, equipment and devices used in the virology laboratory	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Different DNA isolation and replication mechanisms of viruses	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Various immunological tests to diagnose viruses	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Paramexo and rubella viruses	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Enteroviruses, group of rhinoviruses.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Ninth	3	Hepatitis viruses	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Carcinogenic viruses	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eleventh	3	Adenviruses, smallpox and parvoviruses	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Arthroviruses and hemorrhagic viruses	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Immunodeficiency viruses	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Neuroviruses	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Virus inheritance	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

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Clinical Chemistry Course Description Form

1. Course Name
Clinical Chemistry
2. Course Code
MLT211
3. Semester / Level
II / II
4. Description preparation date
9 / 9/ 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 / 3
7. Course administrator name
Dr. Maha Elttayef Jasim maha.aj@ntu.edu.iq
8. Course Objectives

Course Objectives	• Providing biochemical surveys to help diagnose the disease condition that facilitates reaching the ultimate goal of treating and managing the patient , and these tests help in the study of disease prognosis and follow-up of patients in addition to conducting a survey of diseases in communities.

9. Teaching and Learning Strategies

- Adequate explanation of the course
- Daily Tests
- Student groups
- Field visits

10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Methods for determining protein levels	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Second	3	Fats, types of fats and their functions.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Third	3	Digestion and absorption of fats.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Lipid metabolism, conditions associated with abnormal levels.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifth	3	Cholesterol, triglycerides, free fatty acids.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Lipoproteins and their types and diseases associated with abnormal levels.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Ketone bodies	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Enzymes and their importance within the body	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	Properties and classification of enzymes	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Factors affecting enzyme activity.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Eleventh	3	Change in enzyme activity and associated diseases	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Liver function and tests	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Hormones, their types, properties and function.	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	The mechanism of action of hormones and diseases associated with abnormal levels	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Cauterization functions, tests and diseases associated with abnormal levels	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

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Course Description Form Introduction to Hematology

1. Course Name
Introduction to Hematology
2. Course Code
MLT205
3. Semester / Level
First / Second
4. Description preparation date
9 / 9/ 2024
5. Available attendance formats
Attendance on a weekly basis
6. Number of Credit Hours (Total) / Number of Units (Total)
45 / 3
7. Course administrator name
Sayar Aswad Ali sayar.aswad@ntu.edu.iq
8. Course Objectives

Course Objectives	• Identify the components of blood and the problems caused by their imbalances within the body and the most important tests used to diagnose them

9. Teaching and Learning Strategies
• Adequate explanation of the course • Daily Tests • Student groups • Field visits
10. Course Structure

Week	Hours	Subject	Learning method	Attendance Forms	Evaluation method
First	3	Introduction to the types of blood diseases	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Second	3	Blood components	Explanation of the lecture with the presence of	Classroom and laboratory	**Exams**

			means of illustration and practical application		
Third	3	The process of blood formation in the body in children and adults	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourth	3	Leukemia (Polycethemia): clinical signs and diagnostic methods	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
fifth	3	Forms of red blood cells in the normal and abnormal state and methods of examination	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Sixth	3	Definition of hemoglobin Hb and the different ways to determine its levels	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Seventh	3	Definition of the volume of compressed blood cells PCV and the different methods for determining their levels	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Eighth	3	Definition of ESR and different methods for determining ESR levels	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Ninth	3	Anemia: clinical signs, types and diagnosis	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Tenth	3	Sickle cell anemia: causes, clinical signs and diagnosis	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

Eleventh	3	Aplastic anemia: causes, clinical signs and diagnosis	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Twelfth	3	Bacterial blood diseases and methods of diagnosis	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Thirteenth	3	Viral blood diseases and methods of diagnosis	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fourteenth	3	Parasitic blood diseases and methods of diagnosis	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**
Fifteenth	3	Definition of white blood cells and the different ways to detect their levels	Explanation of the lecture with the presence of means of illustration and practical application	Classroom and laboratory	**Exams**

11. Course Evaluation
Daily, monthly and final exams as well as weekly reports

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