Course description form

Course description

This course description provides a summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the .learning opportunities available. It must be linked to the program description

Northern Technical University/Health and Medical Technology/ Al-Dur	• **Educational institution**
Optics techniques	• **Scientific department/center**
Principles of Chemistry / OPT103	• **Course name/code**
In-person lectures	• **Available attendance forms**
2024-2023	• **Semester/year**
theoretical + 4 practical 3	• **Number of study hours (total)**
2024/7/1	• **Date this description was prepared**
• **Course objectives**	
.Identify the basis of chemistry and chemical structures –	
• **Course outcomes and teaching, learning and evaluation methods**	
a . Cognitive objectives **.A.1 - The student gets to know the concept of chemistry** **.A.2 - To classify and separate different types of chemical processes** **A.3 - To be proficient in learning how to prepare concentrates in different .units**	
.B. Course-specific skills objectives **.B.1- The student's knowledge of the basics of chemistry and its sections** **.B.2- Expanding the student's ability to use chemistry in preparing various solutions** **.B.3- Enabling the student to use various laboratory tools**	

Teaching and learning methods
Education is in-person
Evaluation methods
Daily tests, semester exams - final exams, weekly reports within the subject seminars within the academic subjects , discussions and conversations during . the lesson
.C. Emotional and value goals C.1- Developing and enhancing thinking skills according to the student's .ability and moving him to a higher level of thinking .C.2- That the student interacts during the lecture C.3- The student should listen carefully to the practical explanation in the .laboratory
Teaching and learning methods
Theoretical lectures / discussion and dialogue / practical lectures / field visits)) / discussion circles / laboratories / office activities / solving examples / .(graduation project / summer training
• Evaluation methods
Daily, quarterly and final exams, submitting weekly reports and patient seminars, and reports on monitoring the patients' clinical condition, with practical discussions followed by the practical lesson . in the hospital
Dr . Transferable general and qualifying skills (other skills related to .(employability and personal development .D1 . Cooperation skills and teamwork .D2 . Computer typing skills .D3 . Communication skills in English .D4 . Ability to perform work and solve problems . D5 . Internet conversation skills

Course structure

Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week

Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Devices and equipment in chemical laboratories	Accompanied by arousal	3 theoretical + 4 practical	the first
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Chemistry of solutions		3 theoretical + 4 practical	the second
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Molar solution and normal solution		3 theoretical + 4 practical	the third
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Problems and questions		3 theoretical + 4 practical	the fourth
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Redox reaction (Oxidation-Reduction)		3 theoretical + 4 practical	Fifth
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	pH determination		3 theoretical + 4 practical	VI
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Titration acids-base reactions		3 theoretical + 4 practical	Seventh
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Measurement of water pollution - percentages of chemical elements		3 theoretical + 4 practical	VIII

,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	Blood analysis		**3 theoretical + 4 practical**	**Ninth**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	Lipids tests		**3 theoretical + 4 practical**	**The tenth**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	Blood glucose test		**3 theoretical + 4 practical**	**eleventh**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	Organic chemistry: alkane, alkene, alkyne		**3 theoretical + 4 practical**	**twelveth**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	problems and questions		**3 theoretical + 4 practical**	**Thirteenth**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	Chemical reaction in the eye		**3 theoretical + 4 practical**	**fourteenth**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	Molar solution and normal solution		**3 theoretical + 4 practical**	**Fifteenth**

- **Infrastructure**

	The presence of study halls
	And C and D specialized laboratories
	The presence of capable cadres

- **Course development plan**

Updating the course periodically in order to add materials that are in line with modern scientific development .

Course description form

Course description

This course description provides a summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the .learning opportunities available. It must be linked to the program description

Northern Technical University/Health and Medical Technology/ Al-Dur	• **Educational institution**
Optics techniques	• **Scientific department/center**
/BiochemistryOPT104	• **Course name/code**
In-person lectures	• **Available attendance forms**
2024-2023	• **Semester/year**
theoretical + 4 practical 3	• **Number of study hours (total)**
2024/7/1	• **Date this description was prepared**
• **Course objectives**	
,The student learns about the metabolism of basic life molecules in the body - 1 such as carbohydrates, proteins, fats, and others, and how they are represented within the body and converted into vital energy that the human body invests to perform various vital activities, such as growth and .reproduction, for example	
• **Course outcomes and teaching, learning and evaluation methods**	
a . Cognitive objectives **A.1 - Knowing the resulting defect in any of the food metabolism pathways and .the resulting severe health damage to the body** **A.2 - Understanding the role that regulatory enzymes play in metabolic .reactions** **A.3 - Knowing the biological importance of the pathways of metabolism of .nutrients and their fate within the body**	

.B. Course-specific skills objectives

.B.1- The ability to understand the metabolic life processes that occur within the body

B.2- Realizing what may result from the nutritional behavior that an individual follows throughout .his life

Teaching and learning methods

In-person education (interactive education method / using discussion and dialogue method and ensuring students' involvement / using experiential (education by coupling theoretical lectures with the practical part

Evaluation methods

Daily tests, semester exams - final exams, weekly reports within the subject seminars within the academic subjects , discussions and conversations during . the lesson

.C. Emotional and value goals

C.1- The ability to understand the metabolic life processes that occur within the body and to understand what may result from any dietary .behavior that an individual follows during his life

.C.2- That the student interacts during the lecture

C.3- The student should listen carefully to the practical explanation in the .laboratory

Teaching and learning methods

Theoretical lectures / discussion and dialogue / practical lectures / field visits)) / discussion circles / laboratories / office activities / solving examples / .(graduation project / summer training

- **Evaluation methods**

Daily, quarterly and final exams, submitting weekly reports and patient seminars, and reports on monitoring the patients' clinical condition, with practical discussions followed by the practical lesson . in the hospital

Dr . Transferable general and qualifying skills (other skills related to .(employability and personal development

.D1 . Cooperation skills and teamwork

.D2 . Computer typing skills

.D3 . Communication skills in English

.D4 . Ability to perform work and solve problems

. D5 . Internet conversation skills

Course structure

Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week
Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Carbohydrates: classification, origin and optical activity	Accompanied by arousal	3 theoretical + 4 practical	the first
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Monosaccharaides, Disaccharides and Polysaccharides		3 theoretical + 4 practical	the second
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Hydrolysis of Polysaccharides by (saliva and acid)		3 theoretical + 4 practical	the third
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Metabolism of carbohydrates		3 theoretical + 4 practical	the fourth
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Metabolic cells (glycolysis)		3 theoretical + 4 practical	Fifth
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Proteins: sources, function, classification		3 theoretical + 4 practical	VI

,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	problems and questions		**3 theoretical + 4 practical**	**Seventh**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	Peptide (classification, properties)		**3 theoretical + 4 practical**	**VIII**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	Role of protein in the: cornea, lens, retina		**3 theoretical + 4 practical**	**Ninth**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	Lipid: properties, classification		**3 theoretical + 4 practical**	**The tenth**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	Lipids in retina		**3 theoretical + 4 practical**	**eleventh**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	Vitamins		**3 theoretical + 4 practical**	**twelveth**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	Hormones		**3 theoretical + 4 practical**	**Thirteenth**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	Carbohydrates: classification, origin and optical activity		**3 theoretical + 4 practical**	**fourteenth**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	Monosaccharaides, Disaccharides and Polysaccharides		**3 theoretical + 4 practical**	**Fifteenth**

• **Infrastructure**	
	The presence of study halls
	And C and D specialized laboratories
	The presence of capable cadres

• **Course development plan**
Updating the course periodically in order to add materials that are in line . with modern scientific development

Course description form

Course description

This course description provides a summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the .learning opportunities available. It must be linked to the program description

Northern Technical University/Health and Medical Technology/ Al-Dur	• **Educational institution**
Optics techniques	• **Scientific department/center**
Physics Medical /OPT108	• **Course name/code**
In-person lectures	• **Available attendance forms**
2024-2023	• **Semester/year**
Theoretical 3 practical 4 +	• **Number of study hours (total)**
1/7/2024	• **Date this description was prepared**
• **Course objectives**	
Will be requester in end the chapter Academic Able on that Understands phenomena Visual in Physics	
• **Course outcomes and teaching, learning and evaluation methods**	
a . Cognitive objectives **1 Recognition on the light And Spectrum Electromagnetic** **2. , Recognition on phenomena Visual Such as reflection , refraction polarization And diffraction.** **3. Recognition on Mirrors And its types And solve matters Private With it And a device Telescope as one from Its applications.** **4. Recognition on Prism And lenses And its types And its flaws And solve matters Private With it.** **5. Recognition on Eye And its parts And devices used in He checked it.** **6. Recognition on How Sight , errors Refraction that Infect Eye And correct it.** **7. Recognition on Sharpness Visual**	

.B. Course-specific skills objectives

1- **Identify the physical work plan of the eye.**
2- **Identify the telescope device, its types, purpose, and applications.**
3- **Identify the refractive indices of lenses, mirrors, and parts of the eye.**
4- **Learn about the concept of renewable energies through solar cell technology**
5- **Recognizing the importance of nanotechnology and its impact on the development of renewable energies. Promoting citizenship among .students**

Teaching and learning methods

In-person education (scientific films and videos, Laboratories, summer and (vocational training, and graduation projects
. Scientific visits and practical training in hospitals by specialized medical staff

Evaluation methods

Daily tests, semester exams - final exams, weekly reports within the subject seminars within the academic subjects , discussions and conversations during . the lesson

.C. Emotional and value goals

. Experimental thinking –C1

.Exploratory thinking –C2

.C3– Critical thinking

. C4– Inductive thinking

Teaching and learning methods

(In-person lectures), summer and vocational training, and graduation projects . Field visits and practical training for clinical subjects

- **Evaluation methods**

Daily, quarterly and final exams, submitting weekly reports and patient seminars, and reports on monitoring the patients' clinical condition, with practical discussions followed by the practical lesson . in the hospital

Dr . Transferable general and qualifying skills (other skills related to .(employability and personal development
.D1 . Cooperation skills and teamwork
.D2 . Computer typing skills
.D3 . Communication skills in English
.D4 . Ability to perform work and solve problems

. D5 . Internet conversation skills

Course structure					
Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week
Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Light and vision: introduction; light waves; light velocity; light rays and beams; electromagnetic spectrum.	Accompanied by arousal	3 Theoretical 4 + practical	the first
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Reflection: definition; Reflection at plan surfaces; regular Reflection; ir regular reflection image formation by plane mirror; direction of image seen by eye. Refractive index		3 Theoretical 4 + practical	the second
,Reports oral and written theoretica	Blackboa ,rd power point	Lenses: definition; focal length; lens power; types focal point. Thin lenses formula.		3 Theoretical 4 +	the third

l examinations	,slides practical experiments			practical	
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Examples and tutorials.		3 Theoretical 4 + practical	the fourth
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Note: aberration. (Define, type)		3 Theoretical 4 + practical	Fifth
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Mirror (definition; focal length, type)		3 Theoretical 4 + practical	VI
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Refraction: definition; Refraction index ;total internal Reflection, critical angel		3 Theoretical 4 + practical	Seventh
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Reflection at curved mirror, spherical mirror, type of Spherical mirror, rays' diagram for a concave and convex		3 Theoretical 4 + practical	VIII

,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Magnification, mirror equation, examples		3 Theoretical 4 + practical	Ninth
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Dispersion and the visible spectrum.		3 Theoretical 4 + practical	The tenth
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Polarization: definition; types.		3 Theoretical 4 + practical	eleventh
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Diffraction: definition; concept; grating; mechanism; constructive. And destructive		3 Theoretical 4 + practical	twelveth
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Prism(dispersion)		3 Theoretical 4 + practical	Thirteenth
,Reports oral and written theoretical	Blackboa ,rd power point ,slides	Eye: definition; parts; focusing element; photoreceptor cells; accommodation.		3 Theoretical 4 + practical	fourteenth

examinations	practical experiments				
		Real & the apparent depth		3 Theoretical 4 + practical	Fifteenth

• Infrastructure	
	The presence of study halls
	And C and D specialized laboratories
	The presence of capable cadres

• Course development plan
Updating the course periodically in order to add materials that are in line with modern scientific development .

Course description form

Course description

This course description provides a summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the .learning opportunities available. It must be linked to the program description

Northern Technical University/Health and Medical Technology/ Al-Dur	• **Educational institution**
Optics techniques	• **Scientific department/center**
Physics Optical /OPT107	• **Course name/code**
In-person lectures	• **Available attendance forms**
2024-2023	• **Semester/year**
Theoretical 3 practical 4 +	• **Number of study hours (total)**
1/7/2024	• **Date this description was prepared**
• **Course objectives**	
Will be requester in end the chapter Academic Able on that Understands phenomena Visual in Physics	
• **Course outcomes and teaching, learning and evaluation methods**	
a . Cognitive objectives **1 Recognition on Physical diagram of the eye's work** **2. Recognition on The telescope device, its types, purpose, and applications** **3. Recognition on Refractive indices for lenses, mirrors, and eye parts.** **4. Recognition on The concept of renewable energies through solar cell .technology** **5. Recognition on The importance of nanotechnology and its impact on the development of renewable energies.**	
.B. Course-specific skills objectives	

6- Understand the basic principles of photophysics and the wave directions of light
7- ,Mastering the use of equations and laws governing refraction, reflection dispersion, and polarization
8- Learn how to use optical instruments such as lenses, mirrors, and spectrographs
9- Develop the ability to solve practical problems and apply theoretical . knowledge in diverse contexts

Teaching and learning methods

In-person education (scientific films and videos, Laboratories, summer and (vocational training, and graduation projects
. Scientific visits and practical training in hospitals by specialized medical staff

Evaluation methods

Daily tests, semester exams - final exams, weekly reports within the subject seminars within the academic subjects , discussions and conversations during . the lesson

.C. Emotional and value goals

Encouraging students to develop interest and curiosity to −C1
. understand how light works and its impact on our daily lives

Enhancing students' appreciation of the importance of optical −C2
physics and its role in technological progress and multiple fields such as
.medicine, communications, and engineering

C3− Enhancing the spirit of teamwork and cooperation among students
.while carrying out laboratory experiments and group projects

Teaching and learning methods

(In-person lectures), summer and vocational training, and graduation projects
. Field visits and practical training for clinical subjects

- **Evaluation methods**

Daily, quarterly and final exams, submitting weekly reports and patient seminars, and reports on monitoring the patients' clinical condition, with practical discussions followed by the practical lesson . in the hospital

Dr . Transferable general and qualifying skills (other skills related to employability and personal development.) **.D1 . Cooperation skills and teamwork** **.D2 . Computer typing skills** **.D3 . Communication skills in English** **.D4 . Ability to perform work and solve problems** **. D5 . Internet conversation skills**

Course structure					
Evaluation method	**Teaching method**	**Name of the unit/topic**	**Required learning outcomes**	**hours**	**the week**
Evaluation method	**Teaching method**	**Name of the unit/topic**	**Required learning outcomes**	**hours**	**the week**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	**Schematic and Reduced Eye –Gullstrand Schematic Eye –Listing reduced eye**	**Accompanied by arousal**	**3 Theoretical 4 + practical**	**the first**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	**Eye function (myopia, hypermetropia, astigmatism)**		**3 Theoretical 4 + practical**	**the second**

,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Telescope: definition, purposes, types design, construction		3 Theoretical 4 + practical	the third
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Retinal image size and composition		3 Theoretical 4 + practical	the fourth
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Retinal image size and composition		3 Theoretical 4 + practical	Fifth
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Total internal reflection		3 Theoretical 4 + practical	VI
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Refractive index of: □ Lens □ Mirrors		3 Theoretical 4 + practical	Seventh
,Reports oral and written theoretical	Blackboa ,rd power point ,slides	Eye structure		3 Theoretical 4 + practical	VIII

examinations	practical experiments				
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Coherent sources, single slit, double slit, effect on the eye		3 Theoretical 4 + practical	Ninth
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Use of Nanoparticles as: Biosensor Cancer detection		3 Theoretical 4 + practical	The tenth
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Drug and gene delivery Energy products		3 Theoretical 4 + practical	eleventh
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Nanotechnology and the Generation of Sustainable Hydrogen Hydrogen from Miscellaneous Sources and Nanotechnology		3 Theoretical 4 + practical	twelveth
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Fossil Hydrocarbon Decarbonization and Nanotechnology Nanomaterials in the advancement of hydrogen energy storage Hydrogen Fuel Cells and Nanotechnology		3 Theoretical 4 + practical	Thirteenth
,Reports oral and	Blackboa ,rd	The role of nanotechnology on post-combustion CO2		3 Theoreti	fourteenth

written theoretical examinations	power point ,slides practical experiments	absorption in the process industries		cal 4 + practical	
		Exploring Solar Panels □ Variables Affecting Solar Panel Output		3 Theoretical 4 + practical	Fifteenth

• Infrastructure	
	The presence of study halls
	And C and D specialized laboratories
	The presence of capable cadres

• Course development plan
Updating the course periodically in order to add materials that are in line . with modern scientific development

Course description form

Course description

This course description provides a summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the .learning opportunities available. It must be linked to the program description

Northern Technical University/Health and Medical Technology/ Al-Dur	• **Educational institution**
Optics techniques	• **Scientific department/center**
Principles of Medical Biology / OPT105	• **Course name/code**
In-person lectures	• **Available attendance forms**
2024-2023	• **Semester/year**
Theoretical 2 practical 4 +	• **Number of study hours (total)**
2024/7/1	• **Date this description was prepared**

• **Course objectives**

Will be requester in end the chapter Academic Able on that Understands phenomena Visual in Physics

• **Course outcomes and teaching, learning and evaluation methods**

a . Cognitive objectives
:At the end of the academic year, the student can realize the following
Definition of human biology, its relationship with other sciences, and its -1 .importance for students of optics techniques
Studying the structure of humans and their cells at the functional, general -2 .and molecular levels
Study of lower organisms such as germs, viruses, fungi, and parasites that -3 .cause eye diseases

.B. Course-specific skills objectives
.The student acquires the skill of the compound optical microscope -1
.The student acquires the skill of preparing glass slides -2

Ways and methods of maintaining the cleanliness and sterilization of -3 .contact lenses
Teaching and learning methods
In-person education (scientific films and videos, Laboratories, summer and (vocational training, and graduation projects . Scientific visits and practical training in hospitals by specialized medical staff
Evaluation methods
Daily tests, semester exams - final exams, weekly reports within the subject seminars within the academic subjects , discussions and conversations during . the lesson
.C. Emotional and value goals .Working in a team spirit −1 .Commitment to the ethics of the university institution -2 .Receiving and accepting knowledge -3 Encouraging students to be creative and create a spirit of perseverance -4 .and self-denial
Teaching and learning methods
(In-person lectures), summer and vocational training, and graduation projects . Field visits and practical training for clinical subjects
• **Evaluation methods**
Daily, quarterly and final exams, submitting weekly reports and patient seminars, and reports on monitoring the patients' clinical condition, with practical discussions followed by the practical lesson . in the hospital
Dr . Transferable general and qualifying skills (other skills related to .(employability and personal development .D1 . Cooperation skills and teamwork .D2 . Computer typing skills .D3 . Communication skills in English .D4 . Ability to perform work and solve problems . D5 . Internet conversation skills

Course structure					
Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week
Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Definition of Biology, Biological Kingdom.	Accompanied by arousal	2 Theoretical 4 + practical	the first
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Prokaryotes and eukaryotes.		2 Theoretical 4 + practical	the second
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	The cell: Introduction, structure and function to the organelle.		2 Theoretical 4 + practical	the third
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	The cell: Introduction, structure and function to the organelle.		2 Theoretical 4 + practical	the fourth

,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Function of the organelles (Mitochondria, Free ribosomes, Rough endoplasmic reticulum, smooth endoplasmic reticulum, Golgi apparatus, Lysosomes (primary and secondary lysosomes),		2 Theoretical 4 + practical	Fifth
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Microtubules, cilia, flagella and centrioles.		2 Theoretical 4 + practical	VI
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	The tissue (types and properties)		2 Theoretical 4 + practical	Seventh
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Classification tissue		2 Theoretical 4 + practical	VIII
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Nucleic acid, DNA structure, properties.		2 Theoretical 4 + practical	Ninth
,Reports oral and written theoretical	Blackboa ,rd power point ,slides	RNA structure, properties.		2 Theoretical 4 + practical	The tenth

examinations	practical experiments				
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Transportation of biological waste International Transport RegulationsThe Basic Triple Packaging System		2 Theoretical 4 + practical	eleventh
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	Overview of biological safety and security equipment		2 Theoretical 4 + practical	twelveth
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	• Introduction to Biosafety and Security • Key components of Biorisk Management • Components of safety in all laboratories Universal safety precautions		2 Theoretical 4 + practical	Thirteenth
,Reports oral and written theoretical examinations	Blackboa ,rd power point ,slides practical experiments	biosafety rules simulation 3D		2 Theoretical 4 + practical	fourteenth
		Biosafety training		2 Theoretical 4 + practical	Fifteenth

• Infrastructure	
	The presence of study halls
	And C and D specialized laboratories
	The presence of capable cadres

• Course development plan
Updating the course periodically in order to add materials that are in line . with modern scientific development

Course description form

Course description

This course description provides a summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the .learning opportunities available. It must be linked to the program description

Northern Technical University/Health and Medical Technology/ Al-Dur	• **Educational institution**
Optics techniques	• **Scientific department/center**
Medical Microbiology / MTCD 102	• **Course name/code**
In-person lectures	• **Available attendance forms**
2024-2023	• **Semester/year**
Theoretical 2 + practical 4	• **Number of study hours (total)**
2024/7/1	• **Date this description was prepared**
• **Course objectives**	
Will be requester in end the chapter Academic Able on that Understands phenomena Visual in Physics	
• **Course outcomes and teaching, learning and evaluation methods**	
a . Cognitive objectives **The cognitive objectives of studying medical microbiology in the Department of Optical Technology focus on providing students with the necessary knowledge about microorganisms and their impact on human health, and in particular how this knowledge can be applied in the field of optics. Here are some of these goals:** **1. Understanding the basics of microbiology: knowing the characteristics and classification of bacteria, viruses, fungi, and parasites.** **2. Microorganism Identification: The ability to identify different microorganisms and understand their role in eye diseases and infections.**	

3. Resistance mechanisms: understanding how microorganisms develop resistance to antibiotics and how this affects the treatment of infections.

4. Infection Prevention: Knowledge of infection prevention and control methods in optometry practices to ensure the safety of patients and staff.
5. Infectious diseases and the eye: Deeper understanding of the relationship between infectious diseases and vision disorders and how to address them.
6. Structure and functions of microorganisms: the ability to explain the basic structure and functions of microbes that can affect the eye.
7. Principles of Microbiological Therapy: Understand the principles of use of antibiotics and other antimicrobial drugs in the context of eye diseases.
8. Laboratory Diagnostic Techniques: Learn how microbial infections are detected and diagnosed in optometry practices.
9. Interaction with the Medical Team: Develop the ability to communicate and analyze relevant medical information with the healthcare team.
10. Focus on evidence-based practice: using scientific evidence to make informed decisions and update clinical and diagnostic practices in optometry.
Through these objectives, students of optometry are equipped with the fundamental knowledge necessary to understand the impact of medical microbiology in their field, which helps them in providing better patient care .with special emphasis on eye-related aspects

.B. Course-specific skills objectives
Skill objectives for studying Medical Microbiology in the Department of Optical Technology include developing the practical capabilities necessary to understand and manage issues related to infections and microorganisms in the optical context. Here are some of the main goals:

1. ,Laboratory skills: Learn how to collect samples correctly, use microscopes and perform bacterial culture and elicitation.
2. Sterilization and disinfection techniques: Mastering sterilization techniques and effective methods for disinfecting optical equipment and instruments to limit the spread of infection.
3. Diagnosis and analysis: Developing the ability to interpret laboratory test results and integrate them into the diagnostic process.
4. Skilled communication: Learn to communicate effectively with patients about the risks of infection and methods of prevention and treatment.
5. Clinical examination: Develop skills to conduct an appropriate clinical examination to detect signs of infection in the eye area.
6. Use of equipment: Know how to use specialized equipment for culturing and analyzing medical microorganisms.
7. Infection prevention in clinical practice: applying professional standards for infection control in the context of vision care.

8. Case Management: Ability to use microbiological information to manage cases of affected eyes.
9. Linking theoretical knowledge with practical skills: applying theoretical knowledge of microbiology to examination and treatment methodologies.
10. Research skills: Develop research skills and evaluate scientific studies to contribute to the continuous development of visual practices.

By following these goals, students of optometry acquire the skills necessary to provide safe and effective health care, and have the ability to react professionally to infections and ocular conditions associated with .microorganisms

Teaching and learning methods

In-person education (scientific films and videos, Laboratories, summer and (vocational training, and graduation projects
. Scientific visits and practical training in hospitals by specialized medical staff

Evaluation methods

Daily tests, semester exams - final exams, weekly reports within the subject seminars within the academic subjects , discussions and conversations during . the lesson

.C. Emotional and value goals

The objectives of the study of medical microbiology in the Department of Optical Technology focus on developing positive attitudes and values that will lead students to become highly competent professionals who are sensitive to patient issues. These goals include:

1. Compliance with professional ethics: instilling respect for standards of ethics and professional responsibility, especially with regard to infection management and biosafety.
2. Empathy with patients: Develop the ability to feel empathy for patients suffering from eye problems and create a supportive environment for them.
3. Personal Responsibility Awareness: Emphasizing the importance of personal responsibility in maintaining hygiene and infection control standards within optical practice.
4. Commitment to excellence: Encouraging a constant desire to achieve the highest levels of quality in health care and scientific research.
5. Respect for life: appreciation of the great importance of every form of life on Earth, including microorganisms, and the impact they have on human life.
6. Personal growth: Encouraging students to self-reflect and self-evaluate to improve personal competencies and work under pressure.
7. Enhancing team spirit: Developing the ability to work collaboratively and build positive relationships with co-workers and patients.

8. Professionalism in communication: improving communication and listening skills in a way that reflects respect for patients and understanding of their condition.
9. Commitment to continuous learning: Encouraging students to continually inform and learn from new developments in the field of medical microbiology related to optics.
10. Dedication to work: Develop the motivation to adopt a strong work mindset, focusing on providing the highest standards of care to patients.

The study of microbiology in general helps deepen understanding of the complex relationships between humans and microbes and enhance the values of organized and precise work. These compassionate values and goals are an essential part of students' development into responsible and .compassionate optometrists

Teaching and learning methods

(In-person lectures), summer and vocational training, and graduation projects . Field visits and practical training for clinical subjects

- **Evaluation methods**

Daily, quarterly and final exams, submitting weekly reports and patient seminars, and reports on monitoring the patients' clinical condition, with practical discussions followed by the practical lesson . in the hospital

Dr . Transferable general and qualifying skills (other skills related to .(employability and personal development
.D1 . Cooperation skills and teamwork
.D2 . Computer typing skills
.D3 . Communication skills in English
.D4 . Ability to perform work and solve problems
. D5 . Internet conversation skills

Course structure

Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week
Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week

,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Replication of DNA	**Accompanied by arousal**	**2 Theoretical +4 practical**	**the first**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Transcription, protein synthesis and type of mutation		**2 Theoretical +4 practical**	**the second**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Division Cell (Mitosis and meiosis)		**2 Theoretical +4 practical**	**the third**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Mitosis		**2 Theoretical +4 practical**	**the fourth**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Gametogenesis		**2 Theoretical +4 practical**	**Fifth**
,Reports oral and written theoretical	**Blackboa ,rd power point ,slides**	Spermatogenesis and oogenesis		**2 Theoretical +4 practical**	**VI**

examinations	**practical experiments**				
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Introduction of bacteria (Shape, arrangement, size, gram stain)		**2 Theoretical +4 practical**	**Seventh**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Bacterial staining techniques, Gram stain.		**2 Theoretical +4 practical**	**VIII**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Media and nutritional requirement.		**2 Theoretical +4 practical**	**Ninth**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	.Introduction of Viruse		**2 Theoretical +4 practical**	**The tenth**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Introduction of Parasite.		**2 Theoretical +4 practical**	**eleventh**
,Reports oral and	**Blackboa ,rd**	Introduction of Mycology.		**2 Theoreti**	**twelveth**

written theoretical examinations	**power point ,slides practical experiments**			**cal +4 practical**	
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Sterilization and disinfection.		**2 Theoretical +4 practical**	**Thirteenth**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Control of microbial growth. Host defense components of human tears and their functions		**2 Theoretical +4 practical**	**fourteenth**
		Eye infections, Bacterial eye infection, Fungal eye infection. Parasitic eye infection, Viral eye infection.		**2 Theoretical +4 practical**	**Fifteenth**

• **Infrastructure**	
	The presence of study halls
	And C and D specialized laboratories
	The presence of capable cadres

- **Course development plan**

Updating the course periodically in order to add materials that are in line with modern scientific development .

Course description form

Course description

This course description provides a summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the .learning opportunities available. It must be linked to the program description

Northern Technical University/Health and Medical Technology/ Al-Dur	• **Educational institution**
Optics techniques	• **Scientific department/center**
Head and neck anatomy / OPT101	• **Course name/code**
In-person lectures	• **Available attendance forms**
2024-2023	• **Semester/year**
Theoretical 3 practical 4 +	• **Number of study hours (total)**
2024/1/7	• **Date this description was prepared**
• **Course objectives**	
Will be requester in end the chapter Academic Able on that Understands phenomena Visual in Physics	
• **Course outcomes and teaching, learning and evaluation methods**	
a . Cognitive objectives **The cognitive objectives of studying head and neck anatomy in the Department of Optometry include providing a comprehensive understanding of the anatomy in these areas of the body, with an emphasis on the fundamental aspects that relate to the visual system. Here are some of these goals:** **1. General understanding of head and neck anatomy: Students' awareness of ,the overall anatomy of the head and neck area, including the bones, muscles blood vessels, nerves, and components of the lymphatic system.**	

2. Learning about the visual system: Deepening understanding of the anatomy of the eye and its related parts such as the eyelids, lacrimal system, and external ocular muscles.

3. Knowledge of neuroanatomy: Familiarity with the nervous systems that control the functions of vision and ocular movement.

4. Understanding vascular anatomy: Knowledge of the anatomy of the muscular blood vessels of the head and neck and the way they nourish parts of the body, especially with regard to the eye and its tissues.

5. The structure and composition of the skull: a precise understanding of the bones of the skull, the nerve pathways, and the glands associated with the eyes.

6. Functional Integration: Understanding how head and neck functions are integrated and their potential impact on an individual's visual status.

7. Anatomical examination: Learn how clinical examination and imaging can help diagnose medical conditions.

8. Nerve pathways: Identifying the optic nerve pathways and how they relate to the brain and visual ability.

9. Embryology and development: understanding how the visual system develops from birth and the impact of congenital malformations on visual health.

10. Medical and Surgical Problems: The ability to relate knowledge of anatomy to various medical and surgical conditions that affect the head and neck and can affect vision.

When students combine this knowledge with their hands-on training, they become more proficient in recognizing vision problems and coordinating with .other health care professionals to provide comprehensive patient care

.B. Course-specific skills objectives

Objectives Skills for studying Head and Neck Anatomy in the Department of Optometry Techniques aim to develop the practical abilities of students so that they can apply their anatomical understanding effectively in the field of optometry. Here are some of these goals:

1. Practical recognition:

- Develop the ability to identify and describe parts of the head and neck based on anatomical criteria.

2. Evaluation skills:

- ,Perform head and neck examinations, including the eye and its parts accurately and efficiently.

3. Cloning skills:

- Practice drawing or modeling anatomical parts to better understand structural formation and functions.

4. Visual communication skills:

- Learn how to explain the anatomy of patients and explain procedures and treatments.

5. Diagnostic and analytical skills:

- Understanding the impact of diseases that affect the head and neck and how they can affect the visual situation.

6. Clinical examination skills:

- Proficiency in correctly performing clinical examination for a variety of cases .

7. Efficiency in using equipment:

- Use anatomical equipment safely and correctly, such as anatomical microscopes and other imaging tools.

8. First aid skills:

- Acquire basic skills to provide first aid in emergency situations related to the head and neck.

9. Applying theories in the clinical setting:

- The ability to apply anatomical concepts in a practical way and create integrated care plans for patients.

10. Professional cooperation:

- Developing skills to work within a team of different health care professionals to provide the best care for patients.

By achieving these goals, students in optometric technologies can confidently transition into clinical work, where they use anatomical knowledge to improve .patient outcomes and provide high-quality care

Teaching and learning methods

In-person education (scientific films and videos, Laboratories, summer and (vocational training, and graduation projects

. Scientific visits and practical training in hospitals by specialized medical staff

Evaluation methods

Daily tests, semester exams - final exams, weekly reports within the subject seminars within the academic subjects , discussions and conversations during . the lesson

.C. Emotional and value goals

The affective and ethical objectives of the study of head and neck anatomy in the Department of Optometric Technology are based on developing positive attitudes and behaviors in students, in line with the ethics of the eye care and health care profession. Here are some of these goals:

1. Appreciate the importance of anatomical knowledge:

- Realizing the value of accuracy and depth in understanding the anatomy of the head and neck to improve the quality of health care.

2. Commitment to medical ethics:

- Develop a high sense of ethical and professional responsibility towards patients and medical data.

3. Empathy and understanding:

- Deepening the ability to empathize with patients and understand their needs from the standpoint of anatomical knowledge.

4. Self and peer esteem:

- Teamwork, self-respect, and respect for peers and supervisors in the learning environment.

5. Professional contemplation:

- Encouraging self-reflection regarding practical practice and striving towards continuous improvement.

6. Attachment to accuracy and quality:

- Appreciate the importance of craftsmanship and accuracy in collecting and interpreting information and providing accurate diagnoses.

7. Comprehensive care:

- Develop a sense of responsibility towards providing comprehensive care based on a complete understanding of the anatomy and functions of the head and neck.

8. Professional behavior:

- Adopt professional behaviors and core values of the optometry profession and work with colleagues and patients in a manner that reflects these.

9. Emotional growth:

- ,Personal development in terms of communication skills, emotional control and strengthening emotional intelligence.

10. Orientation towards service:

- Urge students to understand the role of optical services within the broader health system and encourage them to participate in the community.

By working toward these compassionate and value-based goals, students are better prepared to be sensitive, patient-caring practitioners capable of .caring for eye health holistically and ethically

Teaching and learning methods

(In-person lectures), summer and vocational training, and graduation projects . Field visits and practical training for clinical subjects

- **Evaluation methods**

Daily, quarterly and final exams, submitting weekly reports and patient seminars, and reports on monitoring the patients' clinical condition, with practical discussions followed by the practical lesson . in the hospital

Dr . Transferable general and qualifying skills (other skills related to .(employability and personal development

.D1 . Cooperation skills and teamwork

.D2 . Computer typing skills

.D3 . Communication skills in English

.D4 . Ability to perform work and solve problems

. D5 . Internet conversation skills

Course structure					
Evaluation method	**Teaching method**	**Name of the unit/topic**	**Required learning outcomes**	**hours**	**the week**
Evaluation method	**Teaching method**	**Name of the unit/topic**	**Required learning outcomes**	**hours**	**the week**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Introduction of the anatomy	**Accompanied by arousal**	**3 Theoretical 4 + practical**	**the first**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Basic anatomical structures (skin fascia, muscles…etc):		**3 Theoretical 4 + practical**	**the second**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Cell:		**3 Theoretical 4 + practical**	**the third**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	The bones and joints		**3 Theoretical 4 + practical**	**the fourth**
,Reports oral and written theoretica	**Blackboa ,rd power point**	Skeletal system		**3 Theoretical 4 +**	**Fifth**

l examinations	**,slides practical experiments**			**practical**	
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	•-Classification of the bone •-Division of Skeletal system		**3 Theoretical 4 + practical**	**VI**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Appendicular Skeleton:		**3 Theoretical 4 + practical**	**Seventh**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Joints		**3 Theoretical 4 + practical**	**VIII**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Skull		**3 Theoretical 4 + practical**	**Ninth**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Thoracic cage Include		**3 Theoretical 4 + practical**	**The tenth**

,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Vertebral Column Include		**3 Theoretical 4 + practical**	**eleventh**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Circulatory system and blood supply:		**3 Theoretical 4 + practical**	**twelveth**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Nervous System		**3 Theoretical 4 + practical**	**Thirteenth**
,Reports oral and written theoretical examinations	**Blackboa ,rd power point ,slides practical experiments**	Nervous System		**3 Theoretical 4 + practical**	**fourteenth**
		Review		**3 Theoretical 4 + practical**	**Fifteenth**

• Infrastructure	
	The presence of study halls
	And C and D specialized laboratories
	The presence of capable cadres

• Course development plan
Updating the course periodically in order to add materials that are in line . with modern scientific development

Course description form

Course description

This course description provides a summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the .learning opportunities available. It must be linked to the program description

Northern Technical University/Health and Medical Technology/ Al-Dur	• **Educational institution**
Optics techniques	• **Scientific department/center**
Anatomy of the eye / OPT102	• **Course name/code**
In-person lectures	• **Available attendance forms**
2024-2023	• **Semester/year**
3 theoretical + 4 practical	• **Number of study hours (total)**
2024/7/1	• **Date this description was prepared**

- **Course objectives**

.The student gets to know the terminology of eye anatomy - 1
.The student recognizes the parts of the eye -2

- **Course outcomes and teaching, learning and evaluation methods**

a . Cognitive objectives
A.1 - Providing important scientific knowledge that involves knowing the structural structure of the eye
.A.2 - Description of the structural components of the eye
.A.3 - Complete knowledge of the components of the eye structure

.B. Course-specific skills objectives
.B.1- It enables students to obtain knowledge and understanding of eye anatomy
.B.2- The student watches scientific films related to eye anatomy
.B.3- Writes scientific reports on eye anatomy

Teaching and learning methods
Education is in-person
Evaluation methods
Daily tests, semester exams - final exams, weekly reports within the subject seminars within the academic subjects , discussions and conversations during . the lesson
.C. Emotional and value goals .C.1- The student should listen carefully to the professor's explanation .C.2- That the student interacts during the lecture C.3- The student should listen carefully to the practical explanation in the .laboratory C.4- That the student is able to correctly distinguish between the .functions of all parts of the eye
Teaching and learning methods
In-person lectures))
• Evaluation methods
Daily, quarterly and final exams, submitting weekly reports and patient seminars, and reports on monitoring the patients' clinical condition, with practical discussions followed by the practical lesson . in the hospital
Dr . Transferable general and qualifying skills (other skills related to .(employability and personal development .D1 . Cooperation skills and teamwork .D2 . Computer typing skills .D3 . Communication skills in English .D4 . Ability to perform work and solve problems . D5 . Internet conversation skills
Course structure

Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week

Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Anatomy of Eye •- Define of eye •- Anatomical structures of the eye •-Structures of orbit	Accompanied by arousal	3 theoretical + 4 practical	the first
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Lacrimal apparatus •- Anatomical structures of the lachrymal ducts. •- Nerve supply of lacrimal gland		3 theoretical + 4 practical	the second
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	The orbit •-Define the orbit •-Parts of orbit •- Main orbital opening		3 theoretical + 4 practical	the third
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Muscles of the orbit •- Types of orbital muscle •-Blood and nerve supply to the orbit		3 theoretical + 4 practical	the fourth
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Nerves of the orbit •- Type of nerve supply to orbits-Optic canal		3 theoretical + 4 practical	Fifth
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Layers of the eye •- Cornea •-Sclera •- Ciliary body		3 theoretical + 4 practical	VI
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Function of each layer of the eye •-Function of conjunctiva and eye ball •-Parts of eye ball •-Function of sclera		3 theoretical + 4 practical	Seventh
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Cornea •-Definition •- Histology of cornea		3 theoretical + 4 practical	VIII

,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	Anterior chamber of the eye •-Definition •-Drainage angle		**3 theoretical + 4 practical**	**Ninth**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	The Uveal tracts: •-Iris •-Pupil		**3 theoretical + 4 practical**	**The tenth**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	The ciliary body - Anatomical structures of ciliary body		**3 theoretical + 4 practical**	**eleventh**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	Lens •-Definition of lens •-Part of lens		**3 theoretical + 4 practical**	**twelveth**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	The Retina-Definition •-Parts of retina •-Layer of retina		**3 theoretical + 4 practical**	**Thirteenth**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	Blood and Nerve supply •-Motor nerve •-Sensory nerve		**3 theoretical + 4 practical**	**fourteenth**
,Reports oral and written theoretical examinations	**,Blackboard power point ,slides practical experiments**	Review.		**3 theoretical + 4 practical**	**Fifteenth**

- **Infrastructure**

	The presence of study halls
	And C and D specialized laboratories
	The presence of capable cadres

- **Course development plan**

Updating the course periodically in order to add materials that are in line with modern scientific development .

Course description form

Course description

This course description provides a summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the .learning opportunities available. It must be linked to the program description

Northern Technical University/ Health and Medical Technical College / Al-Dur	• **Educational institution**
Optics techniques	• **Scientific department/center**
Computer / NTU102	• **Course name/code**
In-person lectures	• **Available attendance forms**
2024-2023	• **Semester/year**
theoretical + 1 practical 1	• **Number of study hours (total)**
2024/7/1	• **Date this description was prepared**

- **Course objectives**

- Providing the student with the skills of dealing with basic office applications and creating office files and documents. The use of the operating system as .well as the basics of working within the digital environment

- **Course outcomes and teaching, learning and evaluation methods**

a . Cognitive objectives

Providing the student with knowledge in managing and using various computer -1 .applications

. B . Course-specific skills objectives

Understand basic concepts in computer science and the history of the -1 .development of computational technology

- **Gain skills in using operating systems and office software such asMicrosoft Office**

- **Develop online research skills and learn how to evaluate information .sources on the web**

Teaching and learning methods

In-person education (scientific films and videos, laboratories)

Evaluation methods

Daily tests, semester exams - final exams, weekly reports within the subject seminars within the academic subjects , discussions and conversations during . the lesson

C. Emotional and value goals
C1 . Enhancing confidence in using technology and computing and achieving .comfort and certainty in dealing with computer hardware and software
C2 . Analyzing the problems facing its employees and how to develop the .necessary solutions
.C3 . Working in a team spirit among different cadres
. C4 . Accommodating the suffering of patients and alleviating their pain

Teaching and learning methods

(In-person lectures and practical training)

- **Evaluation methods**

'Daily, quarterly and final tests, submitting weekly reports Patients seminars , patient clinical follow-up reports, and practical . discussions followed by the practical lesson in the hospital

Dr . Transferable general and qualifying skills (other skills related to .(employability and personal development
.D1 . Cooperation skills and teamwork
.D2 . Computer typing skills
.D3 . Communication skills in English
.D4 . Ability to perform work and solve problems
. D5 . Internet conversation skills

Course structure

Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week

Reports, oral and written theoretical examinations	Blackboard, power point, slides practical experiments	اساسيات الحاسوب Computer Fundamentals مفهوم الحاسوب، اطوار دورة حياة الحاسوب تطور اجيال الحاسوب	Accompanied by arousal	1 theoretical 1 + practical	the first
Reports, oral and written theoretical examinations	Blackboard, power point, slides practical experiments	مزايا الحاسوب ومجالات استخدامه تصنيف الحاسوب من حيث الغرض والحجم ونوع البيانات		1 theoretical 1 + practical	the second
Reports, oral and written theoretical examinations	Blackboard, power point, slides practical experiments	مكونات الحاسوب Computer Components مكونات الحاسوب الاجزاء المادية للحاسوب الكيانات البرمجية		1 theoretical 1 + practical	the third
Reports, oral and written theoretical examinations	Blackboard, power point, slides practical experiments	حاسوبك الشخصي مفهوم امن الحاسوب وتراخيص البرامج		1 theoretical 1 + practical	the fourth
Reports, oral and written theoretical examinations	Blackboard, power point, slides practical experiments	امان الحاسوب وتراخيص البرامج Computer Safety & Software Licences		1 theoretical 1 + practical	Fifth
Reports, oral and written theoretical examinations	Blackboard, power point, slides practical experiments	اخلاق العالم الالكتروني، اشكال التجاوزات، امن الحاسوب، خصوصية الحاسوب		1 theoretical 1 + practical	VI
Reports, oral and written theoretical examinations	Blackboard, power point, slides practical experiments	تراخيص برامج الحاسوب وانواعها، الملكية الفكرية، الاختراق الالكتروني، برمجيات خبيثة، اهم الخطوات اللازمة للحماية من عمليات الاختراق، اضرار الحاسوب على الصحة		1 theoretical 1 + practical	Seventh

Reports, oral and written theoretical examinations	Blackboard, power point slides, practical experiments	نظم *التشغيل* Operating Systems تعريف نظام التشغيل، الوظائف، الاهداف، التصنيف امثلة لبعض نظم التشغيل		1 theoretical 1 + practical	VIII
Reports, oral and written theoretical examinations	Blackboard, power point slides, practical experiments	نظم التشغيل نظام التشغيل ويندوز 7		1 theoretical 1 + practical	Ninth
Reports, oral and written theoretical examinations	Blackboard, power point slides, practical experiments	مكونات سطح المكتب قائمة ابدأ شريط المهام		1 theoretical 1 + practical	The tenth
Reports, oral and written theoretical examinations	Blackboard, power point slides, practical experiments	المجلدات والملفات الايقونات		1 theoretical 1 + practical	eleventh
Reports, oral and written theoretical examinations	Blackboard, power point slides, practical experiments	اجراء عمليات على النوافذ خلفيات سطح المكتب		1 theoretical 1 + practical	twelveth
Reports, oral and written theoretical examinations	Blackboard, power point slides, practical experiments	لوحة التحكم لوحة تحكم ويندوز "Control Panel " مجموعات)Category(		1 theoretical 1 + practical	Thirteenth
Reports, oral and written theoretical examinations	Blackboard, power point slides, practical experiments	من لوحة التحكم Defragment تنظيم الملفات داخل الحاسوب، تنصيب البرامج وحذفها		1 theoretical 1 + practical	fourteenth
Reports, oral and written theoretical examinations	Blackboard, power point slides, practical experiments	بعض الحالات والإعدادات الشائعة في الحاسوب، ادارة الطابعة ضبط الوقت والتاريخ، صيانة الاقراص الاولية		1 theoretical 1 + practical	Fifteenth

• **Infrastructure**	
	The presence of study halls
	And C and D specialized laboratories
	The presence of capable cadres

• **Course development plan**
Updating the course periodically in order to add materials that are in line . with modern scientific development

Course description form

Course description

This course description provides a summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the .learning opportunities available. It must be linked to the program description

Northern Technical University/Health and Medical Technology/ Al-Dur	• **Educational institution**
Optics techniques	• **Scientific department/center**
Human Rights and Democracy / NTU100	• **Course name/code**
In-person lectures	• **Available attendance forms**
2024-2023	• **Semester/year**
Theoretical 2	• **Number of study hours (total)**
2024/7/1	• **Date this description was prepared**

• **Course objectives**

The Rights and Democracy course provides increased student awareness and training on the importance of active participation in aspects of life, such as .enhancing respect for general human rights principles in various aspects of life

• **Course outcomes and teaching, learning and evaluation methods**

a . Cognitive objectives
Increasing the student's knowledge of the theoretical conceptual aspect and .the historical development of the subject of human rights and democracy
Developing the student's analytical and critical skills regarding the reality and future of human rights and democracy. Enabling students to understand the importance of education and its role in spreading the culture of human rights and democracy in building a civilized society based on good governance, of which one of its most important components is Belief in human rights

.B. Course-specific skills objectives

10- Introducing the history of human rights and the stages of .development

11- .Spreading culture and nurturing students from the Islamic side

12- How to preserve society and the country by strengthening the .country's love for them

13- Identify the most important rights granted to them in accordance .with international norms and laws

.Promoting citizenship among students

Teaching and learning methods

Education is in-person

Evaluation methods

Daily tests, semester exams - final exams, weekly reports within the subject seminars within the academic subjects , discussions and conversations during . the lesson

.C. Emotional and value goals

Teaching students to search for realistic problems, link them to the -C1 .scientific material, and present them in a logical order and sequence

Urging students to be objective in discussions about the challenges - .facing the country

Embodying the concept of freedom for students and clarifying wrong - .practices, their consequences, and how to avoid them

. Giving the highest priority to the expression of rights -C2

. C3- Emphasizing the importance of human rights

. C4- Objectivity in discussions

Teaching and learning methods

In-person lectures))

- **Evaluation methods**

Daily, quarterly and final exams, submitting weekly reports and patient seminars, and reports on monitoring the patients' clinical condition, with practical discussions followed by the practical lesson . in the hospital

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

.D1 . Cooperation skills and teamwork

.D2 . Computer typing skills

.D3 . Communication skills in English

.D4 . Ability to perform work and solve problems

. D5 . Internet conversation skills

Course structure

Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week
Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Historical development of ,human rights human rights in ancient civilizations	Accompanied by arousal	2 Theoretical	the first
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Human rights ,in divine laws with a focus on human rights in Islam		2 Theoretical	the second
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Human rights in the Middle and Modern Ages		2 Theoretical	the third
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Regional recognition of human rights at the ,European ,American ,African Islamic and Arab levels		2 Theoretical	the fourth
,Reports oral and written theoretical	,Blackboard power point ,slides practical experiments	Non-governmental organizations and their role		2 Theoretical	Fifth

examinations		in human rights International) Committee of ,the Red Cross Amnesty ,International Human Rights Watch, Arab Organization for Human (Rights			
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Human rights in international and regional conventions and national legislation		2 Theoretical	VI
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Human rights in regional charters (the European Convention on ,Human Rights the American Convention on ,Human Rights the African Charter on Human Rights and the Arab Charter on (Human Rights		2 Theoretical	Seventh
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Human rights in national legislation Iraqi) (Constitution		2 Theoretical	VIII
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Forms and generations of human rights individual and) collective (rights		2 Theoretical	Ninth

,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Human rights guarantees and protection at the national level		2 Theoretical	The tenth
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Human rights guarantees and protection at the regional and international levels		2 Theoretical	eleventh
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Classification of public freedoms basic and) ,individual freedom of security and feeling of ,reassurance freedom of coming and going, and personal (freedom		2 Theoretical	twelveth
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Intellectual and cultural freedoms freedom of) ,opinion freedom of belief, and freedom of (education		2 Theoretical	Thirteenth
,Reports oral and written theoretical examinations	,Blackboard power point ,slides practical experiments	Freedom of the press, freedom of assembly and freedom to form associations		2 Theoretical	fourteenth

- **Infrastructure**

	The presence of study halls
	And C and D specialized laboratories
	The presence of capable cadres

- **Course development plan**

Updating the course periodically in order to add materials that are in line . with modern scientific development

Course description form

Course description

This course description provides a summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the .learning opportunities available. It must be linked to the program description

Northern Technical University/ Health and Medical Technical College / Al-Dur	• **Educational institution**
Optics techniques	• **Scientific department/center**
Arabic / NTU 103	• **Course name/code**
In-person lectures	• **Available attendance forms**
2024-2023	• **Semester/year**
2 theoretical	• **Number of study hours (total)**
2024/7/1	• **Date this description was prepared**
• **Course objectives**	
The student recognizes spelling and linguistic errors	
• **Course outcomes and teaching, learning and evaluation methods**	
a . Cognitive objectives **The student learns the methods and rules of administrative . A1 .correspondence** **.A2 . The student learns about the method of linguistic communications in work administrations**	
.B . Course-specific skills objectives **.B 1 . Developing students' listening, reading and expression skills** **.B2. Providing students with classical expression skills**	

B 3. Developing positive attitudes and values among students towards their .Arabic language related to religion and Arab heritage

Teaching and learning methods

In-person education (scientific films and special videos in classical Arabic)

Evaluation methods

Daily tests, semester exams and final exams

C. Emotional and value goals
C1 . So that the student acquires a correct language in terms of reading and .spelling
.C2 . Working in a team spirit among different cadres

Teaching and learning methods

(in-person lectures)

- **Evaluation methods**

Daily, semester and final tests

Dr . Transferable general and qualifying skills (other skills related to .(employability and personal development
.D1 . Cooperation skills and teamwork
.D2 . Computer typing skills
. D3 . Communication skills in Arabic
.D4 . Ability to perform work and solve problems
. D5 . Internet conversation skills

Course structure

Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week
,Reports oral and written theoretical examinations	,Blackboard power point slides	مقدمة عن الأخطاء اللغوية – تاء المربوطة والطويلة والتاء المفتوحة	Accompanied by arousal	2 Theoretical	the first
,Reports oral and written theoretical	,Blackboard power point slides	قواعد كتابة الالف الممدودة والمقصورة – الحروف الشمسية والقمرية		2 Theoretical	the second

examinations					
,Reports oral and written theoretical examinations	,Blackboard power point slides	الضاد والظاء		2 Theoretical	the third
,Reports oral and written theoretical examinations	,Blackboard power point slides	كتابة الهمزة		2 Theoretical	the fourth
,Reports oral and written theoretical examinations	,Blackboard power point slides	علامات الترقيم		2 Theoretical	Fifth
,Reports oral and written theoretical examinations	,Blackboard power point slides	الاسم والفعل والتفريق بينهما		2 Theoretical	VI
,Reports oral and written theoretical examinations	,Blackboard power point slides	المفاعيل		2 Theoretical	Seventh
,Reports oral and written theoretical examinations	,Blackboard power point slides	العدد		2 Theoretical	VIII
,Reports oral and written theoretical examinations	,Blackboard power point slides	تطبيقات الأخطاء اللغوية الشائعة		2 Theoretical	Ninth
,Reports oral and written theoretical examinations	,Blackboard power point slides	تطبيقات الأخطاء اللغوية الشائعة		2 Theoretical	The tenth
,Reports oral and written theoretical examinations	,Blackboard power point slides	النون والتنوين – معاني حروف الجر		2 Theoretical	eleventh

,Reports oral and written theoretical examinations	,Blackboard power point slides	الجوانب الشكلية للخطاب الاداري		2 Theoretical	twelveth
,Reports oral and written theoretical examinations	,Blackboard power point slides	لغة الخطاب الاداري		2 Theoretical	Thirteenth
,Reports oral and written theoretical examinations	,Blackboard power point slides	لغة الخطاب الاداري		2 Theoretical	fourteenth
,Reports oral and written theoretical examinations	,Blackboard power point slides	نماذج من المراسلات الادارية		2 Theoretical	Fifteenth

- **Infrastructure**

	The presence of study halls
	And C and D specialized laboratories
	The presence of capable cadres

- **Course development plan**

Updating the course periodically in order to add materials that are in line with modern scientific development .

Course description form

Course description

This course description provides a summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the .learning opportunities available. It must be linked to the program description

Northern Technical University/ Health and Medical Technical College / Al-Dur	• **Educational institution**
Optics techniques	• **Scientific department/center**
English / NTU101	• **Course name/code**
In-person lectures	• **Available attendance forms**
2024-2023	• **Semester/year**
2 theoretical	• **Number of study hours (total)**
2024/7/1	• **Date this description was prepared**
• **Course objectives**	
Acquire the skill of dialogue in the English language and read and analyze scientific research and medical terminology correctly	
• **Course outcomes and teaching, learning and evaluation methods**	
a . Cognitive objectives **Identify the tenses and verbs used with each tense and adjust the . A1** **.context of the sentence** **.A2 . Learn about general rules, interrogative tools, and conversation formulation**	

. B . Course-specific skills objectives
.B 1 . Speak correct English
.B2. Being able to read medical tests
B3. Knowledge of medical terminology in the English language due to its .importance in the field of medical work

Teaching and learning methods

In-person education (scientific films and videos on the correct pronunciation (of the English language

Evaluation methods

Daily tests, semester exams and final exams

C. Emotional and value goals
C1 . In order for the student to acquire a correct language, he will be able to .read and translate analyzes and medical terminology
.C2 . Working in a team spirit among different cadres

Teaching and learning methods

(in-person lectures)

- **Evaluation methods**

Daily, semester and final tests

Dr . Transferable general and qualifying skills (other skills related to .(employability and personal development
.D1 . Cooperation skills and teamwork
.D2 . Computer typing skills
.D3 . Communication skills in English
.D4 . Ability to perform work and solve problems
. D5 . Internet conversation skills

Course structure

Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week
,Reports oral and written theoretical examinations	,Blackboard power point slides	Cardinal numbers/years/prices/ times(in words and figures).	Accompanied by arousal	2 theoretical	the first
,Reports oral and written	,Blackboard power point slides	Phonetic of alphabet letters, punctuation.		2 theoretical	the second

theoretical examinations					
,Reports oral and written theoretical examinations	,Blackboard power point slides	Countries/Capitals, arrange words (makes full sentence)/ arrange letters (make full word).		2 theoretical	the third
,Reports oral and written theoretical examinations	,Blackboard power point slides	Simple present/1. Verb to be (is/am/are) (affirmative, negative and interrogative).		2 theoretical	the fourth
,Reports oral and written theoretical examinations	,Blackboard power point slides	Simple present/2. Verb to do(Do/Does) (affirmative, negative and interrogative).		2 theoretical	Fifth
,Reports oral and written theoretical examinations	,Blackboard power point slides	Simple present/3. Verb to have(have/has) (affirmative, negative and interrogative).		2 theoretical	VI
,Reports oral and written theoretical examinations	,Blackboard power point slides	Simple present/4. Ordinary verbs like (eat, go, play ...etc.) (affirmative, negative and interrogative).		2 theoretical	Seventh
,Reports oral and written theoretical examinations	,Blackboard power point slides	Tag questions and short answers(yes/no questions).		2 theoretical	VIII
,Reports oral and written theoretical examinations	,Blackboard power point slides	Review (simple present).		2 theoretical	Ninth
,Reports oral and written theoretical examinations	,Blackboard power point slides	Question words (what, where, when, who, why, how, whom, whose, which).		2 theoretical	The tenth
,Reports oral and written theoretical examinations	,Blackboard power point slides	Abbreviation (short form), adjectives (and their opposite).		2 theoretical	eleventh

,Reports oral and written theoretical examinations	,Blackboard power point slides	Plural nouns (regular and irregular).		2 theoretical	twelveth
,Reports oral and written theoretical examinations	,Blackboard power point slides	Possession (all types).		2 theoretical	Thirteenth
,Reports oral and written theoretical examinations	,Blackboard power point slides	Pronunciation (-s at the end of a word).		2 theoretical	fourteenth
,Reports oral and written theoretical examinations	,Blackboard power point slides	Pronouns (all types).		2 theoretical	Fifteenth

• Infrastructure	
	The presence of study halls
	And C and D specialized laboratories
	The presence of capable cadres

• Course development plan
Updating the course periodically in order to add materials that are in line with modern . scientific development

Course description form

Course description

This course description provides a summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the .learning opportunities available. It must be linked to the program description

Northern Technical University/ Health and Medical Technical College / Al-Dur	• **Educational institution**
Optics techniques	• **Scientific department/center**
Physical education (sport)NTU113	• **Course name/code**
In-person lectures	• **Available attendance forms**
2024-2023	• **Semester/year**
theoretical + 1 practical 1	• **Number of study hours (total)**
2024/7/1	• **Date this description was prepared**
• **Course objectives**	
The student acquires motor skills	
• **Course outcomes and teaching, learning and evaluation methods**	
a . Cognitive objectives **.Awareness of sports culture . A1** **A2 . Providing students with sufficient information about gaming laws and explaining good .behavior when participating in races**	
. B . Course-specific skills objectives **.B 1 . Developing students' skills in different sports** **.B2. Knowledge of the laws and regulations for each game** **.B3. Developing and developing physical fitness and motor skills**	

Teaching and learning methods
In-person education (scientific films and videos of sports training/field (practices
Evaluation methods
Daily tests, semester exams and final exams
C. Emotional and value goals **C1 . Providing training and gaming opportunities to apply technical aspects for those with sports competencies.** **.C2 . Working in a team spirit among different cadres**
Teaching and learning methods
(In-person lectures/field training)
• **Evaluation methods**
Daily, semester and final tests
Dr . Transferable general and qualifying skills (other skills related to employability and personal development). **.D1 . Cooperation skills and teamwork** **.D2 . Computer typing skills** **. D3 . Communication skills in Arabic** **.D4 . Ability to perform work and solve problems** **. D5 . Internet conversation skills**

Course structure

Evaluation method	Teaching method	Name of the unit/topic	Required learning outcomes	hours	the week
,Reports oral and written theoretical examinations	,Blackboard power point slides	الرياضة تعريفها واهميتها وانواعها	Accompanied by arousal	1 theoretical 1 + practical	the first
,Reports oral and written theoretical examinations	,Blackboard power point slides	الية حركة جسم الانسان		1 theoretical 1 + practical	the second
,Reports oral and written	,Blackboard power point slides	الإصابات الرياضية الشائعة		1 theoretical	the third

theoretical examinations				1 + practical	
,Reports oral and written theoretical examinations	,Blackboard power point slides	المهارات الأساسية للعبة كرة السلة		1 theoretical 1 + practical	the fourth
,Reports oral and written theoretical examinations	,Blackboard power point slides	القانون الدولي للعبة كرة السلة		1 theoretical 1 + practical	Fifth
,Reports oral and written theoretical examinations	,Blackboard power point slides	المهارات الأساسية للعبة تنس الطاولة وقانونها الدولي		1 theoretical 1 + practical	VI
,Reports oral and written theoretical examinations	,Blackboard power point slides	المهارات الأساسية للعبة كرة الطائرة وقانونها الدولي		1 theoretical 1 + practical	Seventh
,Reports oral and written theoretical examinations	,Blackboard power point slides	رياضة السباحة		1 theoretical 1 + practical	VIII
,Reports oral and written theoretical examinations	,Blackboard power point slides	المهارات الأساسية للعبة التنس الأرضي وقانونها الدولي		1 theoretical 1 + practical	Ninth
,Reports oral and written theoretical examinations	,Blackboard power point slides	المهارات الأساسية للعبة كرة اليد		1 theoretical 1 + practical	The tenth
,Reports oral and written theoretical examinations	,Blackboard power point slides	القانون الدولي للعبة كرة اليد		1 theoretical 1 + practical	eleventh
,Reports oral and written theoretical examinations	,Blackboard power point slides	العاب الساحة والميدان (أنواعها ، القانون الدولي للعبة)		1 theoretical 1 + practical	twelveth

,Reports oral and written theoretical examinations	,Blackboard power point slides	المهارات الأساسية لكرة القدم		1 theoretical 1 + practical	Thirteenth
,Reports oral and written theoretical examinations	,Blackboard power point slides	إدارة المسابقات والمنافسات الرياضية		1 theoretical 1 + practical	fourteenth
,Reports oral and written theoretical examinations	,Blackboard power point slides	القوانين والتشريعات الرياضية		1 theoretical 1 + practical	Fifteenth

• Infrastructure	
	The presence of study halls
	And C and D specialized laboratories
	The presence of capable cadres

• Course development plan
Updating the course periodically in order to add materials that are in line with modern scientific development .