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

Academic Program Description Form

University: Northern Technical University

Faculty/Institute: College of Health and Medical Technologies – AL- Dour

Scientific Department: - Optics Techniques

Name of academic or professional program: Optics Technology

Final Certificate Name: Bachelor of Optics Technology

Academic system: Courses

Description preparation date: 15/9/2025

File completion date: 15/9/2025

Signature:

Name of the Head of Department:

Prof. Dr. Abeer Talib Abdulqader

Date:15/9/2025

Signature:

Name of the Scientific Assistant:

Assist. Prof. Dr. Ahmed Mousa Khalaf

Date: 15/9/2025

Check the file before

Quality Assurance and University Performance Division

Name of the Director of the Quality Assurance and University Performance Division: -

Dr. Ghassan Jassim Hadi

Date: 15/9/2025

Signature:

Approval of the Dean

Assist. Prof. Dr. Maksood Adil Mahmoud

1. Program Vision

National leadership and regional excellence in education and research of Optical Technologies, visual care services, and supporting healthcare professionals in alignment with labor market needs and providing the necessary requirements.

2. Program Mission

The Department of Optical Technologies is committed to delivering distinguished technical education that keeps pace with modern scientific developments, preparing qualified professionals in the field of Optical Technologies with clinical and technical knowledge and skills. This is achieved through modern education, advanced practical training, and productive scientific research, contributing to the provision of high-quality visual care and community service in accordance with professional and ethical performance standards.

3. Program Objectives

1- Academic Excellence

- **Developing curricula according to international standards.**
- **Improving teaching methods using clinical simulation.**
- **Increasing admission and retention rates through an academic and professional advising system.**

2- Scientific Research and Innovation

- **Establishing an applied research unit specialized in optical problems.**
- **Supporting patent registration in the field of Optical Technologies.**
- **Enhancing research collaboration with local and international universities and centers.**

3- Community Service

- **Operating training clinics to provide free services.**
- **Organizing visual health awareness campaigns.**
- **Measuring beneficiaries' satisfaction through periodic surveys.**

4- Leadership and Professional Development

- **Training faculty members on modern teaching methods.**
- **Developing student leadership through programs and competitions.**

5- Financial and Material Sustainability

- **Diversifying funding sources through partnerships and external services.**
- **Developing infrastructure and maintaining laboratories and clinics.**
- **Digital transformation through an information system for managing clinics and students.**

6- Transparency and Governance

- **Issuing annual reports on academic and service performance.**
- **Updating regulations periodically.**
- **Academic commitment through ethics committees and training workshops.**

7- International Collaboration

- **Establishing local and international academic partnerships.**
- **Implementing academic exchange programs for students and faculty.**
- **Adopting global practices according to WHO and ISO standards.**

4. Program Accreditation

None

5. Other External Influences

1- Alignment with Labor Market and Healthcare Sector

- **Ensuring program outcomes meet the requirements of hospitals, health centers, and optical centers.**
- **Strengthening institutional cooperation with health and community organizations providing services for optical technicians.**

2- Providing Material, Logistical, and Training Support

- **Equipping the program with modern devices and equipment specific to Optical Technologies.**
- **Supporting research and applied projects carried out by students.**
- **Organizing advanced training workshops supervised by specialized experts.**

3- Enhancing Employment and Practical Training Opportunities

- **Offering field training in accredited hospitals and health institutions.**
- **Opening employment pathways for program graduates within the partner network.**

4- Continuous Guidance and Development of the Program

- **Providing technical and professional consultations to develop curricula in line with updates in the field of optics.**
- **Contributing to formulating program development strategies to enhance graduates' efficiency and increase their opportunities in the labor market.**

6. Program Structure

Program Component	Number of Courses	Credit Units	Percentage	Notes
Institutional Requirements	11	22	13%	10 Core Courses, 1 Elective
College Requirements	11	28	17%	10 Core Courses, 1 Elective
Department Requirements	34	115	70%	Core Courses
Summer Training	Available	–	–	–
Others	–	–	–	–

الخطة الدراسية للعام (٢٠٢٥-٢٠٢٦)

الجامعة التقنية الشمالية	الكلية التقنية الطبية الدور	القسم : تقنيات البصريات

المستوى الاول

نوع المتطلب	اسم المقرر		عدد الساعات النظرية	عدد الساعات العملية	عدد الوحدات	الفصل الدراسي	الممهد ان وجد	الرمز
	باللغة العربية	باللغة الانكليزية						
متطلبات الجامعية	حقوق الانسان والديمقراطية	Human rights and Democracy	2	-	2	ف١		NTU 100
	اللغة الانكليزية	English Language	2	0	2	ف١		NTU101
	الحاسوب	Computer	1	1	2	ف٢		NTU102
	اللغة العربية	Arabic Language	2	-	2	ف١		NTU103
	التربية الرياضية	Sports	1	1	2	ف٢	يتم اختيار مادة واحدة	NTU104
	اللغة الفرنسية	French Language	2	0				NTU105
	مجموع وحدات الجامعة		5	1	10		النسبة	20.8%
متطلبات الكلية	مبادئ علم الاحياء الطبية	Principles of Medical Biology	2	4	4	ف١		MTCD101
	أحياء مجهرية طبية	Medical MicroBiology	2	4	4	ف٢		MTCD102
	مجموع وحدات الكلية		4	8	8		النسبة	16.7%
متطلبات القسم العلمي	تشريح الراس والرقبة	Anatomy of the head and neck	3	4	5	ف١		OPT 101
	تشريح العين	Anatomy of the eye	3	4	5	ف٢		OPT 102
	مبادئ الكيمياء	Principles of Chemistry	3	4	5	ف١		OPT 103
	الكيمياء الحياتية	Biochemistry	3	4	5	ف٢		OPT 104
	الفيزياء البصرية	Optical physics	3	4	5	ف١		OPT 107
	الفيزياء الطبية	Medical physics	3	4	5	ف٢		OPT 108
	مجموع وحدات القسم العلمي		18	24	30		النسبة	62.5%
	مجموع وحدات المستوى الاول				48			

الخطة الدراسية للعام (٢٠٢٥-٢٠٢٦)

الجامعة التقنية الشمالية	الكلية التقنية الطبية الدور	القسم : تقنيات البصريات

المستوى الثاني

نوع المتطلب	اسم المقرر		عدد الساعات النظرية	عدد الساعات العملية	عدد الوحدات	الفصل الدراسي	المعهد ان وجد	الرمز
	باللغة العربية	باللغة الانكليزية						
متطلبات الجامعة (المتطلبات المصرفية)	اللغة الانكليزية	English Language	2	-	2	ف٢		NTU200
	الحاسوب	Computer	1	1	2	ف١		NTU201
	اللغة العربية	Arabic Language	2	-	2	ف٢		NTU202
	جرائم حزب البعث	The crimes of the baath regime	2	-	2	ف١		NTU203
	اخلاقيات مهنة	Professional behaviour	2	.	2	ف٢		NTU204
	مجموع وحدات الجامعة		9	1	10		النسبة	20.8%
متطلبات الكلية	علم النفس الطبي	Medical psychology	2	-	2	ف١		MTCD201
	الايض الغذائي	Metabolism	2	2	3	ف٢		MTCD202
	احصاء حيوي	Biostatistics	2	2	3	ف١		MTCD203
	التدريب الصيفي		مستوفى					MTCD204
	مجموع وحدات الكلية		6	4	8		النسبة	16.7%
متطلبات القسم التخصصية	فسلجة العين والرؤية	Physiology of the eye and vision	2	3	3	ف١		OPT201
	فسلجة شبكية العين	Physiology of the retina eye	2	3	3	ف٢		OPT202
	أجهزة وأدوات بصرية	Optical devices and tools	2	4	4	ف١		OPT203
	الاجهزة البصرية المتقدمة	Advanced Optical Equipment	2	4	4	ف٢		OPT204
	صحة عينية	Ocular health	3	3	4	ف١		OPT205
	مشاكل العين	Eye problems	3	3	4	ف٢		OPT206
	الانكسار	Refractive	2	3	3	ف١		OPT207
	علم الادوية	pharmacology	2	-	2	ف١		OPT208
	الليزر في طب العيون	Laser in ophthalmology	2	2	3	ف٢		OPT209
	مجموع وحدات القسم العلمي		20	25	30		النسبة	62.5%
	مجموع وحدات المستوى الثاني				48			

الخطة الدراسية للعام (٢٠٢٥-٢٠٢٦)

الجامعة التقنية الشمالية	الكلية التقنية الطبية الدور	القسم : تقنيات البصريات

المستوى الثالث

نوع المتطلب	اسم المقرر		عدد الساعات النظرية	عدد الساعات العملية	عدد الوحدات	الفصل الدراسي	المهد ان وجد	الرمز
	باللغة العربية	باللغة الانكليزية						
المتطلبات الجامعية (المتطلبات المعرفية)								
	مجموع وحدات الجامعة		0	0	0		النسبة	0.0%
متطلبات الكلية	تطبيقات الحاسوب	computer applications	1	2	2	ف٢		MTCD301
	الامان في المختبرات	Safety in laboratories	2	.	2	ف١		MTCD302
	طرق البحث الطبي	Medical research methods	2	.	2	ف١		MTCD303
	التدريب الصيفي			مستوفى				MTCD304
المجموع	مجموع وحدات الكلية		5	2	6		النسبة	18.8%
متطلبات القسم التخصصية	مشاكل العين بالامراض الباطنية	Eye problems in internal diseases	2	3	3	ف١		OPT301
	مشاكل العين بالامراض العصبية	Eye problems in nervous diseases	2	3	3	ف٢		OPT302
	النظارات الطبية	Prescription glasses	2	3	3	ف١		OPT303
	مشاكل النظارات	Glasses Problems	2	3	3	ف٢		OPT304
	الحول	Squint	2	3	3	ف١		OPT305
	مشاكل الحول	Squint Problems	2	3	3	ف٢		OPT306
	أخطاء الانكسار	Refractive Errors	2	3	3	ف١		OPT307
	اجهزة فحص البصر	Optical Testing Devices	2	3	3	ف٢		OPT308
	علاج امراض العين بالليزر	Treatment of ocular diseases	1	2	2	ف٢		OPT309
	مجموع وحدات القسم العلمي		17	26	26		النسبة	81.3%
	مجموع وحدات المستوى الثالث				32			

الخطة الدراسية للعام (٢٠٢٥-٢٠٢٦)								
الجامعة التقنية الشمالية		الكلية التقنية الطبية الدور				القسم : تقنيات البصريات		
المستوى الرابع								
نوع المتطلب	اسم المقرر		عدد الساعات النظرية	عدد الساعات العملية	عدد الوحدات	الفصل الدراسي	الممهد ان وجد	الرمز
	باللغة العربية	باللغة الانكليزية						
المتطلبات الجامعية (المتطلبات المعرفية)								
	منهجية البحث العلمي	Scientific research methodology	2	.	2	ف١		NTU400
	مجموع وحدات الجامعة		2	0	2		النسبة	5.4%
متطلبات الكلية	الطب الوقائي والاجتماعي	Preventive and	2	.	2	ف١	يتم اختيار مادة واحدة	MTCD402
	علم الدم والامصال	Serology and	2	.		ف١		MTCD403
	مشروع بحث التخرج	Graduation Project	.	.	4	ف٢		MTCD404
	مجموع وحدات الكلية		4	0	6		النسبة	16.2%
متطلبات القسم التخصصية	امراض العين	Eye Diseases	2	3	3	ف١		OPT401
	امراض شبكية العين	Diseases Retina	2	3	3	ف٢		OPT402
	تشخيص الحول	Squint Diagnosis	2	3	3	ف١		OPT403
	علاج الحول	Squint Treatment	2	3	3	ف٢		OPT404
	نظارات وعدسات لاصقة	Glasses and contact lenses	2	3	3	ف١		OPT405
	بدائل عينية	kind alternatives	2	3	3	ف٢		OPT406
	العين الاصطناعية	Eye Prosthesis	2	3	3	ف١		OPT407
	طب عيون الأطفال	Pediatric ophthalmology	2	3	3	ف٢		OPT408
	اشعة وسونار العين	Eye rays and sonar	2	3	3	ف١		OPT409
	ورشة التقنيات البصرية	Workshop of optical Technique	.	4	2	ف٢		OPT410
	مجموع وحدات القسم العلمي		18	31	29		النسبة	78%
	مجموع وحدات المستوى الرابع				37			

7. Program Description

Year / Level	*Course Code*	*Course Name*	*Credit Hours*	*Theoretical*	*Practical*
2025-2026 / First	NTU100	Human Rights and Democracy	2	–	–
2025-2026 / First	NTU101	English Language	2	–	–
2025-2026 / First	NTU102	Computer	2	1	1
2025-2026 / First	NTU103	Arabic Language	2	–	–
2025-2026 / First	NTU104	Physical Education	2	1	1
2025-2026 / First	MTCD101	Principles of Medical Biology	6	2	4
2025-2026 / First	MTCD102	Medical Microbiology	6	2	4
2025-2026 / First	OPT101	Head and Neck Anatomy	7	3	4
2025-2026 / First	OPT102	Eye Anatomy	7	3	4
2025-2026 / First	OPT103	Principles of Chemistry	7	3	4
2025-2026 / First	OPT104	Biochemistry	7	3	4
2025-2026 / First	OPT107	Optical Physics	7	3	4
2025-2026 / First	OPT108	Medical Physics	7	3	4
2025-2026 / Second	NTU200	English Language	2	–	–
2025-2026 / Second	NTU201	Computer	2	1	1
2025-2026 / Second	NTU202	Arabic Language	2	–	–
2025-2026 / Second	NTU203	Crimes of Ba’ath Party	2	–	–
2025-2026 / Second	NTU204	Professional Ethics	2	–	–
2025-2026 / Second	MTCD201	Medical Psychology	2	–	–
2025-2026 / Second	MTCD202	Nutritional Metabolism	4	2	2
2025-2026 / Second	MTCD203	Biostatistics	4	2	2
2025-2026 / Second	MTCD204	Summer Training	–	–	–
2025-2026 / Second	OPT201	Physiology of Eye and Vision	5	2	3

2025-2026 / Second	OPT202	Physiology of Retina	5	2	3
2025-2026 / Second	OPT203	Optical Devices and Instruments	6	2	4
2025-2026 / Second	OPT204	Advanced Optical Devices	6	2	4
2025-2026 / Second	OPT205	Eye Health	6	3	3
2025-2026 / Second	OPT206	Eye Problems	6	3	3
2025-2026 / Second	OPT207	Refraction	5	2	3
2025-2026 / Second	OPT208	Pharmacology	2	–	–
2025-2026 / Second	OPT209	Laser in Ophthalmology	4	2	2
2025-2026 / Third	MTCD301	Computer Applications	3	1	2
2025-2026 / Third	MTCD302	Laboratory Safety	2	–	–
2025-2026 / Third	MTCD303	Medical Research Methods	2	–	–
2025-2026 / Third	MTCD304	Summer Training	5	2	3
2025-2026 / Third	OPT301	Eye Problems in Internal Diseases	5	2	3
2025-2026 / Third	OPT302	Eye Problems in Neurological Diseases	5	2	3
2025-2026 / Third	OPT303	Medical Glasses	5	2	3
2025-2026 / Third	OPT304	Glasses Problems	5	2	3
2025-2026 / Third	OPT305	Strabismus	5	2	3
2025-2026 / Third	OPT306	Strabismus Problems	5	2	3
2025-2026 / Third	OPT307	Refractive Errors	5	2	3
2025-2026 / Third	OPT308	Vision Examination Devices	3	1	2
2025-2026 / Third	OPT309	Treatment of Eye Diseases with Laser	5	2	3
2026-2027 / Fourth	NTU400	Scientific Research Methodology	2	–	–
2026-2027 / Fourth	MTCD402	Preventive and Social Medicine	2	–	–
2026-2027 / Fourth	MTCD403	Hematology and Serology	2	–	–

2026-2027 / Fourth	MTCD404	Graduation Research Project	–	–	–
2026-2027 / Fourth	OPT401	Eye Diseases	5	2	3
2026-2027 / Fourth	OPT402	Retinal Diseases	5	2	3
2026-2027 / Fourth	OPT403	Strabismus Diagnosis	5	2	3
2026-2027 / Fourth	OPT404	Strabismus Treatment	5	2	3
2026-2027 / Fourth	OPT405	Glasses and Contact Lenses	5	2	3
2026-2027 / Fourth	OPT406	Ocular Alternatives	5	2	3
2026-2027 / Fourth	OPT407	Artificial Eye	5	2	3
2026-2027 / Fourth	OPT408	Pediatric Ophthalmology	5	2	3
2026-2027 / Fourth	OPT409	Eye Radiology and Ultrasound	5	2	3
2026-2027 / Fourth	OPT410	Optical Technologies Workshop	4	–	4

8. Expected Learning Outcomes of the Program

Category	Code	Learning Outcome
Knowledge	A.1	Preparing students to apply knowledge in medical fields in general, and in Optical Technologies in particular.
	A.2	Understanding principles, professional responsibilities, and ethical standards of the specialization.
	A.3	Familiarity with basics of laboratory instruments and workshop equipment in the field of specialization.
	A.4	Developing students' scientific skills and broadening their knowledge horizons to achieve academic and professional ambitions.
Skills	B.1	Preparing students to work within multidisciplinary teams, enhancing integration and collaboration in diverse professional environments.
	B.2	Providing medical services to citizens through advisory clinics supervised by specialized physicians, supported by technical staff from graduates.
	B.3	Training students to master modern technologies, specialized skills, and tools in Optical Technologies.
	B.4	Preparing students to diagnose patient injuries and manage them correctly and safely, ensuring well-being and minimizing complications.
Values	C.1	Developing students' ability to communicate effectively with all stakeholders in the specialization.

	C.2	Enhancing awareness of continuous education and enabling lifelong learning.
	C.3	Providing knowledge about contemporary issues related to the specialization.
	C.4	Offering broad education to understand global solutions and challenges (economic, environmental, social), contributing to healthcare institutions with qualified personnel for rehabilitation and patient care in specialized hospitals and advisory clinics.

9. Teaching and Learning Strategies

Theoretical Lectures / Discussion and Dialogue / Practical Lectures / Field Visits / Seminars / Laboratories / Office Activities / Solving Examples / Graduation Project / Summer Training

10. Assessment Methods

Conducting daily, midterm, and final examinations. Submitting weekly reports. Oral examinations to assess students' ability to communicate and interact with others using modern dialogue techniques.

11. Teaching Staff

Academic Rank	Specialization	Specific Requirements / Skills (if any)	Staff Type	Number
Professor	Life Sciences	Physiology	Permanent	–
Assistant Professor	Physics	Medical Physics	Permanent	Assistant Professor
Assistant Lecturer	Biochemistry	Clinical Chemistry	Permanent	–
Assistant Lecturer	Physics	Physics	Permanent	–
Assistant Lecturer	Life Sciences	Life Sciences	Permanent	–
Assistant Lecturer	Accounting	Accounting	Permanent	–
Assistant Lecturer	Computers	Computers	Permanent	–
Assistant Lecturer	Educational and Psychological Sciences	Educational and Psychological Sciences	Permanent	–
Assistant Lecturer	Life Sciences / Physiology	Life Sciences / Physiology	Permanent	–
Assistant Lecturer	Vision Examination	Vision Examination	Lecturer	–
Assistant Lecturer	Pathological Analysis	Pathological Analysis	Lecturer	–

Academic Rank	Specialization	Specific Requirements / Skills (if any)	Staff Type	Number
Bachelor's Degree	Medical Technologies / Vision Examination	–	Lecturer	–
Bachelor's Degree	Medicine	–	Lecturer	–
Bachelor's Degree	Vision Technician	–	Lecturer	–
Higher Diploma	Medicine	Pediatrics	Lecturer	–
Assistant Lecturer	Arabic	Grammar and Morphology	Lecturer	–

Category	Activity	Description
Orientation for New Faculty Members	**1**	**Developmental and preparatory courses for work in specialized vision examination centers.**
	2	**Training courses on patient examination methods with advanced specialized staff.**
	3	**Conducting specialized studies and scientific research in ophthalmology, benefiting from expert staff.**
Professional Development for Faculty Members	**4**	**Developmental and preparatory courses for work in specialized centers.**
	5	**Training courses on vision examination devices with advanced staff.**
	6	**Conducting specialized studies and scientific research in medical glasses manufacturing.**
	7	**Attending specialized scientific seminars.**
	8	**Correspondence and self-learning.**

12. Admission Criteria

- **Scientific Branch**
- **Average (Grade Point / Score)**

13. Main Information Sources about the Program

Source	Description
1	Textbooks (Methodological Books).
2	Additional sources such as Digital Library and Internet resources.
3	Specialized scientific articles.
4	College Library.
5	Scientific Theses and Dissertations.

14. Program Development Plan

Area	Action	Details
Curriculum Review	Updating Academic Content	Curricula revised based on recent research and new optical technologies.
	Introducing Modern Skills	Focus on developing eye examination skills.
Advanced Practical Training	Intensive Clinical Training	Enhancing practical training in hospitals and health centers to increase students' exposure to diverse cases.
	Focus on Practical Competencies	Accurate case evaluation and comprehensive treatment planning based on patient needs.
Integration of Modern Technology	Use of Innovative Techniques	Application of virtual reality therapy and wearable devices to monitor patient progress.
	Development of Health Information Systems	Supporting electronic health records and treatment-tracking applications to improve patient communication.
Scientific Research	Encouraging Research	Investment in eye examination research, including new techniques and recovery processes.

14. Program Development Plan

Area	Action	Details
	Supporting Publication	Strengthening collaboration with universities and journals to publish advanced optical research.
Continuous Training and Education	Continuing Education Programs	Workshops, training courses, and distance learning programs to update practitioners' skills.
Public Health and Prevention	Promoting Preventive Role	Programs to prevent injuries and common diseases, including awareness on reducing future dependence on glasses.
	Community Engagement	Awareness campaigns on reducing excessive use of mobiles, computers, and TV screens to improve quality of life.
Infrastructure Development	Improving Training Facilities	Expanding university clinics and practical training centers with modern equipment.
	Providing Financial Support	Increasing funding to support research, facilities, and infrastructure.

15. Program Skills Mapping

Year / Level	Course Code	Course Name	Core / Elective	Knowledge (A1–A4)				Skills (B1–B4)				General & Transferable Skills (D1–D4)			
First	NTU100	Human Rights and democracy	primary	S		S	T	T	B		T		T		B
First	NTU101	English Language	primary	R		R			S		T				T
First	NTU102	Computer	primary				T		C		T				T
First	NTU103	Arabic Language	primary				T			T					T
First	NTU104	Sports	elective	B		C		T						T	
First	MTCD101	Principles of Medical Biology	primary	T		S	T	C	C		T		T		T
First	MTCD102	Medical Microbiology	primary	R		R			S		T		C		T

First	**OPT101**	**Anatomy of the Head and Neck**	**primary**				T		C		T				T
First	**OPT102**	**Anatomy of the Eye**	**primary**				T			T					T
First	**OPT103**	**Principles of Chemistry**	**primary**	B		C		T						T	
First	**OPT104**	**Biochemistry**	**primary**	T		S	T	T	C		T		T		C
First	**OPT107**	**Optical Physics**	**primary**	R		R			S		T				T
First	**OPT108**	**Medical Physics**	**primary**				T		C		T				T
Second	**NTU200**	**English Language**	**primary**			T		T			T		B		T
Second	**NTU201**	**Computer**	**primary**	T			C			T			C	B	T
Second	**NTU202**	**Arabic Language**	**primary**				T			T					T
Second	**NTU203**	**The Crimes of Ba'ath Party**	**primary**	B		C		T						T	
Second	**NTU204**	**Professional behavior**	**primary**	T		S	T	C	C		T		T		T
Second	**MTCD201**	**Medical Psychology**	**primary**	R		R			S		T		C		T
Second	**MTCD202**	**Metabolism**	**primary**				T		C		T				T
Second	**MTCD203**	**Biostatistics**	**primary**				T			T					T
Second	**OPT201**	**Physiology of the Eye and Vision**	**primary**	B		C		T						T	
Second	**OPT202**	**Physiology of the Retina eye**	**primary**	C		S	T	T	C		T		T		C
Second	**OPT203**	**Optical Devices and tools**	**primary**	R		R			S		T				T
Second	**OPT204**	**Advanced Optical Equipment**	**primary**				T		C		T				T
Second	**OPT205**	**ocular Health**	**primary**			T		T			P		B		T
Second	**OPT206**	**Eye Problems**	**primary**	T									C	B	T
Second	**OPT207**	**Refraction**	**primary**				T			T					T
Second	**OPT208**	**Pharmacology**	**primary**	B		C		T						T	

Second	**OPT209**	**Laser in Ophthalmology**	**primary**	T		S	T	C	C		T		T		T
Third	**MTCD301**	**Computer Applications**	**primary**	T			T		T			C		B	
Third	**MTCD302**	**Safety in Laboratory**	**primary**	T	T			C			T			C	B
Third	**MTCD303**	**Medical Research Methods**	**primary**	T		C		T			T		C		
Third	**OPT301**	**Eye Problems in Internal Diseases**	**primary**		B		C		T						T
Third	**OPT302**	**Eye Problems in nervous Diseases**	**primary**	T	T		S	T	C	C		T		T	
Third	**OPT303**	**prescription Glasses**	**primary**	T	R		R			S		T		C	
Third	**OPT304**	**Glasses Problems**	**primary**	T		C		T		C		T			
Third	**OPT305**	**squint**	**primary**	T				T			T				
Third	**OPT306**	**squint Problems**	**primary**		T		C		T		T				T
Third	**OPT307**	**Refractive Errors**	**primary**	T			T		T			ج		B	
Third	**OPT308**	**Optical testing Devices**	**primary**	T	T			C			T			C	B
Third	**OPT309**	**Treatment of ocular Diseases**	**primary**	T				T			T				
Fourth	**NTU400**	**Scientific Research Methodology**	**primary**		B		C		T						T
Fourth	**MTCD402**	**Preventive and Social Medicine**	**elective**	T	T		S	T	C	C		T		T	
Fourth	**MTCD403**	**Hematology and Serology**	**elective**	T	R		R			S		T		C	
Fourth	**MTCD404**	**Graduation Project**	**primary**	T		C		T		C		T			
Fourth	**OPT401**	**Eye Diseases**	**primary**	T				T			T				
Fourth	**OPT402**	**Diseases Retinal**	**primary**		T		C		T		T				T
Fourth	**OPT403**	**squint Diagnosis**	**primary**	T			T		T			P		B	
Fourth	**OPT404**	**squint Treatment**	**primary**	T	T			C			T			C	B

Fourth	**OPT405**	**Glasses and Contact Lenses**	**primary**	T				T			T				
Fourth	**OPT406**	**kind Alternatives**	**primary**		B		C		T						T
Fourth	**OPT407**	**Eye prosthesis**	**primary**	T	T		S	T	C	C		T		T	
Fourth	**OPT408**	**Pediatric Ophthalmology**	**primary**	T	R		R			S		T		C	
Fourth	**OPT409**	**Eye rays and sonar**	**primary**	T		C		T		C		T			
Fourth	**OPT410**	**workshop of optical technique**	**primary**	T				T			T				

Book/B Theoretical/T Report/R Seminar/S Project/P Practical/C

Course Description – First Level

Human rights and democracy	Course name -1
NTU 100	Course code -2
First semester 2025/2026	Semester/Year -3
2025/9/1	Date of preparation of the -4 description
In-person lectures	Available forms of -5 attendance
theoretical hours / 2 units 30	/ Number of credit hours (total) -6 Number of units (total)
Shaima .A.M.DIbrahim Taha	Name of the course supervisor - 7 mention all names, if there is) (more than one name

Course objectives -8

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

Teaching and learning strategies - 9

A. Cognitive objectives

To increase the student's knowledge of the theoretical conceptual aspect and historical development of the subject of human rights and democracy. To develop the student's analytical and critical skills regarding the reality and future of human rights and democracy. To enable 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, one of the .most important components of which is belief in human rights
.b. Course specific skill objectives 1- .Introduction to the history of human rights and stages of development 2- .Spreading culture and nourishing the student from the Islamic side 3- .How to preserve society and country by promoting love for country 4- Learn about the most important rights granted to them according to .international norms and laws 5- .Promoting citizenship among students
Teaching and learning methods
In-person education
Evaluation methods
Daily tests, semester exams, final exams, weekly reports on the subject seminars on the study subjects , discussions and conversations during the . lesson
.C. Affective and value- based goals Teaching students to research real-life problems, link them to the -A1 .scientific material, and present them in a logical order and sequence Encourage students to be objective in discussions about the challenges - .facing the country Embodying the concept of freedoms for students and explaining wrong - .practices, their consequences, and how to avoid them . Giving top priority to the expression of rights -A2 . A3- Emphasizing the importance of human rights

. A4- Objectivity in discussions

Teaching and learning methods

(In-person lectures)

- **Evaluation methods**

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Historical development of ,human rights human rights in ancient civilizations	knowledge	2 theoretical	the first
,Reports oral and written	,whiteboard powerpoint ,slides	Human rights in divine laws with a focus on	knowledge	2 theoretical	the second

theoretical exams	hands-on experiments	human rights in Islam			
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Human Rights in the Middle Ages and Modern Times	knowledge	2 theoretical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Regional recognition of human rights at ,the European ,American African, Islamic and Arab levels	knowledge	2 theoretical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Non-governmental organizations and their role in human rights International) Committee of ,the Red Cross Amnesty ,International Human Rights Watch, Arab Organization for (Human Rights	knowledge	2 theoretical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Human rights in international and regional covenants and national legislation	knowledge	2 theoretical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Human rights in regional charters European) Convention on ,Human Rights American Convention on ,Human Rights	knowledge	2 theoretical	Seventh

		African Charter on Human Rights, and Arab Charter on (Human Rights			
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Human Rights in National Legislation Iraqi) (Constitution	knowledge	2 theoretical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Forms and generations of human rights individual and) (collective rights	knowledge	2 theoretical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Human rights guarantees and protection at the national level	knowledge	2 theoretical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Human rights guarantees and protection at the regional and international levels	knowledge	2 theoretical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Classification of public freedoms basic and) individual ,freedom freedom of security and ,feeling secure freedom of movement and personal (freedom	knowledge	2 theoretical	twelfth
,Reports oral and written	,whiteboard powerpoint ,slides	Intellectual and cultural freedoms freedom of)	knowledge	2 theoretical	thirteenth

theoretical exams	hands-on experiments	,opinion freedom of belief, and freedom of (education			
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Freedom of the press, freedom ,of assembly and freedom of association	knowledge	2 theoreti cal	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Economic and social freedoms freedom of) work, freedom ,of ownership and freedom of trade and (industry	knowledge	2 theoreti cal	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
Democracy and Human Rights book	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)

	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

English language	**Course name -1**
NTU101	**Course code -2**
Second semester / 2025-2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
theoretical hours / 2 units 30	**/ Number of credit hours (total) -6 Number of units (total)**
Bass M. Ibrahim Rajab .M.M	**Name of the course supervisor -7 mention all names, if there is) (more than one name**
Course objectives -8	
Acquire the skill of dialogue in the English language and read and analyze scientific research and .medical terminology correctly	
Teaching and learning strategies -9	

A. Cognitive objectives **Identify the tenses and verbs used with each tense and adjust the . A1 .context of the sentence** **.A2 . Identify general rules, interrogative words, and conversational structure**
. B. Course specific skill objectives **.B1 . Speak correct English** **.B2. Ability to read medical tests** **B3. Knowing medical terms in English because of their importance in the field .of medical work**
Teaching and learning methods
In-person education (scientific films and videos on correct English (pronunciation
Evaluation methods
Daily tests, midterm exams, and final exams
C. Affective and value- based goals **A1 . For the student to acquire the correct language and be able to read and .translate medical analyses and terminology** **.A2 . Teamwork among different cadres**
Teaching and learning methods
(In-person lectures)
• **Evaluation methods**
Daily, midterm and final exams
D. General and transferable skills (other skills related to employability and . (personal development **.D1 . Skills of cooperation and teamwork**

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Cardinal numbers/years/prices/ times(in words and figures).	knowledge	2 theoretical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Phonetic of alphabet letters, punctuation.	knowledge	2 theoretical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Countries/Capitals, arrange words (makes full sentence)/ arrange letters (make full word).	knowledge	2 theoretical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Simple present/1. Verb to be (is/am/are) (affirmative, negative and interrogative).	knowledge	2 theoretical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Simple present/2. Verb to do(Do/Does) (affirmative, negative and interrogative).	knowledge	2 theoretical	Fifth
,Reports oral and written	,whiteboard powerpoint slides	Simple present/3. Verb to have(have/has) (affirmative,	knowledge	2 theoretical	Sixth

theoretical exams		negative and interrogative).			
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Simple present/4. Ordinary verbs like (eat, go, play ...etc.) (affirmative, negative and interrogative).	knowledge	2 theoretical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Tag questions and short answers(yes/no questions).	knowledge	2 theoretical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Review (simple present).	knowledge	2 theoretical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Question words (what, where, when, who, why, how, whom, whose, which).	knowledge	2 theoretical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Abbreviation (short form), adjectives (and their opposite).	knowledge	2 theoretical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Plural nouns (regular and irregular).	knowledge	2 theoretical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Possession (all types).	knowledge	2 theoretical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Pronunciation (-s at the end of a word).	knowledge	2 theoretical	fourteenth

,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Pronouns (all types).	knowledge	2 theoretical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
Chabner, D. E. (2021). The Language of Medicine (12th ed.). Elsevier Saunders. Ehrlich, A., & Schroeder, C. L. (2017). Medical Terminology for Health Professions (8th ed.). Cengage Learning. Medical Terminology – Quick & Concise: A Programmed Learning Approach (2nd ed.). Lippincott Williams & Wilkins. MedlinePlus Medical Dictionary (medlineplus.gov) Dorland's Online Medical Dictionary	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

computer	**Course name -1**
NTU102	**Course code -2**
First semester 2025/2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
hours of theory + 15 hours of practical / 2 15 units	**/ Number of credit hours (total) -6 Number of units (total)**
.M.MOmar Mahdi Khattab	**Name of the course supervisor -7 mention all names, if there is more) (than one name**

Course objectives -8

- Providing students with skills in using basic office applications, creating office files and documents, using the operating system, and the basics .of working in a digital environment

Teaching and learning strategies -9

A. Cognitive objectives

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

. B. Course specific skill objectives

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

- **Gain skills in using operating systems and office software such as Microsoft 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals **,A1 . Enhancing confidence in the use of technology and computing and achieving comfort and certainty in dealing with computer .hardware and software** **A2 . Analyzing the problems facing its employees and how to develop the .necessary solutions** **.A3 . Teamwork among different cadres** **. A4 . Understanding patients' suffering and alleviating their pain**
Teaching and learning methods
(In-person lectures and practical training
• **Evaluation methods**
Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital
D. General and transferable skills (other skills related to employability and . (personal development **.D1 . Skills of cooperation and teamwork** **.D2 . Computer typing skills** **.D3 . English communication skills** **.D4 . Skills of enduring work performance and solving problems** **. D5 . Internet conversation skills**

Course structure -10					
Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Computer Fundamentals Computer ,Concept Computer Life ,Cycle Phases Evolution of Computer Generations	Knowledge and application	1 theoretical 1 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Advantages of computers and their areas of .use Classification of computers in terms of ,purpose, size .and data type	Knowledge and application	1 theoretical 1 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Computer components Computer Components Hardware parts of the computer Software entities	Knowledge and application	1 theoretical 1 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Your Personal :Computer Computer Security Concept and Software Licensing	Knowledge and application	1 theoretical 1 + practical	Fourth
,Reports oral and written	,whiteboard powerpoint ,slides	Computer security and	Knowledge and application	1 theoretical	Fifth

theoretical exams	hands-on experiments	software licensing Computer Safety & Software Licenses		1 + practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Ethics of the electronic world, forms of ,transgressions computer ,security computer privacy	Knowledge and application	1 theoretical 1 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Computer software licenses and ,their types intellectual ,property ,hacking malware, the most important steps necessary to protect against hacking operations, the harms of computers to .health	Knowledge and application	1 theoretical 1 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	*Operating* Systems an Definition of operating ,system ,functions ,objectives ,classification examples of some operating systems	Knowledge and application	1 theoretical 1 + practical	The eighth

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Operating systems Windows 7 operating system	Knowledge and application	1 theoretical 1 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Desktop components Start menu taskbar	Knowledge and application	1 theoretical 1 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Folders and files Icons	Knowledge and application	1 theoretical 1 + practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Perform operations on windows desktop wallpapers	Knowledge and application	1 theoretical 1 + practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Control panel Windows ControlPanel) Groups Category (	Knowledge and application	1 theoretical 1 + practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	From the control panel Defragment: Organizing files on the ,computer installing and deleting programs	Knowledge and application	1 theoretical 1 + practical	fourteenth
,Reports oral and written	,whiteboard powerpoint ,slides	Some common computer settings and ,conditions	Knowledge and application	1 theoretical	fifteenth

theoretical exams	hands-on experiments	printer ,management time and date setting, and initial disk .maintenance		1 + practical	

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
Shelly, G. B., & Vermaat, M. E. (2014). Discovering Computers: Fundamentals (8th ed.). Cengage Learning	Required textbooks (curriculum (books, if available
+ internet (Patterson, D. A., & Hennessy, J. L.(2017). Computer Organization and Design MIPS Edition: The Hardware/Software Interface (5th ed.). Morgan Kaufmann . Kurose, J. F., & Ross, K. W. (2021). Computer Networking: A Top-Down Approach (8th ed.). Pearson	Main References (Sources)

Journal of Computer Science and Technology	Recommended books and references (scientific (...journals, reports
GeeksforGeeks – Computer Science Portal	Electronic references and websites

Arabic	Course name -1
NTU103	Course code -2
Second semester 2025/2026	Semester/Year -3
2025/9/1	Date of preparation of the -4 description
In-person lectures	Available forms of -5 attendance
30 Theoretical hour / 2 units	/ Number of credit hours (total) -6 Number of units (total)
.M.MHassan Falah Abdul Karim	Name of the course supervisor -7 mention all names, if there is) (more than one name
Course objectives -8	
.The student learns about spelling and grammatical errors and Arabic grammar rules	
Teaching and learning strategies- 9	
A. Cognitive objectives The student learns the methods and rules of administrative . A1 .correspondence .A2 . The student learns the style of linguistic communication in business administration	

. B. Course specific skill objectives **.B1 . Develop students' listening, reading and expression skills** **.B2. Providing students with expression skills in classical Arabic** **B3. Developing positive attitudes and values among students towards their .Arabic language, linked to religion and Arab heritage**
Teaching and learning methods
In-person education (scientific films and videos in Modern Standard Arabic)
Evaluation methods
Daily tests, midterm exams, and final exams
C. Affective and value- based goals **A1 . For the student to acquire correct language in terms of reading and .spelling** **.A2 . Teamwork among different cadres**
Teaching and learning methods
(In-person lectures)
• **Evaluation methods**
Daily, midterm and final exams
D. General and transferable skills (other skills related to employability and . (personal development **.D1 . Skills of cooperation and teamwork** **.D2 . Computer typing skills** **. D3 . Arabic communication skills** **.D4 . Skills of enduring work performance and solving problems** **. D5 . Internet conversation skills**

Course structure -10					
Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Introduction to - linguistic errors the tied taa, the long taa, and the open taa	knowledge	2 theoretical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Rules for writing the extended and - shortened alif solar and lunar letters	knowledge	2 theoretical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Dad and Tha	knowledge	2 theoretical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Writing the hamza	knowledge	2 theoretical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	punctuation marks	knowledge	2 theoretical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Noun, verb, and the difference between them	knowledge	2 theoretical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Effects	knowledge	2 theoretical	Seventh
,Reports oral and written	,whiteboard powerpoint slides	number	knowledge	2 theoretical	The eighth

theoretical exams					
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Common language errors applications	knowledge	2 theoretical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Common language errors applications	knowledge	2 theoretical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Noon and Tanween Meanings of - Prepositions	knowledge	2 theoretical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Formal aspects of administrative discourse	knowledge	2 theoretical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	The language of administrative discourse	knowledge	2 theoretical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	The language of administrative discourse	knowledge	2 theoretical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Examples of administrative correspondence	knowledge	2 theoretical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet + Curriculum for Technical College Students	Main References (Sources)
Ibn Hisham al-Ansari (edited by Muhammad Muhyi al-Din Abd al-Hamid).	Recommended books and references (scientific (...journals, reports
Mughni al-Labib 'an Kutub al-A'arib (The Sufficient Guide to the Books of Grammar). Dar al-Fikr. Electronic References and Websites: The Arabic Language Academy in Cairo	Electronic references and websites

Sports	Course name -1
NTU104	Course code -2
First semester 2025/2026	Semester/Year -3
2025/9/1	Date of preparation of the -4 description
In-person lectures	Available forms of -5 attendance
hours of theory + 15 hours of practical / 2 15 units	/ Number of credit hours (total) -6 Number of units (total)

Majid Hamid .Dr Abdul	**Name of the course supervisor -7 mention all names, if there is) (more than one name**
Course objectives - 8	
.The student acquires motor skills	
Teaching and learning strategies -9	
A. Cognitive objectives **.Sports culture awareness . A1** **A2 . Providing students with comprehensive information about the rules of the games and .explaining good behavior when participating in races**	
. B. Course specific skill objectives **.B1 . Developing students' skills in various sports** **.B2. Knowing the rules and regulations for each game** **.B3. Developing and improving physical fitness and motor skills**	
Teaching and learning methods	
In-person education (scientific films and videos on sports training / field (practices	
Evaluation methods	
Daily tests, midterm exams, and final exams	
C. Affective and value- based goals **A1 . Providing training and game practice opportunities to apply technical .aspects for those with athletic proficiencies** **.A2 . Teamwork among different cadres**	
Teaching and learning methods	
(In-person lectures / field training)	

• **Evaluation methods**
Daily, midterm and final exams
D. General and transferable skills (other skills related to employability and . (personal development **.D1 . Skills of cooperation and teamwork** **.D2 . Computer typing skills** **. D3 . Arabic communication skills** **.D4 . Skills of enduring work performance and solving problems** **. D5 . Internet conversation skills**

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	,Sports: definition importance and types	Knowledge and application	1 theoretical 1 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Mechanism of human body movement	Knowledge and application	1 theoretical 1 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Common sports injuries	Knowledge and application	1 theoretical 1 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Basic basketball skills	Knowledge and application	1 theoretical 1 + practical	Fourth

,Reports oral and written theoretical exams	,whiteboard powerpoint slides	International Basketball Laws	Knowledge and application	1 theoretical 1 + practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Basic table tennis skills and international rules	Knowledge and application	1 theoretical 1 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Basic skills of volleyball and its international laws	Knowledge and application	1 theoretical 1 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Swimming	Knowledge and application	1 theoretical 1 + practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Basic skills of tennis and its international rules	Knowledge and application	1 theoretical 1 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Basic handball skills	Knowledge and application	1 theoretical 1 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	International Handball Laws	Knowledge and application	1 theoretical 1 + practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Track and field , games (types international law of (the game	Knowledge and application	1 theoretical 1 + practical	twelfth
,Reports oral and written	,whiteboard powerpoint slides	Basic football skills	Knowledge and application	1 theoretical 1 + practical	thirteenth

theoretical exams					
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Management of sports competitions and contests	Knowledge and application	1 theoretical 1 + practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Sports laws and regulations	Knowledge and application	1 theoretical 1 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

5.

Learning and Teaching Resources - 12	
Wuest, D. A., & Fisette, J. L. (2014). Foundations of Physical Education, Exercise Science, and Sport (18thed.). McGraw-Hill	Required textbooks (curriculum (books, if available
+ الانترنتSiedentop, D. (2004). Introduction to Physical Education, Fitness, and Sport (5th ed.). McGraw-Hill	Main References (Sources)
Research Quarterly for Exercise and Sport	Recommended books and references (scientific (...journals, reports
WHO – Physical Activity and Health	Electronic references and websites

Medical Biology	**Course name -1**
MTCD101	**Course code -2**
First semester 2025/2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
30 hour of theory + 60 hours of practical 1 work / 4 units	**/ Number of credit hours (total) -6 Number of units (total)**
M.M. Mays Qasim Muhammad	**Name of the course supervisor -7 mention all names, if there is more) (than one name**

Course objectives -8

Knowing the history and branches of medical biology and dealing with them through accurate diagnosis of the relationship with the impact on the body's .systems, which helps the physical therapist to deal with such cases

Teaching and learning strategies -9

A. Cognitive objectives

1. Knowing the types of pathogens that cause injuries to the body
2. . Genetic factors and chromosomal changes
3. .The body's defense mechanism against pathogens
4. .Some pathogens and how to prevent them

. B. Course specific skill objectives

1. **Develop an understanding of the fundamentals of microbiology and the research methods used in this field.**
2. **Gain technical skills in using microscopes and other laboratory tools used in the analysis of live samples.**
3. **,Identify different types of microorganisms including bacteria, viruses, fungi and parasites.**

4. Develop the ability to estimate the size, shape and cellular structure of . living organisms using a microscope

Teaching and learning methods

In-person education (scientific films and videos, Laboratories, summer and professional (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 on the subject seminars on the study subjects , discussions and conversations during the . lesson

C. Affective and value- based goals

A1 . Achieving interest and positive interaction with biology. To raise awareness of the importance of microorganisms in daily life and to understand the vital role .they play in the environment and public health

A2 . Analyzing the problems facing its employees and how to develop the necessary .solutions

.A3 . Teamwork among different cadres

. A4 . Understanding patients' suffering and alleviating their pain

Teaching and learning methods

(In-person lectures), summer and professional training, graduation projects, field visits, and . practical training in clinical subjects

- **Evaluation methods**

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up . reports, and practical discussions followed by the practical lesson in the hospital

D. General and transferable skills (other skills related to employability and personal . (development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure - 10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Histo microbiology - History	Knowledge and application	2 theoretical 4 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Branches of Microbiology	Knowledge and application	2 theoretical 4 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Structure of Microbes	Knowledge and application	2 theoretical 4 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Morphology of Bacteria	Knowledge and application	2 theoretical 4 + practical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Requirement of Bacteria	Knowledge and application	2 theoretical 4 + practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Nutrition ((Autotrophic: Photoautotrophic, Chemoautotrophic) Heterotrophic)	Knowledge and application	2 theoretical 4 + practical	Sixth

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Factors influencing growth (Physical factors + Chemical factors)	Knowledge and application	2 theoretical 4 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Physical and chemical Methods	Knowledge and application	2 theoretical 4 + practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	ANTIBIOTICS THE BASES OF CHEMOTHERAPY	Knowledge and application	2 theoretical 4 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Classification tissue / Nucleic acid / properties Tissue/	Knowledge and application	2 theoretical 4 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	growth curve	Knowledge and application	2 theoretical 4 + practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction to Biosafety and Security, The main components of bio risk management, Safety measures in all laboratories and laboratory design, General safety precautions, Personal protective equipment.	Knowledge and application	2 theoretical 4 + practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Biosafety level, risk assessment strategy, Hazard groups, biosafety levels and equipment, Standard practices required in	Knowledge and application	2 theoretical 4 + practical	thirteenth

		biological laboratories.			
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	The biological factors, Routes of infection, Risk group classification, Biosafety measures, Control of substances hazardous to health.	Knowledge and application	2 theoretical 4 + practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Revision	Knowledge and application	2 theoretical 4 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

6-

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports
https://www.britannica.com/science/biology	Electronic references and websites

Medical microbiology	Course name -1

MTCD 102	**Course code -2**
Second semester 2025/2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
theoretical hours + 60 practical hours / 4 30 units	**/ Number of credit hours (total) -6 Number of units (total)**
M.M. Mays Qasim Muhammad	**Name of the course supervisor -7 mention all names, if there is more) (than one name**

Course objectives -8

.Acquire the skill in addition to information related to the medical condition

Teaching and learning strategies - 9

A. Cognitive objectives

The cognitive objectives of studying medical microbiology in the Department of Ophthalmology are primarily to provide students with the theoretical and scientific foundation they need to understand how different microbes, such as bacteria, viruses, fungi, and parasites, can affect human health and how to manage them. Some of the main cognitive objectives are detailed below:

Understand the principles of medical microbiology: learn the basic **.1** characteristics of microbes and how to classify**them** .

Knowledge of bacteriology and virology: gaining information about types .2 of bacteria and viruses, their life cycles, and mechanisms of disease causation .

Study prevention and control methods: Understanding how to .3 prevent**the** spread of infection and work to contain microbial infections in clinical settings.

Develop knowledge of infectious diseases: Learning about various **.4** infectious diseases and their effect on the human**body** .

Laboratory techniques: Knowing how to perform and interpret **.5** laboratory tests to diagnose**infection .**

Treatment and clinical management: Understanding .6the different treatment options for infectious diseases.

Evaluating scientific information: Learn how to evaluate scientific .7 literature and new research in the fieldof medical microbiology**.**

Application of knowledge: Students .8' ability to apply their knowledge of medical microbiology in ophthalmic examination practices.

Work within a multidisciplinary team : Learn how to work .9 collaboratively withother healthcare professionals to provide comprehensive treatment to patients.

These cognitive objectives are essential to provide students with the skills and knowledge necessary to understand the impact of infectious diseases on the field of optometry and to enhance their ability to .contribute effectively to the comprehensive health care of patients

. B. Course specific skill objectives

The skill objectives for studying medical microbiology in the 'Department of Optometry Techniques focus on developing students practical and technical skills to handle microorganisms and apply these skills in their professional practice. Here are some of these objectives:

Diagnostic skills : Develop the ability .1to correctly collect clinical samples and perform laboratory tests to diagnose infectious diseases. **Laboratory skills:** Gain experience in using a microscope, performing **.2** microbial cultures, and identifying organisms**.**Microscopic **Implementing infection control procedures: practicing standard .3 infection** prevention procedures, including sterilization control and the use of personal protective measures. **Analytical skills: learning how to analyze laboratory test results and .4 evaluatetheir** relevance to clinical diagnosis. **Communication:** Develop the ability to communicate effectively with **.5** healthcare teams and exchange information about the diagnosis and treatment management of infected**patients** . **Integrated Clinical Skills:** Learn how to integrate medical microbiology **.6** knowledge with clinical practice in eyeexamination **.** **Ability to self-assess and continuously learn: Encourage students .7to** self-assess their skills and identify the need for continuous learning for continuous improvement in clinical practice. **:Research skills .8Strengthening** research capabilities to contribute to answering clinical questions and participating in scientific discoveries**.** **By developing these skills, optometry students have the tools to understand the vital role microbiota plays in human health and . develop prevention strategies and therapeutic interventions**
Teaching and learning methods
In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson

C. Affective and value- based goals

The affective and ethical objectives of studying medical microbiology in the Department of Optometry are directed toward developing attitudes and values that foster ethical professional practice and promote responsible behavior. The following are some of the core objectives in this context:

1. **Developing health awareness:** Developing a conscious attitude towards public health and the importance of infection prevention.
2. **Appreciate the important role of microbes:** Learn to appreciate the effective role that microorganisms play in the environment and in human health.
3. **Ethical development:** Encouraging ethical behaviors and commitment to scientific integrity during the performance of experiments and interpretation of data.
4. **Professional responsibility:** promoting a sense of responsibility for safe and effective health care**.**
5. **Empathy and respect:** Develop empathy towards patients and respect their right to privacy and decent treatment.
6. **Self-learning and development:** Encouraging students to invest in self-learning and continuously learn about new developments in the field of microbiology.
7. **Cooperation and teamwork:** Learn how to work within a team, where roles and experiences complement each other to achieve the best outcomes for patients.
8. **Respect for diversity and differences:** Awareness of the importance of biodiversity and respect for cultural and individual differences among people .
9. **Stress Management:** Developing students' ability to manage stress that may arise during work in environments related to microbiology and infectious diseases.

10. Initiative and Creativity: Encourage students to take the initiative and be innovative in proposing solutions to challenges related to microbiology in the field of vision examination.

,This aspect of education focuses on developing the whole person including their values and attitudes, in a way that enhances their professional competence and contributes to the provision of ethical .and compassionate healthcare to patients

Teaching and learning methods

(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects

- **Evaluation methods**

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written	,whiteboard powerpoint ,slides	Introduction	Knowledge and application	2 theoretical	the first

theoretical exams	hands-on experiments			4 + practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Classification	Knowledge and application	2 theoretical 4 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Sterilization & disinfection	Knowledge and application	2 theoretical 4 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	immunology	Knowledge and application	2 theoretical 4 + practical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	immunology	Knowledge and application	2 theoretical 4 + practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Laboratory Diagnosis	Knowledge and application	2 theoretical 4 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Bacteriology	Knowledge and application	2 theoretical 4 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Bacteriology	Knowledge and application	2 theoretical 4 + practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Viruses	Knowledge and application	2 theoretical 4 + practical	Ninth

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Viruses	Knowledge and application	2 theoretical 4 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Mycology	Knowledge and application	2 theoretical 4 + practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction to Biosafety and Security	Knowledge and application	2 theoretical 4 + practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Biosafety level, risk assessment strategy	Knowledge and application	2 theoretical 4 + practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	The biological factors	Knowledge and application	2 theoretical 4 + practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Revision	Knowledge and application	2 theoretical 4 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

7-

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet+ CDC Centers for Disease Control and Prevention	Main References (Sources)
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

Anatomy of the Head and Neck	Course name -1
OPT 101	Course code -2
First semester 2025/2026	Semester/Year -3
2025/9/1	Date of preparation of the -4 description
In-person lectures	Available forms of -5 attendance
45 hour of theory + 60 hours of practical 1 work / 5 units	/ Number of credit hours (total) -6 Number of units (total)
M.M. Fayez Ali Ahmed	Name of the course supervisor -7 mention all names, if there is more) (than one name
Course objectives -8	

Understanding the complex structure: Realizing the anatomical complexity of the head .1 and neck regions, where many important and vital structures are concentrated in a .relatively small space

Establish a knowledge base: Build a solid anatomical foundation that serves as a .2 reference for understanding the physiological functions, diseases, diagnostic and .surgical procedures of these two regions

Form Follows Function .3: Understanding how the shape of each bone, muscle, blood vessel, or nerve serves a specific function, such as chewing, speaking, swallowing, or .seeing

Teaching and learning strategies -9

A. The orientation should be "eye-centered," where the anatomy of the head and neck is studied from the perspective of how it supports and protects the function of the visual system. Focus on functionaland clinical anatomy related to the eye 3D .Visualization

. B. Course specific skill objectives

Understand the anatomical basis of vision: relate the structure of .1 .the eye and its appendages to their function

Differential diagnosis: distinguishing the causes of pain around the .2 eye (headache, eye pain) whether they are from the eye itself, the .sinuses, the nerves, or the muscles

Risk assessment: Knowing vital anatomical relationships to avoid .3 complications during patient examination (such as applying force to .(the eyelids

Understanding complications of systemic diseases: How thyroid .4 .disease or vascular disease in the neck affects the eye and optic nerve

Communicating with physicians: Use correct anatomical .5 terminology when referring to neurologists, ENT specialists, or .surgeons

Teaching and learning methods

In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals **,Trace the path of optic fibers: from the retina, via the optic nerve .optic chiasm , optic tract, to the visual cortex in the brain** **Understanding the effects of visual pathway injuries: such as · hemianopia, .and how to locate the injury** **Arteries: Know the path of the common and internal carotid arteries .and how they supply the ophthalmic artery and then the eye and brain** **Veins: Understanding the drainage of blood from the face and eyes to the facial vein and cavernous sinus in the brain**
(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• **Evaluation methods**
Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital
D. General and transferable skills (other skills related to employability and . (personal development **.D1 . Skills of cooperation and teamwork** **.D2 . Computer typing skills** **.D3 . English communication skills** **.D4 . Skills of enduring work performance and solving problems** **. D5 . Internet conversation skills**
Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction to Head & Neck Anatomy	Knowledge and application	3 theoretical 4 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Bones of the Skull	Knowledge and application	3 theoretical 4 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Muscles of the Head & Face	Knowledge and application	3 theoretical 4 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Extraocular Muscles	Knowledge and application	3 theoretical 4 + practical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Orbit Anatomy	Knowledge and application	3 theoretical 4 + practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Overview of the Nervous System	Knowledge and application	3 theoretical 4 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Cranial Nerves I–VI	Knowledge and application	3 theoretical 4 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Cranial Nerves VII–XII (Brief Overview)	Knowledge and application	3 theoretical 4 + practical	The eighth

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Blood Vessels of the Head & Neck	Knowledge and application	3 theoretical 4 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Anatomical Overview of the Eye	Knowledge and application	3 theoretical 4 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Nerves Related to Vision	Knowledge and application	3 theoretical 4 + practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Nose, Paranasal Sinuses & Pharynx	Knowledge and application	3 theoretical 4 + practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Ear & Balance	Knowledge and application	3 theoretical 4 + practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Glands in the Head & Neck	Knowledge and application	3 theoretical 4 + practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Final Review & Exam Preparation	Knowledge and application	3 theoretical 4 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

8-

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
Netter, F. H. (2019). Atlas of Human Anatomy. United States: Elsevier . Drake, R. L., Vogl, A. W., Mitchell, A. W. M. (2019). Gray's Anatomy for Students E-Book. United States: Elsevier Health Sciences.	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

anatomyof the Eye	Course name -1
OPT 102	Course code -2
Second semester 2025/2026	Semester/Year -3
2025/9/1	Date of preparation of the -4 description
In-person lectures	Available forms of -5 attendance
45 hour of theory + 60 hours of practical 1 work / 5 units	/ Number of credit hours (total) -6 Number of units (total)
M.M. Fayez Ali Ahmed	Name of the course supervisor -7 mention all names, if there is more) (than one name
Course objectives -8	

1. Understand the anatomical structure of the eye and its external and internal parts.

2. Understand the relationship between anatomy and visual function to understand how humans develop vision.

3. Apply anatomical knowledge in clinical practice such as examination, prescribing lenses, or early detection of diseases.

Teaching and learning strategies -9

أ. Interactive Lectures, Explaining anatomical parts using pictures PowerPoint slides, and 3D models.

ب. Practical Sessions/ Lab Use of animal eyes or plastic models for applied anatomy

ت. Based Learning (PBL) Giving simple clinical cases (such as: blurred vision, dry eye, cataracts) and linking them to the anatomical structure responsible

ث. E-learning / Blended Learning Use educational platforms to upload videos, 3D images, and short tests.

B. Course specific skill objectives

1. Practical identification of the external and internal parts of the eye using models or an animal eye.

2. The ability to identify the parts of the eye (cornea, lens, retina, optic nerve, etc.) during dissection or on anatomical drawings.

3. Using a dissecting microscope to examine sections of eye tissue (such as the cornea or retina).

4. Use correct medical terminology to describe the eye and its parts during discussions or clinical reports.

5. Relationship between anatomical structure and visual function (e.g. the role of the cornea and lens in refraction of light).

6. Noting changes or differences in the anatomical structure that may lead to visual diseases.

7. Acquire the skill of drawing diagrams of the main parts of the eye as a means of demonstrating understanding.

8. Apply laboratory safety steps when handling animal eyes or anatomical instruments.

Teaching and learning methods
In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals **1. Develop the student's motivation to understand the anatomy of the .eye as a fundamental basis for practicing optics** **2. Instilling the value of appreciating the greatness of God's creation in the formation and precision of the eye, which enhances the spiritual .and moral aspects** **3. Enhance patience, accuracy, and attention to detail when studying .and examining the eye** **Commitment to the ethics of dealing with animal or human eyes (in -4 .the case of preserved eyes) with respect and scientific awareness** **5. Building a positive attitude towards the optics profession and a sense of the importance of the humanitarian role in helping people .to see**
,(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• **Evaluation methods**

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital
D. General and transferable skills (other skills related to employability and . (personal development **.D1 . Skills of cooperation and teamwork** **.D2 . Computer typing skills** **.D3 . English communication skills** **.D4 . Skills of enduring work performance and solving problems** **. D5 . Internet conversation skills**

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction to ocular anatomy – position of the eye in the orbit general overview	Knowledge and application	3 theoretical + 4 practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	External structures: eyelids, eyelashes, eyebrows Protection of the eye	Knowledge and application	3 theoretical + 4 practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Conjunctiva – types and functions Clinical relevance (conjunctivitis)	Knowledge and application	3 theoretical + 4 practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Lacrimal apparatus: lacrimal gland and drainage system Tear film function	Knowledge and application	3 theoretical + 4 practical	Fourth

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Cornea – layers, nutrition, transparency importance in refraction	Knowledge and application	3 theoretical + 4 practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Sclera – structure and relationship to extraocular muscles Clinical notes	Knowledge and application	3 theoretical + 4 practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Iris and pupil – muscles and control of light entry Autonomic innervation	Knowledge and application	3 theoretical + 4 practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Ciliary body and lens – accommodation and aqueous humor secretion Functional anatomy	Knowledge and application	3 theoretical + 4 practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Anterior and posterior chambers – aqueous humor flow Relevance to glaucoma	Knowledge and application	3 theoretical + 4 practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Choroid – vascular supply and functions Relation to retina	Knowledge and application	3 theoretical + 4 practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Retina – layers, photoreceptors, macula, fovea Clinical importance	Knowledge and application	3 theoretical + 4 practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	ptic nerve – structure, course, optic disc Visual pathway intro	Knowledge and application	3 theoretical + 4 practical	twelfth
,Reports oral and written	,whiteboard powerpoint ,slides	Vitreous body – composition and role Age-related changes	Knowledge and application	3 theoretical + 4 practical	thirteenth

theoretical exams	hands-on experiments				
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Extraocular muscles – types, actions, innervation eye movements	Knowledge and application	3 theoretical + 4 practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Ocular blood supply and innervation + Final review Integration with common ocular diseases	Knowledge and application	3 theoretical + 4 practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

9.

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

Optical physics	Course name -1
OPT 107	Course code -2
First semester 2025/2026	Semester/Year -3

2025/9/1	Date of preparation of -4 the description
In-person lectures	Available forms of -5 attendance
45 hour of theory + 60 hours of practical work 1 units 5 /	Number of credit hours -6 (total) / Number of units (total)
Dr. Muhammad Ajami Abd	Name of the course supervisor -7 mention all names, if there is) (more than one name

Course objectives -8

Optical Physics is one of the most important foundations upon which the Department of Optics is based, because it links the physical laws of light with practical .applications in vision and optical devices

Objectives of Optical Physics in the Department of Optics

Teaching and learning strategies -9

.A

,Understanding the nature of light Study of the properties of light (wave, particle, speed .1 .(refraction, reflection, diffraction, interference

.Learn about the electromagnetic spectrum and the importance of visible light in vision

Explaining the work of the human eye Explain how light is refracted inside the eye .2 .(cornea and lens). Study of visual defects (myopia, hyperopia, astigmatism , presbyopia) .Relating the laws of physics to how an image is formed on the retina

Design and correction of visual defects Use of the principles of optical physics in the .3 design of medical lenses and eyeglasses. Study of the work of lenses and optical systems .in vision correction

:Optical techniques and devices Understand the basic working of devices such as .4 .microscope, telescope, eye examination devices (phoropter , keratometer)

.Linking theoretical principles to practical applications within optical clinics

Training in scientific and analytical thinking Develop the ability to solve visual problems .5 .using physical laws. Enhance theoretical understanding for clinical application

) Introduction to modern developments in optics Such as laser vision correction .6LASIK .and optical fibers in medical diagnosis ,(

. B. Course specific skill objectives

Measurement and experimentation: Mastering the use of optical devices .1 (such as: microscope, optical projector, keratometer). Measuring the optical .properties of lenses (power, focal length, magnification)

Analysis of optical phenomena: Interpret the results of experiments related .2 to refraction, reflection, diffraction, and interference. Ability to draw and .interpret light rays in optical systems

Diagnosis and correction of visual defects: Applying the principles of optical .3 ,physics to identify and correct vision defects (nearsightedness farsightedness, astigmatism). Selecting appropriate lenses for patients based .on measurements

Data handling: Accurately record and analyze experimental data. Compare .4 .theoretical and experimental results and draw conclusions

Developing manual and artistic skills: Training on practical simulation of .5 ,optical radiology. Installation and assembly of simple optical systems (lenses .(mirrors

Scientific communication : presenting and discussing results in a scientific .6 manner. Writing accurate operational reports that explain the steps and results .of the experiment

Teaching and learning methods

In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson

C. Affective and value- based goals

The affective and value-based objectives of optical physics relate to the attitudes, behaviors, and tendencies that the student acquires , during his studiesand .just to knowledge or skills not Developing interest in science . Commitment to academic values , professional

responsibility , development of teamwork spirit , appreciation of the . human dimension of science , critical and innovative thinking
(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• Evaluation methods
Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital
D. General and transferable skills (other skills related to employability and . (personal development .D1 . Skills of cooperation and teamwork .D2 . Computer typing skills .D3 . English communication skills .D4 . Skills of enduring work performance and solving problems . D5 . Internet conversation skills
Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	a week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction to Optical Physics Nature of Light: particle vs. wave theory The electromagnetic spectrum	Knowledge and application	3 theoretical + 4 practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Geometrical Optics Reflection and refraction (Laws of Snell and reflection) Refractive index and its importance in vision	Knowledge and application	3 theoretical + 4 practical	the second

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Lenses and Mirrors Types of lenses (convex/concave) Focal length and image formation	Knowledge and application	3 theoretical + 4 practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Prism optics Deviation and dispersion of light Applications in optometry (prism correction)	Knowledge and application	3 theoretical + 4 practical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Optical Instruments I Magnification, simple magnifier Microscope and telescope principles	Knowledge and application	3 theoretical + 4 practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Optical Instruments II Projectors, cameras, ophthalmoscope Keratometer and its optical basis	Knowledge and application	3 theoretical + 4 practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Midterm Review + Problem Solving Session	Knowledge and application	3 theoretical + 4 practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Physical Optics I Interference of light Young's double-slit experiment and applications	Knowledge and application	3 theoretical + 4 practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Physical Optics II Diffraction and resolving power Optical limits of the eye	Knowledge and application	3 theoretical + 4 practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Physical Optics III Polarization of light Clinical applications (polarized lenses, imaging)	Knowledge and application	3 theoretical + 4 practical	tenth

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	The Human Eye as an Optical System Cornea and crystalline lens Retinal image formation	Knowledge and application	3 theoretical + 4 practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Optical aberrations of the eye Spherical and chromatic aberrations Astigmatism and higher-order aberrations	Knowledge and application	3 theoretical + 4 practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Visual Optics and Refraction Myopia, hyperopia, presbyopia Correction with lenses and contact lenses	Knowledge and application	3 theoretical + 4 practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Advanced Optical Applications in Optometry Lasers in ophthalmology (LASIK, photocoagulation) Fiber optics in imaging and diagnostics	Knowledge and application	3 theoretical + 4 practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Final Review and Presentations Clinical case discussions relating optical physics to patient care	Knowledge and application	3 theoretical + 4 practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

10.

Learning and Teaching Resources - 12	
	Required textbooks (curriculum books, if available)
Internet	Main References (Sources)
Netter, F. H. (2019). Atlas of Human Anatomy. United States: Elsevier .	Recommended books and references (scientific (...journals, reports

• Drake, R. L., Vogl, A. W., Mitchell, A. W. M. (2019). Gray's Anatomy for Students E-Book. United States: Elsevier Health Sciences .	
	Electronic references and websites

Principles of Chemistry	Course name -1
OPT 103	Course code -2
First semester 2025/2026	Semester/Year -3
2025/9/1	Date of preparation of the -4 description
In-person lectures	Available forms of -5 attendance
theoretical hours + 60 practical hours / 5 45 units	/ Number of credit hours (total) -6 Number of units (total)
.M.DMustafa Talib Salim	Name of the course supervisor -7 mention all names, if there is more) (than one name
Course objectives -8	
Providing graduates with a strong scientific foundation in basic materials science, an understanding of the nature of devices and tools used in the field, the application of chemical principles to solve problems related to vision and lens manufacturing, and the development of innovation in the field of eye care	
Teaching and learning strategies -9	

It is recommended to apply active learning strategies, such as group discussions and free discussions, use various visual aids such as diagrams and illustrations, and link concepts to practical reality and their applications .in the field of optics It also encourages continuous assessment of students and provides additional educational resources online to deepen .understanding
B- Course specific skill objectives
Providing students with a scientific basis for understanding the materials and ,techniques used in the field of optics, developing their problem-solving skills ,and applying the acquired knowledge in the field of examining, diagnosing and treating vision problems and providing the necessary visual care to patients in various health sectors, in accordance with quality standards and .social responsibility
Teaching and learning methods
In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject, seminars on . the study subjects , discussions and conversations during the lesson
C. Affective and value- based goals: Instilling values such as responsibility, sensitivity, and professionalism in students, in addition to developing a love of knowledge, a passion for innovation, and a commitment to serving society by improving the quality of people's vision, through a deep understanding of chemistry as a basis for .diagnosing diseases and developing modern optical technologies
Teaching and learning methods
(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• **Evaluation methods**

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital
D. General and transferable skills (other skills related to employability and . (personal development **.D1 . Skills of cooperation and teamwork** **.D2 . Computer typing skills** **.D3 . English communication skills** **.D4 . Skills of enduring work performance and solving problems** **. D5 . Internet conversation skills**

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	whiteboar ,d powerpoin ,t slides hands-on experimen ts	Introduction to Chemistry	Knowledge and application	3 theoretical 4 + practical	the first
,Reports oral and written theoretical exams	whiteboar ,d powerpoin ,t slides hands-on experimen ts	Atoms, Molecules, and Ions	Knowledge and application	3 theoretical 4 + practical	the second
,Reports oral and written	whiteboar ,d powerpoin ,t slides hands-on	The Periodic Table & Chemical Bonding	Knowledge and application	3 theoretical 4 + practical	the third

theoretical exams	experiments				
,Reports oral and written theoretical exams	whiteboar ,d powerpoin ,t slides hands-on experiments	Chemical Formulas & Nomenclature	Knowledge and application	3 theoretical 4 + practical	Fourth
,Reports oral and written theoretical exams	whiteboar ,d powerpoin ,t slides hands-on experiments	Chemical Equations & Reactions	Knowledge and application	3 theoretical 4 + practical	Fifth
,Reports oral and written theoretical exams	whiteboar ,d powerpoin ,t slides hands-on experiments	The Mole Concept	Knowledge and application	3 theoretical 4 + practical	Sixth
,Reports oral and written theoretical exams	whiteboar ,d powerpoin ,t slides hands-on experiments	Stoichiometry	Knowledge and application	3 theoretical 4 + practical	Seventh
,Reports oral and written theoretical exams	whiteboar ,d powerpoin ,t slides hands-on experiments	Gases and Gas Laws	Knowledge and application	3 theoretical 4 + practical	The eighth

,Reports oral and written theoretical exams	whiteboar ,d powerpoin ,t slides hands-on experimen ts	Thermochemistry	Knowledge and application	3 theoretical 4 + practical	Ninth
,Reports oral and written theoretical exams	whiteboar ,d powerpoin ,t slides hands-on experimen ts	Electronic Structure of Atoms	Knowledge and application	3 theoretical 4 + practical	tenth
,Reports oral and written theoretical exams	whiteboar ,d powerpoin ,t slides hands-on experimen ts	Chemical Bonding II	Knowledge and application	3 theoretical 4 + practical	eleventh
,Reports oral and written theoretical exams	whiteboar ,d powerpoin ,t slides hands-on experimen ts	Liquids, Solids & Intermolecular Forces	Knowledge and application	3 theoretical 4 + practical	twelfth
,Reports oral and written theoretical exams	whiteboar ,d powerpoin ,t slides hands-on experimen ts	Solutions and Concentrations	Knowledge and application	3 theoretical 4 + practical	thirteenth
,Reports oral and written	whiteboar ,d powerpoin ,t slides	Acids, Bases, and pH	Knowledge and application	3 theoretical 4 + practical	fourteenth

theoretical exams	hands-on experimen ts				
,Reports oral and written theoretical exams	whiteboar ,d powerpoin ,t slides hands-on experimen ts	Review and Applications in Optics	Knowledge and application	3 theoretical 4 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

11-

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
Biosafety in Microbiological and Biomedical Laboratories Biological Safety Manual	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

OPT 104	Course code -2
Second semester 2025/2026	Semester/Year -3
2025/9/1	Date of preparation of the -4 description

In-person lectures	Available forms of -5 attendance
45 hour of theory + 60 hours of practical 1 work / 5 units	/ Number of credit hours (total) -6 Number of units (total)
M.M. Mustafa Talib Salim	Name of the course supervisor -7 mention all names, if there is more) (than one name

Course objectives -8

Biochemistry (biochemistry) objectives for the Optical Technology Department are typically formulated to support the student's understanding of biological processes related to the human body, particularly those related to the visual system. Here is a suggested formulation of the course objectives, appropriate .for the Optical Technology major

Teaching and learning strategies -9

Understanding the chemical foundations of life: Introduce students to basic .1 ,biological compounds such as carbohydrates, proteins, lipids, and nucleic acids and their role in cellular functions and vital tissues, especially those associated .with the eye

Linking biochemical processes to the visual system: Explain the vital reactions .2 that occur in the eye, such as metabolic processes in the retina and lens, tear .formation, and the functions of vitamins and minerals in maintaining eye health

Explain the effect of chemical imbalance on vision: Study of diseases .3 ,associated with chemical disturbances such as macular degeneration, cataracts .and diabetic retinopathy, from a biochemical perspective

:Application of biochemical concepts in optical techniques .4

Enabling students to relate biological concepts to practical applications such as designing bioprosthetic lenses, diagnosing metabolic or nutritional-related ocular .conditions, and understanding the chemical basis of ocular pharmacology

Enhancing the ability to conduct scientific analysis: Training students to .5 analyze the results of biological tests and understand their chemical significance .in the context of evaluating the patient's visual condition

Emphasizing the relationship between nutrition and eye health: Explain the role .6 of vitamins (especiallyA ,C ,E minerals, and antioxidants in protecting the eyes ,(.from oxidative damage and enhancing vision

. B. Course specific skill objectives

Applying basic skills in the biochemical laboratory: Providing the student with .1 the ability to use laboratory equipment and tools to analyze biological compounds such as proteins, sugars, and fats. Learn practical methods for preparing chemical .solutions and accurately calculating their concentrations

Analyzing biochemical results and linking them to visual status: Enable the .2 student to interpret laboratory test results related to eye vitamins, sugar levels, or .biomarkers associated with eye diseases (such as diabetic retinopathy)

Developing skills to link theory and practice: Training the student to relate .3 biochemical concepts to the functions and anatomy of the eye, such as .understanding the effect of free radicals on the lens or retina

Acquire critical thinking and scientific analysis skills: Developing the student's .4 skills in analyzing pathological cases of biochemical origin and providing .scientific explanations based on sound foundations

The ability to distinguish between normal and abnormal biological reactions in .5 the eye: Teaching the student how to recognize the differences between normal .and pathological biochemical reactions within the ocular tissues

Teaching and learning methods

In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson

C. Affective and value- based goals

1. Developing interest in the importance of biochemistry in human :health in general and eye health in particular

To enhance student appreciation of the role of biochemical processes .in maintaining eye function and health

2. Instilling a sense of professional and ethical responsibility: instilling ethical values in dealing with the results of biological tests, and .respecting the confidentiality of the patient's biological information **3. Enhancing motivation for continuous learning and scientific research: Encourage students to continue reading and researching areas of biochemistry related to optics to develop knowledge and .skills** **4. :Respecting safety and security standards in laboratories Commitment to safe professional conduct within the laboratory, and .discipline in applying chemical safety guidelines** **5. Enhancing teamwork and cooperation: Develop a positive attitude towards working with colleagues on laboratory projects and scientific .discussions, while respecting the opinions of others** **6. :Developing humaneness and compassion in dealing with patients Building emotional awareness about the impact of biochemical diseases on patients' quality of life, enhancing empathy and the desire .to provide better vision care** **7. Appreciating the relationship between nutrition, lifestyle, and eye health: Consolidating the values of prevention and the importance of community awareness about healthy and nutritional habits and their .role in preserving eyesight**
(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• **Evaluation methods**
Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction to Biochemistry Overview of biochemistry, its branches, and importance in the field of vision and eye health	Knowledge and application	3 theoretical 4 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Biomolecules	Knowledge and application	3 theoretical 4 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Biomolecules – Lipids Structure and roles of lipids in cellular membranes, myelin sheath, and the ocular system	Knowledge and application	3 theoretical 4 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Biomolecules – Proteins Amino acids, protein structure and function, importance in enzymes and structural proteins in the eye .	Knowledge and application	3 theoretical 4 +	Fourth

				practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Enzymes Enzyme structure, classification, mechanisms of action, factors affecting enzyme activity .	Knowledge and application	3 theoretical 4 + practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Nucleic Acids and Genetic Code DNA/RNA structure, replication, transcription, translation, and their relevance to genetic eye disorders	Knowledge and application	3 theoretical 4 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Vitamins and Coenzymes Focus on vitamins essential for eye health (A, C, E, B-complex) and their biochemical roles .	Knowledge and application	3 theoretical 4 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Metabolism	Knowledge and application	3 theoretical 4 + practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Metabolism – Lipid Metabolism Beta-oxidation, fatty acid synthesis, cholesterol metabolism, and links to lens opacities	Knowledge and application	3 theoretical 4 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Metabolism – Protein and Amino Acid Metabolism Amino acid degradation, urea cycle, and the effects of metabolic errors on vision .	Knowledge and application	3 theoretical 4 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Oxidative Stress and Antioxidants Reactive oxygen species (ROS), oxidative stress in the eye, role of antioxidants in lens and retinal protection	Knowledge and application	3 theoretical 4 + practical	eleventh

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Body Fluids and Electrolyte Balance Importance of electrolytes and fluid balance in maintaining intraocular pressure and hydration	Knowledge and application	3 theoretical 4 + practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Biochemical Basis of Common Eye Diseases Biochemical changes in cataracts, glaucoma, diabetic retinopathy, and age-related macular degeneration .	Knowledge and application	3 theoretical 4 + practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Biochemical Basis of Common Eye Diseases	Knowledge and application	3 theoretical 4 + practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Revision and Final Review	Knowledge and application	3 theoretical 4 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

12-

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
Biosafety in Microbiological and Biological (Biomedical Laboratories Safety Manual	Recommended books and references (scientific (...journals, reports

	Electronic references and websites

Medical Physics	**Course name -1**
OPT 108	**Course code -2**
Second semester 2025/2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
45 hour of theory + 60 hours of practical 1 work / 5 units	**/ Number of credit hours (total) -6 Number of units (total)**
Mohamed Ajami Abdel .M.D	**Name of the course supervisor -7 mention all names, if there is more) (than one name**

Course objectives -8

Acquiring the skill in addition to the information related to the relationship between physics and .movement and its relationship to the vision examination

Teaching and learning strategies -9

A. Cognitive objectives

It involves understanding how the laws of physics apply to the human body and using physical therapies to improve health. Goals include:

Understanding .1the scientific foundations and physical principles that underlie natural therapies.

Learn how to use medical machines and devices that rely on .2 physics in eyeexamination .

Explain how movement .3, forces and pressure affect the human body.

Learn how to use heat .4, cold, ultrasound and electricity therapy in managing patients' conditions.

Develop the ability to analyze data and conduct appropriate .5 assessments to select the optimaltreatment .

Achieving these objectives ensures that students have the skills necessary to understand and apply medical physics effectively in the .optometry profession

. B. Course specific skill objectives

The skill objectives for studying medical physics in the Department of Optometry Technology aim to develop a set of practical skills that enhance the student's ability to interact directly with patients and use various tools and technologies. These objectives may include:

Proficiency .1in using specialized devices and tools for eye examination.

Applying therapeutic techniques based on physical principles safely and .2effectively .

Developing effective communication skills with patients while providing physical .3therapy .

Evaluating individual cases and determining appropriate doses using medical .4physics .

Develop critical thinking and problem .5- solving skills related to vision examination.

Learn how to conduct tests and interpret results to evaluate the effectiveness of .6 treatments .

These skills help students become professionals who can work independently and .contribute effectively to healthcare teams

Teaching and learning methods

In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson

C. Affective and value- based goals

The affective objectives of studying medical physics in the Department of Optometry are related to developing students' attitudes, values, and feelings toward their profession and their patients. Some of these objectives include:

1. **Enhancing the sense of professional and ethical responsibility in providing health care.**
2. **Appreciating the importance of accuracy and attention to detail in therapeutic procedures.**
3. **Self-development and a tendency towards continuous learning to keep pace with developments in the medical and physical field.**
4. **Empathy with patients, understanding their needs, and the desire to improve their quality of life.**
5. **Building teamwork skills through cooperation and sharing experiences and knowledge with colleagues.**
6. **Encourage a positive attitude towards work, as well as passion and motivation to improve therapeutic practices.**
7. **Develop self-confidence and the ability to make balanced decisions in practical contexts.**

Affective goals contribute to building professionals who are not only skilled but also compassionate and prepared to work according to the highest standards of .healthcare

(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects

- **Evaluation methods**

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	ELECTRICITY AND MAGNETISM	Knowledge and application	3 theoretical 4 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	static electricity	Knowledge and application	3 theoretical 4 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	CURRENT ELECTRICITY	Knowledge and application	3 theoretical 4 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Electromagnetism	Knowledge and application	3 theoretical 4 + practical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	ELECTRO MECHANICS	Knowledge and application	3 theoretical 4 + practical	Fifth

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	CLASSIFICATION OF CURRENTS	Knowledge and application	3 theoretical 4 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Medium Frequency Current	Knowledge and application	3 theoretical 4 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	High Frequency Current	Knowledge and application	3 theoretical 4 + practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	SOUND WAVES	Knowledge and application	3 theoretical 4 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	HEAT	Knowledge and application	3 theoretical 4 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	ELECTROMAGNETIC RADIATION	Knowledge and application	3 theoretical 4 + practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	SAFETY IN BIOMEDICAL INSTRUMENTS	Knowledge and application	3 theoretical 4 + practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	RADIATION PROTECTION	Knowledge and application	3 theoretical 4 + practical	thirteenth
,Reports oral and written	,whiteboard powerpoint ,slides	PRACTICAL	Knowledge and application	3 theoretical 4 + practical	fourteenth

theoretical exams	hands-on experiments				
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	PRACTICAL	Knowledge and application	3 theoretical 4 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

13-

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
Sirang, Z. (2020). Optics Made Easy: Last Minute Review Of Clinical Optics. (n.p.): Independently Published • Brodie, S. E. (2021). 2021-2022 Basic and Clinical Science Course, Section 03: Clinical Optics. United States: American Academy of Ophthalmology. • Fowles, G. R. (2012). Introduction to Modern Optics. United Kingdom: Dover Publications.	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

Course Description / Second Level

Medical Psychology	**Course name -1**
MTCD201	**Course code -2**
First semester / 2025-2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
30Theoretical hour / 2 units	**/ Number of credit hours (total) -6 Number of units (total)**
.M.M Taha Akram Shabib	**Name of the course supervisor -7 mention all names, if there is more) (than one name**

Course objectives -8

The objectives of the Medical Psychology course focus on studying the relationship between psychological and health aspects, and the impact of .psychological factors on health and illness

Teaching and learning strategies -9

A. Cognitive objectives

A1- Understanding the psychological factors associated with health : Studying how emotions and behaviors affect patients' health and improve vision screening .outcomes

A2- Developing psychological assessment skills: Enabling students to assess the psychological state of patients and how it affects their physical treatment.

A3- Teaching coping strategies: Providing techniques to help patients cope with .pain and anxiety, and enhancing their ability to cope with their health conditions

A4- Enhancing interaction between practitioners and patients: Understanding the importance of effective communication and how it can impact treatment outcomes.

A5- Exploring the psychological effects of illness and injury: Studying how injuries or chronic diseases affect the psychological state of patients.

A6- Improving cultural awareness: Enhancing understanding of how cultural and social factors influence mental health and therapeutic behaviors.

A7- Application of psychological theories in vision examination: Study of how psychological principles can be used to improve therapeutic techniques.

A8- Guiding patients towards a healthy lifestyle: Providing the necessary .knowledge to help patients make healthy decisions that enhance their recovery

. B. Course specific skill objectives

B1 - Effective communication skills : Enhancing the ability to communicate effectively with patients, including active listening, expressing empathy, and asking appropriate questions to understand their needs.

’**B2 - Psychological assessment :** Developing skills to assess patients psychological status through psychological assessment tools and observation, and identifying factors that may affect their therapeutic progress.

B3 - Apply coping strategies: Learn how to use techniques such as relaxation, mental imagery, and breathing techniques to help manage anxiety and pain in patients.

B4 - Develop comprehensive treatment plans: Learn how to integrate psychological knowledge with vision screening plans, so that they include both psychological and physical aspects of treatment.

B5 - Dealing with stressful situations : Acquiring skills to deal with patients suffering from stress or depression and the impact of this on the recovery process.

B6 - Develop leadership and teamwork skills: Enhancing the ability to work effectively within a multidisciplinary team, including physicians and psychologists.

B7 - Training in providing psychological support: Learn how to provide psychological support to patients and their families during the different stages of treatment.

B8 - Analyzing behaviors and interacting with patients: Gaining the ability to analyze behaviors and interact in ways that support the improvement of patients' psychological and physical health

Teaching and learning methods

,Theoretical lectures , practical lectures, clinical training, group discussions presentations

Evaluation methods

Daily tests, midterm exams, and final exams

C. Affective and value- based goals

A1- Enhancing empathy and compassion: Developing a sense of empathy ,for patients and understanding their psychological and physical experiences which enhances the quality of care provided.

A2- Respect for cultural diversity: Promoting the values of respect for cultural and social diversity and recognizing the importance of differences in how cultural factors affect mental health.

A3- Promoting ethical values: Teaching students ethical values related to privacy, confidentiality, and respect in dealing with patients and their health information.

A4- Encouraging social responsibility: Encouraging students to be socially responsible by providing psychological support to the community and sharing psychological knowledge to improve public health.

A5- Enhancing professional commitment: Enhancing the values of ,commitment to professional quality and ethics in providing healthcare including commitment to achieving positive outcomes for patients.

A6- Developing self-awareness: Encouraging students to reflect on their personal feelings and experiences and how they impact their professional practice and interactions with patients.

A7- Promoting teamwork and cooperation: Encouraging values related to teamwork and cooperation between different disciplines in providing health care.

A8- Encouraging continuous learning: Promoting the value of continuing education and personal and professional development to keep pace with the .latest developments in the field of medical psychology and optometry

Teaching and learning methods

(In-person lectures)

- **Evaluation methods**

Daily tests, midterm exams, and final exams

D. General and transferable skills (other skills related to employability and . (personal development

D1- Effective communication skills: The ability to express ideas clearly and listen to others, which facilitates interaction with patients and colleagues.

Critical thinking skills : Develop the ability to analyze information, make informed decisions, and solve problems in clinical contexts.

D3- Adapting to changes: The ability to adapt to different work environments and rapid changes in the healthcare field.

D4- Organizational and time management skills: Developing the ability to manage time effectively, organize tasks, and set priorities to achieve goals.

D5- Research and development skills: the ability to search for new information, evaluate sources, and apply them in practical contexts to improve therapeutic practices.

D6- Technological skills: Enhancing the ability to use modern technology in treatment and healthcare, including the use of software and medical devices.

D7- Leadership skills: Developing leadership skills that help direct teams and work collectively to achieve common goals.

D8- Creative thinking skills: Enhancing the ability to think creatively to develop new solutions to challenges that may be encountered in the field of vision examination.

D9- Social skills: Improving the ability to build relationships and enhance cooperation with individuals from different backgrounds and specializations.

D10- Self-learning and continuous development: Reinforcing the importance of self-learning and continuous development as part of a .successful career

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Introduction to the science of psychology	knowledge	2 theoretical	the first
,Reports oral and written	,whiteboard powerpoint slides	Schools of thoughts in psychology – Gestalt psychology – psychoanalysis	knowledge	2 theoretical	the second

theoretical exams					
,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**Humanistic psychology - Behaviorism**	**knowledge**	**2 theoretical**	**the third**
,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**Mental process: Memory – Forgetting – Thinking – Language**	**knowledge**	**2 theoretical**	**Fourth**
,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**Senses - Attention - Imagination**	**knowledge**	**2 theoretical**	**Fifth**
,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**The Structural Model of Personality**	**knowledge**	**2 theoretical**	**Sixth**
,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**Psychological Defense Mechanisms**	**knowledge**	**2 theoretical**	**Seventh**
,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**Methods of Study in Psychology**	**knowledge**	**2 theoretical**	**The eighth**
,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**The psychological causes for the appearance of disorder**	**knowledge**	**2 theoretical**	**Ninth**
,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**The psychosomatic disorder: Hypochondriasis - Somatization disorder**	**knowledge**	**2 theoretical**	**tenth**

,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**The doctor – patients relationship – medical consultation**	**knowledge**	**2 theoretical**	**eleventh**
,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**Psychotherapy – Medical applications of psychotherapy**	**knowledge**	**2 theoretical**	**twelfth**
,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**Biological base of behavior**	**knowledge**	**2 theoretical**	**thirteenth**
,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**Suicide: The etiology of suicide**	**knowledge**	**2 theoretical**	**fourteenth**
,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**Drug Addiction**	**knowledge**	**2 theoretical**	**fifteenth**

Course Evaluation -11

Student activities and reports, oral and written theoretical and practical exams

14.

Learning and Teaching Resources - 12

	Required textbooks (curriculum (books, if available
Internet	**Main References (Sources)**
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

metabolism	**Course name -1**

MTCD202	**Course code -2**
Second semester / 2025-2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
theoretical hours + 30 practical hours / 3 30 units	**/ Number of credit hours (total) -6 Number of units (total)**
M.M. Zeina Idris Khalaf	**Name of the course supervisor -7 mention all names, if there is more) (than one name**

Course objectives -8

Focuses on the study of how the body processes food and uses it to produce .energy and support various body functions

Teaching and learning strategies -9

A. Cognitive objectives

A1- Understanding metabolic processes: Enabling students to understand how metabolism occurs in the body, including the metabolism of fats, carbohydrates, and proteins.

A2- Application of nutritional knowledge: Teaching students how to apply nutritional knowledge to improve athletic performance and the overall health of patients.

A3- Nutritional status assessment: Training students on how to assess the nutritional status of patients and use the necessary tools for this.

A4- Dietary planning: Enabling students to design appropriate dietary plans that meet the needs of patients in different treatment conditions.

A5- Understanding the effect of nutrition on healing: Studying how proper nutrition affects the healing process and recovery from injuries.

A6- Nutrition education: Enhancing the ability to educate patients about the .importance of proper nutrition and how to achieve it in their daily lives

. B. Course specific skill objectives

B1 - Nutritional Data Analysis: Develop students' skills in analyzing nutritional information, including reading food labels and understanding the contents of foods.

B2 - Nutritional Status Assessment: Acquire the ability to conduct a comprehensive assessment of patients' nutritional status using tools such as questionnaires and physical scales.

B3 - Meal Planning: Learn how to design customized meal plans that fit patients' needs, including calculating calories and nutrients.

B4 - Patient Guidance: Improve communication skills to guide patients on choosing healthy foods and how to improve their eating habits.

B5 - Implementing nutritional programs: Acquiring the ability to implement various nutritional programs that suit different patient conditions.

B6 - Use of technology: Develop skills in using technological programs and applications that help in tracking diet and planning meals.

B7 - Research Analysis: Acquire skills to analyze research and studies related to nutrition and understand their impact on clinical practice.

B8 - Evaluating Effects: Learn how to evaluate the impact of dietary .changes on physical performance and injury recovery

Teaching and learning methods

,Theoretical lectures , practical lectures, clinical training, group discussions presentations

Evaluation methods

Daily tests, midterm exams, and final exams

C. Affective and value- based goals

A1- Appreciating the importance of nutrition: Promoting the value of proper nutrition as an essential element for maintaining health and well-being.

A2- Respecting food diversity: Developing students' awareness of the importance of food diversity and respecting different cultures in food practices .

A3- Enhancing professional responsibility: Developing a sense of responsibility towards providing sound and appropriate nutritional advice to patients, taking into account their individual needs.

A4- Developing empathy: Enhancing empathy skills and the ability to understand patients' needs and provide emotional support regarding lifestyle changes.

A5- Encouraging personal commitment: Reinforcing the value of personal commitment to adopting healthy eating habits in the lives of the students themselves as a role model for patients.

A6- Ethical awareness: Promoting awareness of ethical values in providing food services, including respecting patients' privacy and taking into account their cultural differences.

A7- Enhancing teamwork: Developing the value of cooperation and teamwork among specialists in different fields to improve health outcomes for patients.

A8- Appreciating the importance of continuing education: Encouraging students to continue learning and self-development in the field of nutrition and .health

Teaching and learning methods

(In-person lectures)

- **Evaluation methods**

Daily tests, midterm exams, final exams

D. General and transferable skills (other skills related to employability and . (personal development

D1- Communication skills: Improve the ability to communicate effectively with patients, colleagues, and family members, including active listening and expressing ideas clearly.

D2- Teamwork skills: Developing the ability to work within a multidisciplinary team, which enhances cooperation and leads to better outcomes for patients.

D3- Critical thinking skills: Enhancing the ability to analyze information and make evidence-based decisions, enabling students to provide effective nutritional recommendations.

D4- Time management skills: Acquiring time management skills and setting priorities to ensure the achievement of academic and professional goals.

D5- Research and analysis skills: Developing the ability to conduct research, analyze data, and evaluate scientific studies related to nutrition and metabolism.

D6- Innovative problem-solving skills: Enhancing the ability to think creatively and provide innovative solutions to challenges that nutritionists and optometrists may face.

D7- Self-learning skills: Encouraging students to develop continuous learning and self-assessment skills to ensure improvement of their professional level.

D8- Adaptation skills: Enhancing the ability to adapt to changes in different .work environments and respond positively to challenges

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Metabolism	Knowledge and application	2 Theoretical + 2 practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Enzymes	Knowledge and application	2 Theoretical + 2 practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Michaels – Menten theory	Knowledge and application	2 Theoretical + 2 practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Carbohydrates Metabolism	Knowledge and application	2 Theoretical + 2 practical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Lactic Acid Fermentation	Knowledge and application	2 Theoretical + 2 practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Citric and cycle /TCA cycle / Krebs cycle	Knowledge and application	2 Theoretical + 2 practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	The electron transport chain	Knowledge and application	2 Theoretical + 2 practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Fructose Metabolism	Knowledge and application	2 Theoretical + 2 practical	The eighth

,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**Galactose Metabolism**	**Knowledge and application**	**2 Theoretical + 2 practical**	**Ninth**
,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**Glycogen metabolism**	**Knowledge and application**	**2 Theoretical + 2 practical**	**tenth**
,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**Protein metabolism**	**Knowledge and application**	**2 Theoretical + 2 practical**	**eleventh**
,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**Protein Synthesis**	**Knowledge and application**	**2 Theoretical + 2 practical**	**twelfth**
,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**Lipid Metabolism**	**Knowledge and application**	**2 Theoretical + 2 practical**	**thirteenth**
,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**Cholesterol metabolism**	**Knowledge and application**	**2 Theoretical + 2 practical**	**fourteenth**
,Reports oral and written theoretical exams	**,whiteboard powerpoint slides**	**Nucleotide metabolism**	**Knowledge and application**	**2 Theoretical + 2 practical**	**fifteenth**

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

Baath regime crimes in Iraq	Course name -1
NTU203	Course code -2
First semester / 2025-2026	Semester/Year -3
2025/9/1	Date of preparation of the -4 description
In-person lectures	Available forms of -5 attendance
30 Theoretical hour / 2 units	/ Number of credit hours (total) -6 Number of units (total)
A.M.D. Shimaa Ibrahim Taha	Name of the course supervisor -7 mention all names, if there is more) (than one name

Course objectives - 8

Focuses on studying the crimes and practices committed by the Ba'ath .regime in Iraq during its rule

Teaching and learning strategies -9

A. Cognitive objectives

A1- Understanding the historical context: Identifying the political and social conditions that led to the emergence of the Baath regime in Iraq and how this affected the country.

A2- Analysis of violations : Studying the crimes committed by the regime, such as genocide, torture, and arbitrary arrests, and their effects on Iraqi society.

A3- Impact assessment: Assessment of the psychological, social and economic impacts of the crimes committed by the Baath regime on individuals and society.

A4- Promoting awareness of rights: Enhancing understanding of human rights and relevant international laws, and how they can be used to hold accountable those responsible for these crimes.

A5- Study of transitional justice: Identifying the transitional justice initiatives and compensations that were taken after the fall of the regime and how they impacted national reconciliation.

A6- Evidence Analysis: Learn how to analyze documents and testimonies related to crimes, and understand the importance of archiving and historical documentation.

A7- Enhancing critical thinking: Developing critical thinking skills by analyzing information and evidence related to crimes and interpreting them in their historical .and political context

. B. Course specific skill objectives

B1 - Enhancing empathy: Developing the ability to empathize with victims and their families, and to understand their suffering resulting from violations committed by the regime.

,**B2 - Raising awareness of human values:** promoting the values of justice equality and respect for human rights, and recognizing the importance of protecting these values in societies.

B3 - Appreciating Cultural Diversity: Promoting appreciation of cultural and religious diversity in Iraq, and understanding how violations affect relations between different communities.

B4 - Stimulating critical moral thinking: Encouraging students to think critically about moral issues related to crimes, such as individual and collective responsibility.

B5 - Developing a sense of responsibility: Enhancing the sense of responsibility towards social change and contributing to building a more just society.

B6 - Enhancing the capacity for effective participation : Encouraging students to participate in activities that support human rights and reconciliation, such as awareness-raising and community education.

B7 - Dealing with pain and loss: Providing spaces to talk about the pain and loss resulting from violations, which contributes to individual and .collective healing processes

Teaching and learning methods

,Theoretical lectures , practical lectures, clinical training, group discussions presentations

Evaluation methods

Daily tests, midterm exams, and final exams

C. Affective and value- based goals

A1- Developing empathy: Enhancing the ability to understand the feelings of victims and their families, which helps students connect with human suffering.

A2- Awareness of psychological effects: Understanding the psychological and social effects of violations on individuals and societies, which enhances a deep understanding of the psychological consequences of crimes.

A3- Encouraging emotional critical thinking: Enhancing the ability to think critically about emotional experiences associated with crimes, and how they can affect the formation of individual and collective identity.

A4- Valuing individual experiences: Reinforcing the importance of listening to the personal experiences of survivors, which contributes to building a .culture of respect and appreciation

A5- Promoting human rights values: Affirming the importance of human rights as a basis for protecting human dignity, and raising awareness of the need to defend them.

A6- Encouraging justice and equality: Promoting the values of justice and equality, and emphasizing the importance of holding those responsible for crimes accountable.

A7- Valuing peace and reconciliation : Encouraging values related to peace and reconciliation, and supporting the importance of building a society characterized by tolerance and mutual respect.

A8- Promoting commitment to active citizenship: Motivating students to actively participate in society by working to promote human rights and .contribute to building a more just society

Teaching and learning methods

(In-person lectures)

- **Evaluation methods**

Daily tests, midterm exams, and final exams

D. General and transferable skills (other skills related to employability and . (personal development

D1- Research and analysis skills:

Information gathering: The ability to research historical and legal information related to crimes.

Data analysis: Analyzing evidence and testimonies to understand different contexts and assess their validity.

D2- Communication skills:

Effective Communication: Develop the ability to express ideas clearly, both in writing and orally, including presentations and discussions.

Active Listening: Enhancing listening skills to understand others' perspectives and appreciate different experiences.

D3- Critical thinking skills:

,Critical evaluation: The ability to think critically about information and ideas which helps in making informed decisions.

Ethical Analysis: Understanding the ethical aspects of historical and societal issues related to crimes.

D4- Teamwork skills:

,Collaboration: Enhancing the ability to work within multidisciplinary teams contributing to the development of group projects that reflect a diverse understanding of issues.

Conflict Resolution: Learn how to deal with conflicts constructively and achieve positive outcomes.

D5- Self-management skills:

Planning and Organization: The ability to develop personal and academic plans to achieve goals effectively.

Time management: Develop time management skills to ensure balance between study and other activities.

D6- Creative thinking skills:

Innovating solutions: Developing the ability to think outside the box and find new solutions to complex problems.

Project Development: Ability to envision and design projects aimed at raising awareness on human rights issues.

D7- Cultural and social skills:

Cultural Awareness: Promoting understanding of cultural and religious diversity in Iraqi society, thus enhancing understanding and tolerance.

Social Responsibility: Promoting a sense of responsibility towards society and participating in initiatives that promote human rights and reconciliation.

D8- Technology skills:

Use of technology: The ability to use modern technology in research and .communication, such as using digital tools to collect and analyze information

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Violations of rights and freedoms	knowledge	2 theoretical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	A descriptive overview of the political systems in Iraq (1921-2003)	knowledge	2 theoretical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	The Baath regime's violations of public rights and freedoms	knowledge	2 theoretical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	The impact of the Baath regime's behavior on society	knowledge	2 theoretical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	The impact of the transitional phase in combating authoritarian politics	knowledge	2 theoretical	Fifth

,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Psychological field	knowledge	2 theoretical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	social field	knowledge	2 theoretical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Religion and State	knowledge	2 theoretical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Culture, media and the militarization of society	knowledge	2 theoretical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	The impact of oppression and wars on the environment and population	knowledge	2 theoretical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	The use of internationally prohibited weapons and environmental pollution	knowledge	2 theoretical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	scorched earth policy	knowledge	2 theoretical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Draining the marshes and forced migration	knowledge	2 theoretical	thirteenth
,Reports oral and written	,whiteboard powerpoint slides	Destruction of the agricultural and animal environment and	knowledge	2 theoretical	fourteenth

theoretical exams		radioactive contamination			
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Mass graves and bombing of places of worship	knowledge	2 theoretical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

16.

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

Professional ethics	**Course name -1**
NTU204	**Course code -2**
Second semester / 2025-2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
30 Theoretical hour / 2 units	**/ Number of credit hours (total) -6 Number of units (total)**
.A M. D. Shimaa Ibrahim Taha	**Name of the course supervisor -7 mention all names, if there is more) (than one name**
Course objectives -8	
It focuses on promoting a deep understanding of the ethical values and .principles that individuals should adopt in their fields of work	
Teaching and learning strategies -9	
A. Cognitive objectives **A1- Understanding basic ethical principles:** Learn about key ethical values and principles such as integrity, confidentiality, and respect, and how to apply them in the field of eye examination. Understanding the therapist's responsibility to patients, colleagues, and the community.	

A2- Identifying professional laws and standards:

,Understanding the laws and regulations relevant to the practice of optometry including regulations governing the profession and patient care. Learn about the approved professional regulations and standards that define how to practice the profession safely and responsibly.

A3- Analysis of ethical issues in health care:

The ability to analyze ethical problems and issues that may arise in daily work situations, such as challenges related to patient privacy, informed consent, and conflicts of interest. Learn how to handle difficult situations ethically by using an ethical framework.

A4- Distinguishing between rights and duties:

Learn about patients' rights and therapist responsibilities, including the right to privacy, information, and access to appropriate treatment.

A5- Enhancing critical thinking:

Develop critical thinking skills to analyze ethical situations and make professional decisions based on sound ethical foundations. The ability to recognize the ethical consequences of decisions and actions taken in optometry practice.

A6- Understanding professional relationships:

Recognizing the importance of building professional relationships based on mutual respect and trust between therapists, patients, and colleagues. Study how ethical values can influence the quality of health care and professional relationships.

A7- Identifying the ethics of scientific research:

Understand the ethical principles associated with scientific research in the field of vision examination, including how to respect the rights of research participants and ensure transparency and integrity in the presentation of results.

A8- Promoting responsible professional practices:

Understand the importance of responsible professional practices and how to ensure compliance with ethical standards in all aspects of work. Study how to handle ethica .violations and report them when necessary

. B. Course specific skill objectives

B1 - Ethical decision-making skills:

Develop the ability to make sound ethical decisions when dealing with complex professional situations.

The ability to use an ethical framework to analyze and evaluate options in situations that require an ethical solution.

B2 - Effective communication skills:

,Enhance oral and written communication skills with patients and colleagues while observing ethical values such as honesty and respect. Ability to explain ,complex ethical decisions to patients in a clear and understandable manner and respect the patient's right to participate in making decisions about their care.

B3 - Conflict resolution skills:

Learn how to handle ethical and professional conflicts in an effective and constructive manner. The ability to negotiate and reach solutions that satisfy all parties involved, while maintaining a commitment to ethical values.

B4 - Confidentiality and information protection skills:

Develop the ability to handle personal and sensitive patient information in a manner that respects privacy and confidentiality.

Learn how to store and process medical information in a secure manner that complies with legal and ethical standards.

B5 - Skills for dealing with complex cases:

The ability to identify complex ethical situations that may arise in clinical practice, such as providing care in situations of conflict of interest or special patient circumstances.

Learn how to provide optimal care, taking into account ethical and humane considerations when dealing with different patients, especially sensitive or vulnerable cases.

B6- Cooperationand teamwork skills:

Develop teamwork skills with the medical team and support professions in a healthcare environment, taking into account ethical aspects when dealing with colleagues. Enhance the ability to provide assistance and advice to .colleagues regarding ethical issues

Teaching and learning methods

,Theoretical lectures , practical lectures, clinical training, group discussions presentations

Evaluation methods

Daily tests, midterm exams, and final exams

C. Affective and value- based goals

A1- Enhancing empathy with patients:

'Developing students' ability to understand and empathize with patients feelings and pain, which enhances human communication and personal care . Instilling the importance of respecting patients' feelings and working to provide care that takes into account their emotional and psychological needs.

A2- Developing a sense of moral responsibility:

Promote a sense of responsibility towards patients and society in all aspects of professional practice.

Instilling a commitment to providing medical care in an ethical and transparent manner, and keeping the patient's interest above all else.

A3- Enhancing self-confidence in making ethical decisions:

Developing students' self-confidence when faced with situations that require complex ethical decisions.

Instilling a belief in the importance of making decisions based on ethical and professional principles.

A4- Developing moral sensitivity:

To increase students' awareness of cultural and ethical sensitivities in dealing with patients of diverse social, religious and cultural backgrounds. Promote

awareness of the importance of respecting the values and beliefs of patients and colleagues.

A5- Encouraging personal commitment to continuous development:

Promote awareness of the importance of continuous personal development in the field of professional ethics.

Promote the desire for self-improvement and continuous learning to ensure .higher adherence to ethical standards

Teaching and learning methods

(In-person lectures)

- **Evaluation methods**

Daily tests, midterm exams, and final exams

D. General and transferable skills (other skills related to employability and . (personal development

D1- Effective communication skills:

Ability to communicate clearly and effectively with patients, colleagues, and medical team members. Improve active listening skills to better interact with patients' problems and understand their needs. Ability to provide detailed and clear explanations of complex ethical issues.

D2- Critical thinking and problem-solving skills:

Develop critical thinking skills to analyze complex ethical situations and provide solutions based on professional values.

The ability to make informed and sound decisions when facing ethical and professional challenges at work.

D3- Teamwork and cooperation skills:

,Enhance the ability to work effectively as part of a multidisciplinary team contributing to improved overall health care. Learn how to manage conflicts and solve problems collaboratively while maintaining ethical values.

D4- Self-management and organizational skills:

Develop the ability to organize time and tasks efficiently to ensure the provision of health care in a professional and sustainable manner.

Improve stress management skills and flexibility in dealing with difficult and complex situations in the work environment.

D5- Empathy and emotional communication skills:

The ability to show empathy and respect for the feelings of patients and coworkers, which fosters trust and positive interactions.

Develop emotional intelligence to understand the emotional reactions of others and interact with them appropriately.

D6- Ethical leadership skills:

Develop the ability to be a role model for ethical behavior and contribute to promoting a culture of integrity and transparency in the work environment.
Ability to guide co-workers and vocational training students on how to handle ethical situations responsibly.

D7- Continuous learning and professional development skills:

Enhance the ability to continuously learn to keep pace with changes in ethical and professional standards.

Develop a sense of initiative to seek opportunities for self-improvement and development in professional and ethical fields.

D8- Adaptation and flexibility skills:

The ability to adapt to changing circumstances and new professional situations that may require different ethical decisions.

Improve skills in dealing with unexpected situations and maintaining ethical behavior at all times.

Ethical Counseling Skills -D9:

Ability to advise and counsel colleagues on ethical issues based on professional principles.

Improve mentoring skills and participate in developing ethical solutions to .professional conflicts

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Principles of professional ethics in the stages of civilizational developments	knowledge	2 theoretical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Principles of Professional Ethics in Arab and Islamic Civilization	knowledge	2 theoretical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Professional :behavior ,definition, concept practical applications, and the relationship between employees and their supervisors	knowledge	2 theoretical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Basic professional ethics	knowledge	2 theoretical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Characteristics of professional ethics as a guide and guide to behavior	knowledge	2 theoretical	Fifth

,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Characteristics and attributes of health :workers ,appearance behavior, and commitment	knowledge	2 theoretical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	The moral and legal rights of the patient and dealing with and dealing with the behavior of the patient and his companions	knowledge	2 theoretical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Patterns Behavioral/Humanitarian ,Definition, nature motives, and interpretations	knowledge	2 theoretical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Communication Styles/Linguistic and Non-Linguistic Definition, types and effects Designing successful communication methods	knowledge	2 theoretical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	How communication styles affect behavior, listening and hearing	knowledge	2 theoretical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Behavioral trends and tendencies ,Definition ,classification ,factors affecting it methods of measuring it	knowledge	2 theoretical	eleventh

,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Personality types and how to deal with them	knowledge	2 theoretical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Definition of personality, its types, and its relationship to profession Technician personality and its manifestations	knowledge	2 theoretical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Conditions of professional compatibility and the associated work relationship, its ,concept, conditions and poor professional availability	knowledge	2 theoretical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides	Behavioral treatment of patients: receiving the patient, dealing with him, gaining his trust, and maintaining .professional secrets	knowledge	2 theoretical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

17-

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available

Internet	**Main References (Sources)**
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

Physiology of the eye and vision	**Course name -1**
OPT201	**Course code -2**
Second semester 2025/2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
30 hour of theory + 45 hours of practical / 3 1 units	**/ Number of credit hours (total) -6 Number of units (total)**

millimeter Al-Jasser Mohammed Jasem	Name of the course supervisor -7 mention all names, if there is more) (than one name

Course objectives -8

Understand the anatomical structure of the eye: Identify the different parts of the eye and .1 .their functions

Teaching the mechanisms of vision: studying how the eye processes light and converts it .2 .into nerve signals

Explore physiological processes: Understand how the retina, macula, and rod and cone .3 .cells work

.Study lighting and adaptation: Understanding how the eye adapts to different light levels .4

.Vision Disorders Analysis: Identify some common disorders and how they affect vision .5

Teaching and learning strategies -9

Anatomical structure of the eye .1

Mechanism of the eye .2

The concept of vision .3

Visual physiology .4

Factors affecting vision .5

Visual disturbances .6

Eye-brain interaction .7

. B. Course specific skill objectives

Application of visual inspection techniques .1

Visual data analysis .2

Interpretation of clinical results .3

Use of specialized medical devices .4

Developing scientific research skills .5

.Conduct simple physiological experiments .6

.Effective communication with patients about vision problems .7

Teaching and learning methods
In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals **A.1- Developing and enhancing thinking skills according to the student's .ability and moving him to a higher level of thinking** **.A.2- The student should interact during the lecture** **A3- The student should listen attentively to the practical explanation in .the laboratory**
(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• **Evaluation methods**
Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Visual acuity	Knowledge and application	2 theoretical 3 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Visual acuity cont .	Knowledge and application	2 theoretical 3 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Binocular vision, benefits of having 2 eyes	Knowledge and application	2 theoretical 3 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Optics and refraction of the image of the eye	Knowledge and application	2 theoretical 3 +	Fourth

				practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Optics and refraction cont.the aging eye	Knowledge and application	2 theoretical 3 + practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Pupillary reflex	Knowledge and application	2 theoretical 3 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Eye movements, types & coordinated movements	Knowledge and application	2 theoretical 3 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Eye movements, types & coordinated movements	Knowledge and application	2 theoretical 3 + practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Cornea and sclera , anatomy	Knowledge and application	2 theoretical 3 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Cornea and seclera , cont. corneal transparency , responses to wounding	Knowledge and application	2 theoretical 3 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Cornea cont. wounding healing corneal nutrition vit.A & cornea	Knowledge and application	2 theoretical 3 + practical	eleventh

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Aqueous shumor	Knowledge and application	2 theoretical 3 + practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Aqueous humor and IO P	Knowledge and application	2 theoretical 3 + practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Aqueous humor and IO P	Knowledge and application	2 theoretical 3 + practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	The lens	Knowledge and application	2 theoretical 3 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

18.

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports

	Electronic references and websites

Advanced Optical Devices	**Course name -1**
OPT204	**Course code -2**
Second semester 2025/2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
30 hour of theory + 60 hours of practical 1 work / 4 units	**/ Number of credit hours (total) -6 Number of units (total)**
M.M. Suleiman Masara Karim	**Name of the course supervisor -7 mention all names, if there is more) (than one name**

Course objectives -8

Understanding the physical fundamentals of optical devices: This course aims .1 to provide students with a comprehensive understanding of the physical ,principles that govern the operation of optical devices, such as refraction .reflection, and lenses

Applications of optical devices in daily life: It aims to explore how optical .2 ,devices are used in a variety of applications, including photographymicroscopes , .and lenses used in eyeglasses

Optical Device Analysis and Design: Aims to develop students' skills in optical .3 device analysis and design, including the use of specialized software and .simulation to understand and improve optical performance

Teaching and learning strategies -9

- :Learn about

.Explain the basic physical principles of optical devices .1

.Identify the types of optical devices and their different uses .2

.Analyze the impact of various factors on the performance of optical devices .3

. B. Course specific skill objectives

Application of visual inspection techniques .1

Visual data analysis .2

Interpretation of clinical results .3

Use of specialized medical devices .4

Developing scientific research skills .5

.Conduct simple physiological experiments .6

Teaching and learning methods

In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson

C. Affective and value- based goals

A.1- Developing and enhancing thinking skills according to the student's .ability and moving him to a higher level of thinking

.A.2- The student should interact during the lecture

A3- The student should listen attentively to the practical explanation in .the laboratory

(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects

- **Evaluation methods**

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction and general information	Knowledge and application	2 theoretical 4 + practical	the first
,Reports oral and written	,whiteboard powerpoint ,slides	General consideration for maintaining ophthalmic	Knowledge and	2 theoretical 4 +	the second

theoretical exams	hands-on experiments	instruments and ophthalmic instruments decontamination	applicati on	practi cal	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Ophthalmic instruments decontamination: (cleaning , disinfection, inspection, packaging, sterilization , transport	Knowle dge and applicati on	2 theore tical 4 + practi cal	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	risk of transmission of infection in devices used in clinic Tonometery , diagnostic contact lenses, contact lenses	Knowle dge and applicati on	2 theore tical 4 + practi cal	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Risk of transmission of infection in devices used in clinic Tonometery , diagnostic contact lenses, contact lenses	Knowle dge and applicati on	2 theore tical 4 + practi cal	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Test charts and trial case and frame	Knowle dge and applicati on	2 theore tical 4 + practi cal	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Test charts and trial case and frame	Knowle dge and applicati on	2 theore tical 4 + practi cal	Sevent h
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Retinoscope	Knowle dge and applicati on	2 theore tical 4 + practi cal	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Auto refractometer	Knowle dge and applicati on	2 theore tical 4 +	Ninth

				practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Auto refractometer	Knowledge and application	2 theoretical 4 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Test charts and trial case and frame	Knowledge and application	2 theoretical 4 + practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Test charts and trial case and frame	Knowledge and application	2 theoretical 4 + practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Tonometer types, contact and non-contact	Knowledge and application	2 theoretical 4 + practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Tonometer types, contact and non-contact	Knowledge and application	2 theoretical 4 + practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Revision	Knowledge and application	2 theoretical 4 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

eye health	Course name -1
OPT205	Course code -2
Second semester 2025/2026	Semester/Year -3
2025/9/1	Date of preparation of the -4 description
In-person lectures	Available forms of -5 attendance
theoretical hours + 45 practical hours / 4 45 units	/ Number of credit hours (total) -6 Number of units (total)
Dr. Sadad Khairallah Rajab	Name of the course supervisor -7 mention all names, if there is more) (than one name
Course objectives -8	

Understand the basics of eye health: Recognize the importance of eye health .1
.and its impact on quality of life

,Identify eye diseases: Identify common eye diseases, such as cataracts .2
.glaucoma, and eye infections

Teaching prevention methods: Learning about methods for preventing eye .3
.diseases, including regular checkups and a healthy lifestyle

Develop practical skills: acquire skills in eye examination and vision .4
.assessment

Raising community awareness: Enhancing awareness about the importance of .5
.eye health in the community and appropriate awareness methods

Teaching and learning strategies -9

,Knowledge of eye anatomy: Understanding the anatomical structure of the eye .1
.its parts, and its functions

Understanding the functions of the eye: Learn how the eye works in the process .2
.of vision

Recognizing eye diseases: Knowing the causes, symptoms, and causative .3
.factors of common eye diseases

Knowledge of examination methods: Learn about different methods of eye .4
.examination, including clinical examinations and modern techniques

Understanding the impact of environmental factors: Knowing how .5
.environmental factors and lifestyle affect eye health

Knowledge of treatment and prevention: Learn about the different treatment .6
.options for eye diseases and ways to prevent them

Understand the importance of regular checkups: Realize the importance of .7
.regular checkups for early detection of eye problems

. B. Course specific skill objectives

Develop clinical examination skills and acquire the ability to perform basic eye -
.examinations

Use medical equipment and learn how to use the tools and devices used to -
.diagnose eye problems

Apply treatment techniques and acquire the skills necessary to apply basic -
.treatments such as using eye drops correctly

Teaching and learning methods
In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals **A.1- Developing and enhancing thinking skills according to the student's .ability and moving him to a higher level of thinking** **.A.2- The student should interact during the lecture** **A3- The student should listen attentively to the practical explanation in .the laboratory**
(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• **Evaluation methods**
Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction: review of anatomy & physiology of the eye	Knowledge and application	3 theoretical 3 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction: history & examination of the eye	Knowledge and application	3 theoretical 3 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction: certain ophthalmic terms.(terminology)	Knowledge and application	3 theoretical 3 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Primary eye care	Knowledge and application	3 theoretical 3 +	Fourth

				practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Primary eye care	Knowledge and application	3 theoretical 3 + practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Screening procedures in ophthalmology	Knowledge and application	3 theoretical 3 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Screening procedures in ophthalmology	Knowledge and application	3 theoretical 3 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	School eye screening programs	Knowledge and application	3 theoretical 3 + practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Concept of community ophthalmology sticky eye, watery eye	Knowledge and application	3 theoretical 3 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Concept of community ophthalmology flashes of light, floating object	Knowledge and application	3 theoretical 3 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	in visual field Concept of community ophthalmology long term glaucoma monitoring	Knowledge and application	3 theoretical 3 + practical	eleventh

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	The epidemiology of blindness (general principles)	Knowle dge and applicati on	3 theore tical 3 + practi cal	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	The epidemiology of blindness (disease specific strategy)	Knowle dge and applicati on	3 theore tical 3 + practi cal	thirtee nth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	The right to sight (vision 2020)	Knowle dge and applicati on	3 theore tical 3 + practi cal	fourtee nth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Revision	Knowle dge and applicati on	3 theore tical 3 + practi cal	fifteent h

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

20.

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports

	Electronic references and websites

Vital statistics	Course name -1
MTCD203	Course code -2
First semester 2025/2026	Semester/Year -3
2025/9/1	Date of preparation of the -4 description
In-person lectures	Available forms of -5 attendance
theoretical hours + 30 practical hours / 3 30 units	/ Number of credit hours (total) -6 Number of units (total)
M.M. Nour Amer Fadel	Name of the course supervisor -7 mention all names, if there is more) (than one name

Course objectives -8

Understanding the basic concepts of biostatistics and their applications in health -.fields

Identify the types of statistical data and methods of collecting and analyzing -.them

.Knowledge of statistical methods used in analyzing biological and medical data -

.Understand the concepts of probability and their importance in biostatistics -

Teaching and learning strategies -9

.Enhancing the ability to make decisions based on statistical data -

Developing critical thinking skills when evaluating statistical studies and -.research

.Encourage teamwork and cooperation in statistical research projects -

.Promote adherence to ethical standards in data collection and analysis -

. B. Course specific skill objectives

Acquire skills in using statistical software to analyze data, such as -SPSS orR.

.Develop the ability to correctly design experiments and statistical studies -

.Apply appropriate statistical methods to analyze data and extract results - .Improving skills in interpreting statistical results and writing scientific reports -
Teaching and learning methods
In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals **The Biostatistics course aims to develop positive values and attitudes in students towards the subject and its applications in the field of health, such as appreciating the importance of data in making health decisions, paying attention to the ,accuracy of research, cooperating in work groups, adhering to professional ethics and actively participating in data analysis and contributing to improving public .health**
(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• **Evaluation methods**
Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction Objectives Of Statistics, The Major Objectives Of Statistics,	Knowledge and application	2 theoretical +2 practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Classification Of Statistics, Stages Of Statistical Method in Scientific Research Sources of Data collection	Knowledge and application	2 theoretical +2 practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	sources of Data collection	Knowledge and application	2 theoretical +2 practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Samples: Introduction,	Knowledge and application	2 theoretical +2	Fourth

				practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Types of Samples	Knowledge and application	2 theoretical +2 practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Types of data: Introduction, constant data, variables, Types of variables .	Knowledge and application	2 theoretical +2 practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Data display: Introduction, Display data numerically as Simple display or Raw data, Ordered	Knowledge and application	2 theoretical +2 practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Display or Array , Data display frequency table	Knowledge and application	2 theoretical +2 practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Display data graphically	Knowledge and application	2 theoretical +2 practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Measures of central tendency	Knowledge and application	2 theoretical +2 practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Measures of Dispersion	Knowledge and application	2 theoretical +2 practical	eleventh

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Measures of Skewness	Knowledge and application	2 theoretical +2 practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Kurtosis	Knowledge and application	2 theoretical +2 practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	General Review	Knowledge and application	2 theoretical +2 practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Revision	Knowledge and application	2 theoretical +2 practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

21-

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports

	Electronic references and websites

Pharmacology	**Course name -1**
OPT208	**Course code -2**
First semester 2025/2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
theoretical hours / 2 units 30	**/ Number of credit hours (total) -6 Number of units (total)**
M.M. Mays Qasim Muhammad	**Name of the course supervisor -7 mention all names, if there is more) (than one name**
Course objectives -8	
.Promoting awareness of ethical responsibility in the practice of pharmacology - **Develop communication skills with patients to explain the use of medications -.and methods of their administration**	

.Encouraging teamwork in research projects related to pharmacology -

.Enhancing compliance with safety standards in the storage and use of medicines -

Teaching and learning strategies -9

Understand the basic concepts of pharmacology and the mechanism of action of - .drugs in the body

Identify different types of medications, including therapeutic and preventive - .medications

.Knowing the potential side effects of medications and how to manage them -

Understand the principle of dosage and how to determine the appropriate doses - .for each medication

. B. Course specific skill objectives

.Acquire skills to evaluate drug interactions with other drugs and with foods -

.Develop the ability to read and understand prescriptions and drug leaflets -

Applying scientific knowledge in selecting appropriate medications for specific - .disease conditions

Improving skills in using databases and scientific sources to search for - .pharmaceutical information

Teaching and learning methods

In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson

C. Affective and value- based goals

It focuses on developing positive attitudes and trends in the learner towards medicines, such as appreciating their role in improving the quality of life and patient safety, and a

commitment to the safe and effective use of medicines, in addition to enhancing confidence .in pharmaceutical products and the health profession as a whole

(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects

- **Evaluation methods**

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Principles of Drug Therapy	Knowledge and application	2 theoretical	the first

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Drugs Affecting the Autonomic Nervous System-I	Knowledge and application	2 theoretical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Drugs Affecting the Autonomic Nervous System-II	Knowledge and application	2 theoretical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	rugs Affecting the Central Nervous System	Knowledge and application	2 theoretical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	rugs Affecting the Cardiovascular System -I	Knowledge and application	2 theoretical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Drugs Affecting the Cardiovascular System - II	Knowledge and application	2 theoretical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Drugs Affecting the Endocrine System Chemotherapeutic Drugs-I	Knowledge and application	2 theoretical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Chemotherapeutic Drugs -II	Knowledge and application	2 theoretical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Anti-inflammatory, Antipyretic, and Analgesic Agents	Knowledge and application	2 theoretical	Ninth
,Reports oral and written	,whiteboard powerpoint ,slides	Gastrointestinal and Antiemetic Drugs	Knowledge and	2 theoretical	tenth

theoretical exams	hands-on experiments		applicati on		
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Drugs for Disorders of the Respiratory System	Knowle dge and applicati on	2 theore tical	elevent h
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Anti-inflammatory, Antipyretic, and Analgesic Agents	Knowle dge and applicati on	2 theore tical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Anti-inflammatory, Antipyretic, and Analgesic Agents	Knowle dge and applicati on	2 theore tical	thirtee nth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Drugs of Abuse	Knowle dge and applicati on	2 theore tical	fourtee nth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Principles of Drug Therapy	Knowle dge and applicati on	2 theore tical	fifteent h

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

22.

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)

	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

Laser in ophthalmology	**Course name -1**
OPT209	**Course code -2**

Second semester 2025/2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
theoretical hours + 30 practical hours / 3 30 units	**/ Number of credit hours (total) -6 Number of units (total)**
M.M. Haider Sobhi Fadel	**Name of the course supervisor -7 mention all names, if there is more) (than one name**

Course objectives -8

Raising awareness of the importance of using lasers to improve eye health and -.vision

Develop communication skills with patients to explain laser treatment -.procedures and its benefits

.Encourage teamwork in medical teams to apply laser technologies effectively -

.Commitment to medical practice ethics and safety when using laser technologies -

Teaching and learning strategies -9

Understanding the basic principles of laser technology and its mechanism of -.action in ophthalmology

Learn about the types of lasers used to treat eye diseases, such as non-surgical -.and surgical lasers

Knowledge of the clinical applications of lasers in the treatment of various -.conditions, such as cataracts, glaucoma, and retinopathy

.Study the side effects and potential risks of using lasers in the eyes -

. B. Course specific skill objectives

.Acquire skills to use laser devices correctly and safely -

Developing the ability to evaluate medical conditions that require the use of -.lasers

Applying laser techniques in performing various operations under medical -.supervision

.Improve skills in analyzing and interpreting the results of laser treatments -
Teaching and learning methods
In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals Improving patients' quality of life by providing permanent alternatives to glasses and contact lenses, increasing their ability to live independently, reducing health risks associated with lenses, and contributing to early diagnosis and effective .treatment of conditions such as corneal problems, myopia, and retinal detachment
(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• Evaluation methods
Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital
D. General and transferable skills (other skills related to employability and . (personal development .D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Lasers definition characteristics applications in eye	Knowledge and application	2 theoretical +2 practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Laser in medicine •Advantage disadvantage	Knowledge and application	2 theoretical +2 practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Types of Laser in medicine Excimer lasers (LASIK) Double frequency Nd/ YAG laser	Knowledge and application	2 theoretical +2 practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Microplus laser	Knowledge and application	2 theoretical +2 practical	Fourth
,Reports oral and	,whiteboard powerpoint	Femtosecond	Knowledge and	2 theore	Fifth

written theoretical exams	,slides hands-on experiments		application	tical +2 practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	laser Laser Safety	Knowledge and application	2 theoretical +2 practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Laser treatment for eyes (tissues and diseases)	Knowledge and application	2 theoretical +2 practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Laser tissue interaction	Knowledge and application	2 theoretical +2 practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	laser in diagnostics (OCT)	Knowledge and application	2 theoretical +2 practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Confocal scanning laser ophthalmoscopy (CSLO)	Knowledge and application	2 theoretical +2 practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Laser doppler flowmetry (LDF)	Knowledge and application	2 theoretical +2 practical	eleventh
,Reports oral and written	,whiteboard powerpoint ,slides	Photo Refractive Keratectomy (PRK)	Knowledge and application	2 theoretical +2	twelfth

theoretical exams	hands-on experiments			practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Laser treatment for eyes (tissues and diseases)	Knowledge and application	2 theoretical +2 practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Retinal Laser treatment	Knowledge and application	2 theoretical +2 practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Revision	Knowledge and application	2 theoretical +2 practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

23.

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

Physiology of the retina	Course name -1
OPT202	Course code -2
Second semester 2025/2026	Semester/Year -3
2025/9/1	Date of preparation of the -4 description
In-person lectures	Available forms of -5 attendance
theoretical hours + 45 practical hours / 3 30 units	/ Number of credit hours (total) -6 Number of units (total)
M.M. Al-Jasser Mohammed Jassim	Name of the course supervisor -7 mention all names, if there is more) (than one name
Course objectives -8	
Understanding the chemical and electrical mechanisms that enable the retina to convert light into nerve signals sent to the brain to perceive images. The goals also include diagnosing and treating retinal diseases such as retinal detachment or optic nerve damage, by preserving or restoring vision through procedures such as lasers and .freezing, or through surgical interventions to repair tears and prevent complications	
Teaching and learning strategies -9	
,It involves interacting with visual materials such as graphics, images, and videos employing virtual reality(VR) technologies for retinal experience, as well as visual thinking network strategies to organize information and understand relationships between visual concepts, focusing on practical application through simulating eye	

examination tasks, and possibly eye tracking to assess learner responses, while .promoting effective communication and evidence-based learning
. B. Course specific skill objectives ,Understanding the mechanism of light capture in retinal cells (cones and rods) the function of the optic nerve, and the importance of this information in ,identifying and diagnosing diseases and providing appropriate treatment plans .including the use of modern examination devices to assess retinal health
Teaching and learning methods
In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals The aim of the optometric technologist is to apply the knowledge acquired in retinal physiology to the diagnosis and treatment of eye diseases. This is achieved by promoting a deep understanding of the mechanics of retinal function, contributing to the development of advanced imaging and diagnostic techniques, and raising awareness of the importance of vision care among patients to improve their quality of .life
(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• Evaluation methods

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital
D. General and transferable skills (other skills related to employability and . (personal development **.D1 . Skills of cooperation and teamwork** **.D2 . Computer typing skills** **.D3 . English communication skills** **.D4 . Skills of enduring work performance and solving problems** **. D5 . Internet conversation skills**

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction to the Retina Overview of the eye anatomy, position and role of the retina, retinal layers	Knowledge and application	2 theoretical 3 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Retinal Cell Types Photoreceptors (rods and cones), bipolar cells, ganglion cells, horizontal & amacrine cells	Knowledge and application	2 theoretical 3 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Phototransduction I	Knowledge and application	2 theoretical 3 +	the third

				practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Phototransduction II	Knowledge and application	2 theoretical 3 + practical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Retinal Layers and Signal Pathways Detailed study of each retinal layer, vertical and lateral pathways	Knowledge and application	2 theoretical 3 + practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Dark and Light Adaptation	Knowledge and application	2 theoretical 3 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Visual Fields and Retinal Mapping Retinotopic organization, macula and peripheral retina roles	Knowledge and application	2 theoretical 3 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Retinal Blood Supply and Metabolism	Knowledge and application	2 theoretical 3 + practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Electrophysiology of the Retina	Knowledge and application	2 theoretical 3 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Color Vision Physiology Cone types, trichromatic theory, opponent process theory	Knowledge and application	2 theoretical 3 + practical	tenth

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Neurotransmitters in the Retina Glutamate, GABA, glycine, dopamine, and their roles	Knowledge and application	2 theoretical 3 + practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Retinal Processing of Visual Information Contrast detection, edge detection, motion detection	Knowledge and application	2 theoretical 3 + practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Diseases Affecting Retinal Physiology	Knowledge and application	2 theoretical 3 + practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Retinal Development and Plasticity Embryology of the retina, synaptic refinement, plasticity	Knowledge and application	2 theoretical 3 + practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Revision and Case Studies	Knowledge and application	2 theoretical 3 + practical	fifteenth

Course Evaluation -11

Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12

	Required textbooks (curriculum (books, if available

Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

Optical devices and instruments	Course name -1
OPT203	Course code -2
First semester 2025/2026	Semester/Year -3
2025/9/1	Date of preparation of the -4 description
In-person lectures	Available forms of -5 attendance
theoretical hours + 60 practical hours / 4 30 units	/ Number of credit hours (total) -6 Number of units (total)
M.M. Suleiman Masara Karim	Name of the course supervisor -7 mention all names, if there is more) (than one name
Course objectives -8	
The course of Optical Instruments and Tools aims to provide students of the Department of Optometry with the knowledge and skills necessary to examine eyesight, determine the degree of vision, diagnose and treat vision problems ,such as strabismus, prescribe and manufacture medical and contact lenses	

use optical devices, deal with ophthalmic prosthetics, in addition to paying .attention to the maintenance and periodic cleaning of devices
Teaching and learning strategies -9
Strategies that combine active and interactive learning, such as the use of simulations and advanced visual presentations, as well as continuous assessment and personalization of educational content, are used. These strategies rely on the integration of modern tools and technologies and virtual reality(VR) or augmented reality(AR) applications to provide immersive learning experiences, with an emphasis on observation and practical experimentation to .solve problems and apply knowledge in real-life contexts
. B. Course specific skill objectives .Providing optometry students with the skills necessary to handle optical devices ,These skills include identifying the components and different types of devices how to use and operate the devices accurately, maintaining and calibrating them correctly, applying different optical imaging techniques, analyzing the data produced by the devices, and solving problems that may arise during their use, in addition to linking these skills to practical applications in diagnosis and visual .care
Teaching and learning methods
In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals It aims to instill high professional values in students by enhancing interest in learning and eye health care, encouraging creative initiatives to serve the community in the field of optics, and their commitment to professional ethics by providing accurate and responsible care to patients, and effective cooperation .with various specialties to raise the quality of life

(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects

- **Evaluation methods**

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction to Optical Instruments	Knowledge and application	2 theoretical 4 + practical	the first
,Reports oral and written	,whiteboard powerpoint ,slides	Basic Optical Principles Review	Knowledge and	2 theoretical 4 +	the second

theoretical exams	hands-on experiments		application	practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Lenses and Optical Components	Knowledge and application	2 theoretical 4 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Magnifying Devices	Knowledge and application	2 theoretical 4 + practical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	The Microscope	Knowledge and application	2 theoretical 4 + practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	The Telescope	Knowledge and application	2 theoretical 4 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	The Slit Lamp Biomicroscope	Knowledge and application	2 theoretical 4 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Ophthalmoscopes	Knowledge and application	2 theoretical 4 + practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Retinoscopes and Refractometers	Knowledge and application	2 theoretical 4 + practical	Ninth

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Lensmeters (Lens Analyzers)	Knowledge and application	2 theoretical 4 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Keratometry and Topography	Knowledge and application	2 theoretical 4 + practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Visual Field Analyzers (Perimetry Devices)	Knowledge and application	2 theoretical 4 + practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Advanced Imaging Devices	Knowledge and application	2 theoretical 4 + practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Calibration and Maintenance	Knowledge and application	2 theoretical 4 + practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Review and Practical Demonstration	Knowledge and application	2 theoretical 4 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

eye problems	Course name -1
OPT206	Course code -2
Second semester 2025/2026	Semester/Year -3
2025/9/1	Date of preparation of the -4 description
In-person lectures	Available forms of -5 attendance
45 hour of theory + 45 hours of practical 1 work / 4 units	/ Number of credit hours (total) -6 Number of units (total)
M.M. Al-Jasser Mohammed Jassim	Name of the course supervisor -7 mention all names, if there is more) (than one name
Course objectives -8	

Screening and identifying vision problems, diagnosing and treating common visual conditions such as refractive errors, providing prescriptions for eyeglasses and contact lenses, identifying and referring medical conditions to specialist ophthalmologists, and providing consultations and preventive .care for general eye health

Teaching and learning strategies -9

Incorporating visual materials such as tactile graphics, providing detailed ,verbal descriptions, using teaching techniques adapted to learners' needs training in Braille skills and assistive technologies, and promoting a supportive learning environment that includes collaboration with specialists

. B. Course specific skill objectives

,Develop students' skills in examining, diagnosing, and treating eye disorders ,including measuring and correcting refractive errors such as myopia ,hyperopia, and astigmatism , measuring and treating double vision strabismus, and lazy eye, identifying conditions that require referral to ophthalmologists, prescribing and fitting prescription and contact lenses, and .educating patients about eye health

Teaching and learning methods

In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson

C. Affective and value- based goals

First: In theaffective domain

Developing a sense of responsibility towards eye patients and their .1 .visual and human needs

Promote empathy and compassion for patients, especially those .2 .suffering from chronic diseases or partial/complete vision loss **Develop an appreciation for the importance of professional work in .3 the field of optics as a means of improving the quality of life of .patients** **Instill a commitment to continuous learning in the field of eye .4 .problems to keep pace with medical and technical developments** **Appreciating the role of the integrated medical team and the .5 importance of collaboration with ophthalmologists and other .specialists in patient care** **Second: In the valuedomain** **,Commitment to professional ethics in dealing with patients .1 .including respect for privacy and confidentiality of information** **Promote the value of honesty and integrity in diagnosis and .2 .recommendation of appropriate treatment or glasses/lenses** **Adopting the principle of justice and equality in providing visual .3 .services to all segments of society without discrimination** **Respecting patients' rights to make their own treatment decisions .4 .after a clear and adequate explanation of the problems and solutions** **Encourage human values such as patience, kindness, and caring .5 .when dealing with difficult or complex situations**
(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• **Evaluation methods**
Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction to Ocular Diseases	Knowledge and application	3 theoretical 3 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Anatomy Review & Diagnostic Tools	Knowledge and application	3 theoretical 3 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Refractive Errors and Ametropia	Knowledge and application	3 theoretical 3 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Conjunctival Diseases	Knowledge and application	3 theoretical 3 +	Fourth

				practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Corneal Disorders	Knowledge and application	3 theoretical 3 + practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Scleral and Uveal Tract Disorders	Knowledge and application	3 theoretical 3 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Lens Disorders	Knowledge and application	3 theoretical 3 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Glaucoma	Knowledge and application	3 theoretical 3 + practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Retinal Diseases – Part 1	Knowledge and application	3 theoretical 3 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Retinal Diseases – Part 2	Knowledge and application	3 theoretical 3 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Neuro-Ophthalmologic Disorders	Knowledge and application	3 theoretical 3 + practical	eleventh

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Pediatric Eye Problems	Knowledge and application	3 theoretical 3 + practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Ocular Trauma and Emergencies	Knowledge and application	3 theoretical 3 + practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Systemic Diseases and the Eye	Knowledge and application	3 theoretical 3 + practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Revision & Case Discussions	Knowledge and application	3 theoretical 3 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports

	Electronic references and websites

refraction	**Course name -1**
OPT207	**Course code -2**
First semester 2025/2026	**Semester/Year -3**

2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
theoretical hours + 45 practical hours / 3 30 units	**/ Number of credit hours (total) -6 Number of units (total)**
M.M. Haider Sobhi Fadel	**Name of the course supervisor -7 mention all names, if there is more) (than one name**

Course objectives -8

Understanding the behavior and refraction of light in various media and materials, which enables the diagnosis and correction of refractive errors in ,the eye such as myopia and hyperopia, the design of optical lenses cameras, and optical fibers, in addition to understanding natural .phenomena such as the formation of rainbows

Teaching and learning strategies -9

Active teaching and learning strategies that focus on visual learning can be .used And practical activities. ,These strategies include the use of graphs diagrams, and physical models, employing computer simulations, and conducting practical experiments to understand the behavior of light. It is also ,recommended to encourage students to solve problems, collaborate in groups engage in active discussion, and connect theoretical concepts to real-world .applications to enhance understanding and develop critical thinking

. B. Course specific skill objectives

To enable students to understand the principles of refraction and their ,practical applications, including the ability to accurately diagnose, evaluate and correct refractive errors by prescribing appropriate lenses, using specialized equipment efficiently, and educating patients about their visual .health, while applying professional ethics and adhering to punctuality

Teaching and learning methods

In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals Developing the student's appreciation of natural phenomena, enhancing his passion for scientific research, and developing respect for ethical and scientific principles, such as accuracy in work and cooperation with others, leading to the formation of his own value system related to optical sciences and technologies in his life
(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• **Evaluation methods**
Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital
D. General and transferable skills (other skills related to employability and . (personal development **.D1 . Skills of cooperation and teamwork** **.D2 . Computer typing skills** **.D3 . English communication skills** **.D4 . Skills of enduring work performance and solving problems** **. D5 . Internet conversation skills**

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction to Refraction	Knowledge and application	2 theoretical 3 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	The Laws of Refraction	Knowledge and application	2 theoretical 3 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Refraction Through Lenses	Knowledge and application	2 theoretical 3 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	The Human Eye and Refractive Errors	Knowledge and application	2 theoretical 3 + practical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Clinical Refraction – Subjective vs Objective	Knowledge and application	2 theoretical 3 + practical	Fifth

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Retinoscopy – Principles and Techniques	Knowledge and application	2 theoretical 3 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Subjective Refraction – Step by Step	Knowledge and application	2 theoretical 3 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Astigmatism and its Correction	Knowledge and application	2 theoretical 3 + practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Midterm Revision and Assessment	Knowledge and application	2 theoretical 3 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Presbyopia and Near Addition	Knowledge and application	2 theoretical 3 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Binocular Vision and Refraction	Knowledge and application	2 theoretical 3 + practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Pediatric Refraction	Knowledge and application	2 theoretical 3 + practical	twelfth
,Reports oral and written	,whiteboard powerpoint ,slides	Geriatric and Special Populations	Knowledge and	2 theoretical	thirteenth

theoretical exams	hands-on experiments		applicati on	3 + practi cal	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Common Errors and Troubleshooting	Knowle dge and applicati on	2 theore tical 3 + practi cal	fourtee nth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Final Review and Practical Exam	Knowle dge and applicati on	2 theore tical 3 + practi cal	fifteent h

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

Course Description / Level Three

Laboratory safety	**Course name -1**
MTCD302	**Course code -2**
First semester 2025/2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
theoretical hours / 2 units 30	**/ Number of credit hours (total) -6 Number of units (total)**
M.M. Mustafa Khalil Ibrahim	**Name of the course supervisor -7 mention all names, if there is more) (than one name**
Course objectives -8	
,Protecting workers, equipment, and the environment by assessing risks providing a safe work environment, training employees, using personal protective equipment, providing clear emergency procedures, and ensuring proper handling of chemicals and waste. These goals help prevent accidents and damages, reduce costs resulting from injuries, and maintain .the facility's reputation and safety	
Teaching and learning strategies -9	
Use personal safety equipment such as goggles, adhere to standard operating procedures, and closely monitor equipment, with an emphasis on assessing the specific risks involved in each experiment. Instructional strategies include providing a visually interactive learning environment, applying collaborative learning techniques, and conducting practical workshops to teach proper tool .use techniques and how to respond to emergencies	

. B. Course specific skill objectives

,Enable students to apply basic safety procedures, properly handle materials equipment, and tools, use appropriate personal protective equipment, respond effectively to emergencies, and safely dispose of waste, with an emphasis on .awareness of special hazards in the optics laboratory environment

Teaching and learning methods

In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson

C. Affective and value- based goals

- **Instilling values of responsibility and commitment:**
  - **Promote a sense of responsibility towards oneself, colleagues and patients in the laboratory environment.**
  - **Commitment to implementing safety rules and preventive measures to provide a safe work environment.**
  - **Adherence to professionalism in dealing with patients and examination tools.**
- **Developing a culture of safety:**
  - **A deep appreciation of the importance of safety as an essential part of providing high-quality vision care.**
  - **Awareness of potential hazards in optics laboratories and how to avoid them.**
  - **Develop the skill of identifying and assessing risks and taking appropriate preventive measures.**
- **Promoting ethical and professional values:**
  - **Show patience and understanding when presenting test results to patients.**
  - **Appreciating the high human values and ethics in the field of health and vision care.**
  - **Dealing sensitively and responsibly with patients' needs and privacy .**
- **Appreciating the importance of technology and innovation:**

- Deep understanding of the importance of technology in achieving accuracy and efficiency in eye care.
- Be flexible in learning and using new technologies to ensure best care practices.

- Developing environmental and health awareness:
  - Willingness to participate in implementing policies to maintain cleanliness and sterilization of equipment to prevent contamination.
  - Striving to educate patients and raise their awareness of the . importance of maintaining healthy eyes

(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects

- **Evaluation methods**

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week

,Reports oral and written theoretical exams	,whiteboard powerpoint slides, hands-on experiments	Introduction to Laboratory Safety Definition of laboratory safety, importance of safety, responsibilities of .laboratory workers	Knowledge and application	2 theoretical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint slides, hands-on experiments	Types of hazards in :laboratories ,chemical physical, biological, and electrical hazards. Examples of .accidents	Knowledge and application	2 theoretical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint slides, hands-on experiments	) Personal Protective Equipment PPE ,Safety glasses, gloves :(coveralls, face masks. When .and how to use them	Knowledge and application	2 theoretical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint slides, hands-on experiments	Emergency procedures Evacuation plan, use of fire ,extinguishers, first aid .exposure to materials	Knowledge and application	2 theoretical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides, hands-on experiments	Safety signs and warnings Reading and understanding hazard symbols, labels, and laboratory signs	Knowledge and application	2 theoretical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides, hands-on experiments	Storage and transportation of :chemicals ,safe storage rules separation of reactants, safe transportation of materials	Knowledge and application	2 theoretical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides, hands-on experiments	:Handling laboratory waste ,waste classification disposal methods, appropriate containers, student responsibilities	Knowledge and application	2 theoretical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint slides, hands-on experiments	Safety in optical laboratories :Optics laboratories specialties lasers, lenses, precision optical .devices	Knowledge and application	2 theoretical	The eighth
,Reports oral and written	,whiteboard powerpoint slides, hands-on experiments	Laser risks and prevention methods Types of lasers, eye and skin hazards, laser safety glasses, warning areas	Knowledge and	2 theoretical	Ninth

theoretical exams			applicati on		
,Reports oral and written theoretical exams	,whiteboard powerpoint slides, hands-on experiments	Handling sensitive optical equipment Rules for handling ,equipment, calibration preventive maintenance, and storing tools	Knowle dge and applicati on	2 theore tical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides, hands-on experiments	Laboratory Accident Analysis Real case studies, causes of accidents, lessons learned	Knowle dge and applicati on	2 theore tical	elevent h
,Reports oral and written theoretical exams	,whiteboard powerpoint slides, hands-on experiments	Safety Culture and Laboratory Behaviors Building a culture of safety, positive and negative behaviors, the role of supervisors and students	Knowle dge and applicati on	2 theore tical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides, hands-on experiments	Practical training (1) Field tour of the laboratory, hazard identification, evaluation of the use of protective equipment	Knowle dge and applicati on	2 theore tical	thirtee nth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides, hands-on experiments	Practical training (2) Implement a mock emergency plan, use a fire extinguisher, review the evacuation plan	Knowle dge and applicati on	2 theore tical	fourtee nth
,Reports oral and written theoretical exams	,whiteboard powerpoint slides, hands-on experiments	Final review and evaluation ,Comprehensive review ,practical/theoretical test assessment of students' safety behavior	Knowled ge and applicati on	2 theore tical	fifteent h

Course Evaluation -11

Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12

	Required textbooks (curriculum books, if available)
Internet	Main References (Sources)

	Recommended books and references (scientific (...journals, reports
	Electronic references and websites
Medical research methods	**Course name -1**
MTCD303	**Course code -2**
Second semester 2025/2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
theoretical hours / 2 units 30	**/ Number of credit hours (total) -6 Number of units (total)**
M.M. Mustafa Khalil Ibrahim	**Name of the course supervisor -7 mention all names, if there is more) (than one name**

Course objectives -8

Preparing and training specialized personnel in diagnosing and treating vision problems, and developing scientific curricula and techniques used in eye examinations and the manufacture of medical lenses. This research aims to improve the quality of ophthalmic healthcare, fill the shortage of specialized personnel, and provide the community with qualified personnel to work in hospitals and health centers, in addition to promoting a culture of scientific .research in the field of optics

Teaching and learning strategies -9

Using a combination of direct instruction and experiential and interactive learning, with an emphasis on critical thinking skills and visual analysis, and supporting a supportive learning environment through collaborative learning and providing ample opportunities for practice and feedback

. B. Course specific skill objectives Using a combination of direct instruction and experiential and interactive learning, with an emphasis on critical thinking skills and visual analysis, and supporting a supportive learning environment through collaborative learning and providing ample opportunities for practice and feedback
Teaching and learning methods
In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals **:First Affective Objectives** **These objectives focus on developing the student's emotional and value-based aspects and attitudes towards science and medical :research, and include** **Developing the spirit of scientific curiosity in students and .1 encouraging them to investigate and conduct continuous research in .the field of optics** **Promote a positive trend towards scientific research as a tool for .2 understanding and developing optical services and improving the .quality of healthcare** **Instilling ethical values in research practice, such as scientific .3 honesty, integrity, and commitment to research and publication .standards**

Developing a sense of social responsibility by selecting research .4 .topics that serve society and meet its health needs

Stimulating collaborative work within multidisciplinary research .5 .teams and developing effective scientific communication skills

Respect the rights of patients and research participants, and .6 .emphasize the importance of informed consent and confidentiality

Second: National/Ethical Objectives

These are the objectives related to strengthening national belonging and serving the issues of society and the nation through scientific :research

Strengthening national belonging by encouraging research into .1 health issues of concern to the local community, particularly the Iraqi .community

Encouraging applied research that contributes to the development .2 .of the optics and healthcare sector in Iraq

Contributing to achieving national health development goals .3 through scientific research that contributes to reducing eye diseases .and improving diagnosis and treatment

Motivating students to link theoretical knowledge to practical reality .4 .in the Iraqi medical environment

Support national self-sufficiency efforts in the field of optical .5 .equipment and services through innovative research

Instilling the principles of citizenship and health awareness among .6 students as future researchers, capable of leading change in the .healthcare system

(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects

- **Evaluation methods**

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital
D. General and transferable skills (other skills related to employability and . (personal development **.D1 . Skills of cooperation and teamwork** **.D2 . Computer typing skills** **.D3 . English communication skills** **.D4 . Skills of enduring work performance and solving problems** **. D5 . Internet conversation skills**

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction to Medical Scientific Research Definition of medical research and .its importance The difference between medical research and research in other .sciences Research Ethics (including IRB approval (	Knowledge and application	2 theoretical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Types of medical research .Basic vs. clinical research Quantitative and qualitative .research Observational andexperimental studies .	Knowledge and application	2 theoretical	the second

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Choosing a research topic and formulating the problem .How to choose a suitable topic Characteristics of a good research .problem Examples from the field of optics .technologies	Knowledge and application	2 theoretical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Formulating the research hypothesis and study objectives The difference between hypothesis and research .questions Formulate clear and measurable .goals Practical examples from clinical cases in optics	Knowledge and application	2 theoretical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Review of literature and scientific sources How to search medical databases such as)PubMed ,Scopus .(Evaluation of sources: primary .and secondary Use reference management software (such asMendeley , Zotero)	Knowledge and application	2 theoretical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Study Design ,Descriptive, analytical .experimental design Case-control studies, longitudinal .studies Applications to studies in eye .examination or vision correction	Knowledge and application	2 theoretical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Study community and sample .Identify the target community ,Types of samples (random .(...stratified, cluster Determine sample size using software (such asG*Power (	Knowledge and application	2 theoretical	Seventh

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Data collection tools ,Questionnaires, interviews .observations, measuring devices .Design an effective questionnaire Measuring instruments in optics .e.g)Snellen chart ,autorefractor (	Knowledge and application	2 theoretical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Validity and reliability of measurement tools ,Types of validity (apparent .(content, structural ,Resilience (internal, external .(reapplication Practical examples of eye examination tools	Knowledge and application	2 theoretical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Data collection and field problems .Data collection steps Common problems during data collection and how to deal with .them Privacy and confidentiality of patient information	Knowledge and application	2 theoretical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Statistical analysis of data Descriptive and analytical .statistics Use of analysis software (such as SPSS ,Excel .(Analysis examples from studies in optics	Knowledge and application	2 theoretical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Interpretation and presentation of results How to interpret the results .scientifically .Charts and tables Linking results to study objectives	Knowledge and application	2 theoretical	twelfth
,Reports oral and written	,whiteboard powerpoint ,slides	Writing a medical research report	Knowledge and	2 theoretical	thirteenth

theoretical exams	hands-on experiments	,Report components (abstract ,introduction, methodology .(results, discussion, conclusion .Scientific writing style Common mistakes in writing .research	applicati on		
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Research presentation and presentation skills) How to present research orally PowerPoint .(Scientific communication and .presentation skills Discussing student research or previous research models	Knowle dge and applicati on	2 theore tical	fourtee nth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Final Assessment and General Review Comprehensive review of the .material .Discuss test questions ,Show student project summaries .if any	Knowle dge and applicati on	2 theore tical	fifteent h

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports

	Electronic references and websites

computer applications	**Course name -1**
MTCD301	**Course code -2**
Second semester 2025/2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
hours of theory + 15 hours of practical / 2 15 units	**/ Number of credit hours (total) -6 Number of units (total)**
Mr. Ahmed Siddiq Bakr	**Name of the course supervisor -7 mention all names, if there is more) (than one name**
Course objectives -8	

Automating tasks such as word processing and data processing, improving communication across networks and the Internet, enhancing learning and training through multimedia, providing accuracy and speed in fields such as medicine and accounting, helping people with disabilities through assistive technologies, and reducing human error and increasing efficiency in work .environments and institutions
Teaching and learning strategies -9
Teaching strategies for the Computer Applications course include active ,learning such as collaborative learning, brainstorming, and problem solving in addition to e-learning strategies such as the flipped classroom, electronic .projects, and augmented reality to enhance participation and interaction
. B. Course specific skill objectives Enabling the student to use the computer and application programs efficiently , such as word processing programs, spreadsheets, and presentations, and to use the Internet for research and communication, in addition to the ability to explore various computer applications in various .areas of life and learn how to use it to increase productivity
Teaching and learning methods
In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
ج. Affective and value-based goals • **Importance assessment:**

The student should appreciate the role of the computer and its importance in facilitating work and daily life.

- **Moral responsibility:**
  The student must demonstrate a commitment to using technology in an ethical, safe and responsible manner.
- **Cooperation and participation:**
  The student should have a spirit of cooperation and participation with his colleagues when working on group applications.
- **Formation of tendencies:**
  Developing positive and purposeful tendencies towards computers, their applications and information technology.
- **Responding to the requirements of the era:**
  That the student be able to keep up with modern life and its electronic requirements.
- **Interacting with the digital environment:**
  Building a generation open to the information world and capable of empathy and interaction in a digital environment[6 9 ,].

How to achieve these goals:

- **Providing an interactive learning environment:**
  ,Using computers to provide rich learning experiences with audio, video and movement to attract and motivate students.
- **Encouraging teamwork:**
  Involving students in group projects and applications to enhance the spirit of cooperation among them.
- **Focus on usage ethics:**
  Guiding students towards the ethical and safe use of information and digital technologies.
- **Link to daily reality:**
  Explain how computer applications contribute to facilitating daily tasks and .enhancing productivity

(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects

- **Evaluation methods**

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital
D. General and transferable skills (other skills related to employability and . (personal development **.D1 . Skills of cooperation and teamwork** **.D2 . Computer typing skills** **.D3 . English communication skills** **.D4 . Skills of enduring work performance and solving problems** **. D5 . Internet conversation skills**

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	,Learn about Excel , its benefits .specifications, and operating method	Knowledge and application	1 theoretical 1 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Getting to know the main screen, its components, tools, and menu bar	Knowledge and application	1 theoretical 1 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Cell Concept Basic Data Types and How to Enter Them	Knowledge and application	1 theoretical 1 +	the third

				practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	the workbook and close the file program	Knowledge and application	1 theoretical 1 + practical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Open a saved file, enter data, perform .simple calculations, and format cells	Knowledge and application	1 theoretical 1 + practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Learn how to collect data or group cells in different forms and sort data	Knowledge and application	1 theoretical 1 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	:Use some common functionsAverage, Sum, Min , Mix, Count, Sprt	Knowledge and application	1 theoretical 1 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	,Cell editing process, copying data moving it, copying absolute and relative cell calculations	Knowledge and application	1 theoretical 1 + practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Control cell display and change its .style using formatting tools	Knowledge and application	1 theoretical 1 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Dealing with charts, their various components and elements, and learning about their types	Knowledge and application	1 theoretical 1 + practical	tenth

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Methods of creating charts, choosing different types of charts and their concept	Knowledge and application	1 theoretical 1 + practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Edit data and charts and make various revisions to them	Knowledge and application	1 theoretical 1 + practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Dealing withLists List Creation , ,ConditionsSorting Lists	Knowledge and application	1 theoretical 1 + practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Filtering lists , especially automatic and advanced filtering	Knowledge and application	1 theoretical 1 + practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	How to add or delete rows or columns How to print the worksheet as data and charts	Knowledge and application	1 theoretical 1 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)

	Recommended books and ,references (scientific journals (...reports
	Electronic references and websites

eyeglasses	**Course name -1**

OPT303	**Course code -2**
First semester 2025/2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
theoretical hours + 45 practical hours / 3 30 units	**/ Number of credit hours (total) -6 Number of units (total)**
D. Ahmed Talib Abdel Qader	**Name of the course supervisor -7 mention all names, if there is more) (than one name**

Course objectives -8

Preparing specialists capable of examining and evaluating vision, correcting strabismus, designing, manufacturing, and fitting medical lenses and ophthalmic prostheses, in addition to handling and maintaining optical devices, and advising patients about the appropriate eyeglasses and .contact lenses for them

Teaching and learning strategies -9

Integrating theoretical knowledge with practical training, through lectures covering ocular anatomy and optical physics, workshops on lens .manufacturing and fitting, and field practice to apply skills in accredited centers Modern technologies such as medical computers are used in vision examinations, and the curriculum focuses on determining complex prescriptions, analyzing frame and lens design, and training students in adding filters and tints, with an emphasis on customer service skills, ethics, and time .management in optical centers

. B. Course specific skill objectives

Providing students with the skills necessary for eye examination, determining vision degrees, correcting strabismus, designing and manufacturing eyeglasses and optical prostheses, using modern tools and techniques in this .field, handling contact lenses, in addition to maintaining and caring for devices

Teaching and learning methods
In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals Instilling moral and human values in students, such as patience and .understanding , Towards patients, adherence to safety and hygiene standards and showing appreciation for technology In the field of vision, we strive to educate patients, emphasizing the importance of professional ethics in vision .care and dealing with various healthcare specialties
(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• **Evaluation methods**
Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Lenses, Types of Medical lenses with drawing.	Knowledge and application	2 theoretical 3 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	How can write a prescription for patients.	Knowledge and application	2 theoretical 3 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	How can write a prescription for patients.	Knowledge and application	2 theoretical 3 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	How can read a prescription for patients.	Knowledge and application	2 theoretical 3 +	Fourth

				practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Spectacles, Parts of Spectacles with drawing.	Knowledge and application	2 theoretical 3 + practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Spectacles frames. (Advantages).	Knowledge and application	2 theoretical 3 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Spectacles frames and measurements.	Knowledge and application	2 theoretical 3 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Frames of sports and measurements.	Knowledge and application	2 theoretical 3 + practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Stages of making glass lens (Generation, Blocking and Polishing).	Knowledge and application	2 theoretical 3 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Centering the glass lens with the edging.	Knowledge and application	2 theoretical 3 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Coating, Coated requirements, Types of coating, Anti- Reflection coatings (AR) for (MC & HMC).	Knowledge and application	2 theoretical 3 + practical	eleventh

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Coating, Coated requirements, Types of coating, Anti- Reflection coatings (AR) for (MC & HMC).	Knowledge and application	2 theoretical 3 + practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Blue Cut lens, Multifocal, Ensues, Progressive.	Knowledge and application	2 theoretical 3 + practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Cementing lens for the different types of lenses.	Knowledge and application	2 theoretical 3 + practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Revision	Knowledge and application	2 theoretical 3 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports

	Electronic references and websites

Glasses problems	**Course name -1**
OPT304	**Course code -2**
Second semester 2025/2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
theoretical hours + 45 practical hours / 3 30 units	**/ Number of credit hours (total) -6 Number of units (total)**
D. Ahmed Talib Abdel Qader	**Name of the course supervisor -7 mention all names, if there is more) (than one name**
Course objectives -8	
Providing students with the skills necessary to conduct eye examinations, identify and measure vision problems such as refraction and strabismus, suggest and prescribe appropriate types of lenses and eyeglasses for different patient conditions, as well as skills in manufacturing and fitting lenses, repairing damaged eyeglasses, caring for optical devices, and understanding how a patient's lifestyle affects the selection of the appropriate lens and frame design, in order to .prepare qualified and effective cadres in the field of eye care	

Teaching and learning strategies -9
,utilizes intensive practical education and clinical training in examining fitting, and repairing eyeglasses, in addition to theoretical education on diagnosing and correcting vision problems, with an emphasis on skills in handling diagnostic equipment and interpreting clinical findings. Techniques such as situational simulations and interactive workshops are also used to develop students' skills and provide them with the applied knowledge necessary to support physicians in diagnosing and .resolving visual problems
. B. Course specific skill objectives prepares graduates to work as specialized technicians capable of diagnosing various vision problems, determining the appropriate type of lenses, fitting, examining, and maintaining eyeglasses, using optical medical devices, and identifying appropriate alternatives such as contact lenses. 'The course also aims to enable students to understand patients needs and recommend frames and lenses appropriate for their work and .daily life
Teaching and learning methods
In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals Equipping students with the ability to treat patients with sensitivity and responsibility, appreciate the importance of eye health, adhere to ethical and professional standards in providing vision care, and promote

innovation in developing innovative optical solutions to correct various .vision problems
(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• Evaluation methods
Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital
D. General and transferable skills (other skills related to employability and . (personal development .D1 . Skills of cooperation and teamwork .D2 . Computer typing skills .D3 . English communication skills .D4 . Skills of enduring work performance and solving problems . D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction to Spectacle Problems	Knowledge and application	2 theoretical 3 +	the first

				practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Lens Power Errors	Knowledge and application	2 theoretical 3 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Lens Positioning Errors	Knowledge and application	2 theoretical 3 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Frame Fit and Adjustment Issues	Knowledge and application	2 theoretical 3 + practical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Multifocal and Progressive Lens Problems	Knowledge and application	2 theoretical 3 + practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Prism-Related Problems	Knowledge and application	2 theoretical 3 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Lens Material and Coating Problems	Knowledge and application	2 theoretical 3 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Midterm Review + Quiz / Assessment	Knowledge and application	2 theoretical 3 + practical	The eighth

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Aniseikonia and Magnification Issues	Knowledge and application	2 theoretical 3 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Asthenopia and Visual Fatigue from Glasses	Knowledge and application	2 theoretical 3 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Pediatric Spectacle Problems	Knowledge and application	2 theoretical 3 + practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Special Cases - High Prescriptions	Knowledge and application	2 theoretical 3 + practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Case Studies and Troubleshooting Workshop	Knowledge and application	2 theoretical 3 + practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Communication with Patients	Knowledge and application	2 theoretical 3 + practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Final Review + Practical Assessment	Knowledge and application	2 theoretical 3 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
	,Required textbooks (curriculum books (if available
Internet	Main References (Sources)
	Recommended books and ,references (scientific journals (...reports
	Electronic references and websites

Eye problems with internal diseases	Course name -1
OPT302	Course code -2
First semester 2025/2026	Semester/Year -3
2025/9/1	Date of preparation of the -4 description
In-person lectures	Available forms of -5 attendance
theoretical hours + 45 practical hours / 3 30 units	/ Number of credit hours (total) -6 Number of units (total)
Dr. Ibrahim Ihsan Fadel	Name of the course supervisor -7 mention all names, if there is more) (than one name
Course objectives -8	
To provide optometry students with the knowledge and skills necessary to understand how diseases of the body's internal organs (such as internal diseases) affect the eye, how to recognize these diagnostic effects, and	

distinguish them from other visual problems to ensure the patient is referred to a specialist physician and provided with appropriate care
Teaching and learning strategies -9
Using diverse teaching strategies including problem-based learning(PBL) to understand complex diseases, experiential learning through clinical , examination simulation and diagnostic tools such as ophthalmic scanners incorporating interactive tools to enhance engagement, with an emphasis on collaborative learning through case study groups, and developing effective .communication skills with patients
. B. Course specific skill objectives Enabling the graduate to link eye diseases with internal diseases of the body such as(diabetes , high blood pressure) by identifying their indicators in the eye, understanding how these systemic diseases affect the eye, suggesting appropriate referral paths to ophthalmologists, and providing health education about the prevention of these diseases and their relationship to general eye .health
Teaching and learning methods
In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals Developing a set of emotional and ethical skills in students, such as showing patience and understanding with patients, prioritizing patient safety by following sterilization policies, understanding the importance of technology in

eye care, appreciating ethical and human values, and working within a .multidisciplinary team

(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects

- **Evaluation methods**

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction to Systemic Diseases and the Eye	Knowledge and application	2 theoretical 3 +	the first

				practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Diabetes Mellitus and the Eye	Knowledge and application	2 theoretical 3 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Hypertension and Ocular Complications	Knowledge and application	2 theoretical 3 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Cardiovascular Disorders and the Eye	Knowledge and application	2 theoretical 3 + practical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Thyroid Eye Disease (Graves' Orbitopathy)	Knowledge and application	2 theoretical 3 + practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Autoimmune Diseases I – Rheumatoid Arthritis, Lupus	Knowledge and application	2 theoretical 3 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Autoimmune Diseases II – Sarcoidosis, Behçet's Disease	Knowledge and application	2 theoretical 3 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Infectious diseases and the eye	Knowledge and application	2 theoretical 3 + practical	The eighth

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Neurological Disorders and Visual Pathways	Knowledge and application	2 theoretical 3 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Renal Diseases and Ocular Manifestations	Knowledge and application	2 theoretical 3 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Hepatic Diseases and the Eye	Knowledge and application	2 theoretical 3 + practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Hematological Disorders and the Eye	Knowledge and application	2 theoretical 3 + practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Endocrine Disorders (Non-thyroid)	Knowledge and application	2 theoretical 3 + practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Drug-Induced Ocular Side Effects	Knowledge and application	2 theoretical 3 + practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Case Discussions and Clinical Integration	Knowledge and application	2 theoretical 3 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

Eye problems with neurological diseases	Course name -1
OPT302	Course code -2
Second semester 2025/2026	Semester/Year -3
2025/9/1	Date of preparation of the -4 description
In-person lectures	Available forms of -5 attendance

theoretical hours + 45 practical hours / 3 30 units	**/ Number of credit hours (total) -6 Number of units (total)**
Dr. Ibrahim Ihsan Fadel	**Name of the course supervisor -7 mention all names, if there is more) (than one name**
Course objectives -8	
The program prepares an optician capable of understanding the neuroanatomy of the eye, diagnosing symptoms and signs related to neurological disorders affecting vision, such as optic neuritis, providing initial assistance, and referring patients to a specialist. This program focuses on providing students with the knowledge and skills necessary to .connect neurological diseases to their effects on vision	
Teaching and learning strategies -9	
Interactive teaching, hands-on training in the use of assistive devices and software, collaborative learning among students, and ongoing support. These strategies focus on building a deep understanding of neurological conditions ,affecting the eye, developing skills to assess and manage these conditions and enhancing students' ability to collaborate with other healthcare . professionals	
. B. Course specific skill objectives Enabling students to identify diseases and disorders of the optic nerve and the nervous system associated with the eye, examine the optic nerve and diagnose its diseases, determine appropriate treatment for them, apply vision .correction techniques and deal with nerve injuries that affect vision	
Teaching and learning methods	
In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals Instilling values of empathy for patients, appreciation for precision work, and a deep understanding of the importance of eye care from a neurological perspective. The department focuses on training opticians who are ,characterized by professional responsibility and commitment to work ethics and developing students' ability to accurately diagnose eye diseases .associated with neurological conditions and provide appropriate care
(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• **Evaluation methods**
Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital
D. General and transferable skills (other skills related to employability and . (personal development **.D1 . Skills of cooperation and teamwork** **.D2 . Computer typing skills** **.D3 . English communication skills** **.D4 . Skills of enduring work performance and solving problems** **. D5 . Internet conversation skills**
Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction to Neuro-ophthalmology	Knowledge and application	2 theoretical 3 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Anatomy and Physiology of the Visual Pathway	Knowledge and application	2 theoretical 3 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Visual Field Defects in Neurological Disorders	Knowledge and application	2 theoretical 3 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Optic Neuropathies – Part I	Knowledge and application	2 theoretical 3 + practical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Optic Neuropathies – Part II	Knowledge and application	2 theoretical 3 + practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Papilledema and Raised Intracranial Pressure	Knowledge and application	2 theoretical 3 + practical	Sixth
,Reports oral and written	,whiteboard powerpoint ,slides	Midterm Review and Case Discussions	Knowledge and	2 theoretical 3 +	Seventh

theoretical exams	hands-on experiments		applicati on	practi cal	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Cranial Nerve Palsies – Part I	Knowle dge and applicati on	2 theore tical 3 + practi cal	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Cranial Nerve Palsies – Part II	Knowle dge and applicati on	2 theore tical 3 + practi cal	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Nystagmus and Neurological Causes of Eye Movement Disorders	Knowle dge and applicati on	2 theore tical 3 + practi cal	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Myasthenia Gravis and Other Neuromuscular Junction Disorders	Knowle dge and applicati on	2 theore tical 3 + practi cal	elevent h
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Visual Pathway Lesions and Cortical Blindness	Knowle dge and applicati on	2 theore tical 3 + practi cal	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Tumors Affecting Vision	Knowle dge and applicati on	2 theore tical 3 + practi cal	thirtee nth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Stroke and Transient Visual Loss	Knowle dge and applicati on	2 theore tical 3 + practi cal	fourtee nth

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Final Review & Student Presentations	Knowledge and application	2 theoretical 3 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

34.

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

squint	Course name -1
OPT305	Course code -2
First semester 2025/2026	Semester/Year -3

2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
theoretical hours + 45 practical hours / 3 30 units	**/ Number of credit hours (total) -6 Number of units (total)**
D. Ahmed Talib Abdel Qader	**Name of the course supervisor -7 mention all names, if there is more) (than one name**

Course objectives -8

,Training technical personnel to diagnose strabismus (eye deviation) identify its causes and symptoms, and then implement the necessary ,corrective measures by evaluating vision, suggesting appropriate lenses .and helping patients regain proper vision

Teaching and learning strategies -9

Integrating visual and practical teaching and learning strategies, such as the use of assistive devices for visually impaired individuals, providing hands-on training on equipment, collaborative learning among students, and the use of .practical simulations and virtual reality to apply theoretical concepts

. B. Course specific skill objectives

Providing students with the skills necessary to diagnose and evaluate strabismus, develop appropriate treatment plans based on examination ,results, and manufacture and adapt the lenses needed to correct strabismus .in addition to using advanced computer tools and techniques in this field

Teaching and learning methods

In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson

C. Affective and value- based goals

To enhance the graduate's ethical and professional values, and develop his skills in diagnosing, treating, and following up on eye conditions, while emphasizing adherence to professional and ethical standards to provide distinguished healthcare to patients, and ensuring the best possible treatment .outcomes

(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects

- **Evaluation methods**

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning	watches	week

			outcomes		
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Component, description, and structure of squint examination unit	Knowledge and application	2 theoretical 3 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction to squint terminology and types	Knowledge and application	2 theoretical 3 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Ocular motility-1: Smooth pursuit.	Knowledge and application	2 theoretical 3 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Ocular motility-2: Duction	Knowledge and application	2 theoretical 3 + practical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Ocular motility-3: Saccades.	Knowledge and application	2 theoretical 3 + practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Ocular motility-4: Convergence, Near point of convergence versus near point of accommodations.	Knowledge and application	2 theoretical 3 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	How to report results of ocular motility test	Knowledge and application	2 theoretical 3 + practical	Seventh

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Corneal light reflex tests-1: Hirschberg test.	Knowledge and application	2 theoretical 3 + practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Corneal light reflex tests-2: Krimsky test.	Knowledge and application	2 theoretical 3 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Corneal light reflex tests-3: How to document their results.	Knowledge and application	2 theoretical 3 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Cover tests-1: cover-uncover test.	Knowledge and application	2 theoretical 3 + practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Cover tests-2: Alternate cover test.	Knowledge and application	2 theoretical 3 + practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Cover tests-3: Prism cover test.	Knowledge and application	2 theoretical 3 + practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Cover tests-4: Alternate prism cover test.	Knowledge and application	2 theoretical 3 + practical	fourteenth
,Reports oral and written	,whiteboard powerpoint ,slides	Revision	Knowledge and	2 theoretical	fifteenth

theoretical exams	hands-on experiments		applicati on	3 + practi cal	

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

Strabismus problems	Course name -1
OPT306	Course code -2

Second semester 2025/2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
theoretical hours + 45 practical hours / 3 30 units	**/ Number of credit hours (total) -6 Number of units (total)**
D. Ahmed Talib Abdel Qader	**Name of the course supervisor -7 mention all names, if there is more) (than one name**

Course objectives -8

Preparing specialized technical cadres to diagnose and evaluate strabismus, and proposing appropriate treatments through vision correction and fitting the necessary glasses and contact lenses, in addition to training them on the use of optical devices and dealing with various vision problems to meet the community's need for vision examination and correction .services

Teaching and learning strategies -9

Strategies based on active and interactive learning, such as project-based learning and problem-solving, and the use of advanced technology such as virtual reality simulation and visual data, with an emphasis on practical training using specialized tools to develop diagnostic and therapeutic skills, can be .used It is also recommended to implement personalized education to meet the needs of each individual student, encourage collaborative learning to share knowledge and experiences, and provide ongoing support to meet technical .and clinical challenges

. B. Course specific skill objectives

Providing students with diagnostic and practical skills in evaluating and treating ,strabismus, including: conducting the necessary visual examinations diagnosing different types of strabismus, selecting appropriate lenses, using specialized medical devices, implementing treatment plans, and providing

health education to patients and their families, with an emphasis on dealing .with children and the ethical principles of the optician profession
Teaching and learning methods
In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals **Raising awareness of the importance of the humanitarian role of the .1 ,optician. Promote a sense of responsibility towards patients especially children and those with special needs. Understanding the impact of strabismus disorders on the patient's psychology and .quality of life** **Establishing ethical and professional values in dealing with .2 .patients. Respect patient privacy and confidentiality of information Demonstrate honesty, integrity, and compassion in communicating .with patients and their families** **Promoting attention to quality and excellence in the provision of .3 visual care. Commitment to accuracy and care when conducting examinations and diagnosis. Adopting the principle of "patient care .first" in all procedures** **Instilling the value of teamwork and cooperation Appreciating the .4 importance of working within an integrated optical team .(ophthalmologist, optician, orthoptist)**

Collaborate with colleagues to solve complex problems and improve .treatment outcomes **Developing a sense of social responsibility Belief in the importance .5 of raising community awareness about strabismus problems and the necessity of early detection. Support free screening programs and .health initiatives in the community** **Enhance self-confidence and professionalism Encourage the .6 .student to make clinical decisions based on knowledge and skill Strengthening independence in thinking and initiative in continuous .learning** **Respecting individual differences among patients Considering .7 cultural, social and psychological aspects when dealing with strabismus cases. Demonstrate tolerance and understanding in .diverse clinical settings**
,(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• **Evaluation methods**
Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital
D. General and transferable skills (other skills related to employability and . (personal development **.D1 . Skills of cooperation and teamwork** **.D2 . Computer typing skills** **.D3 . English communication skills** **.D4 . Skills of enduring work performance and solving problems** **. D5 . Internet conversation skills**

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction to Strabismus	Knowledge and application	2 theoretical 3 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Anatomy and Physiology of Eye Movements	Knowledge and application	2 theoretical 3 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Classification of Strabismus	Knowledge and application	2 theoretical 3 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Etiology of Strabismus	Knowledge and application	2 theoretical 3 + practical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Signs and Symptoms	Knowledge and application	2 theoretical 3 + practical	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Examination Techniques I	Knowledge and application	2 theoretical 3 + practical	Sixth

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Examination Techniques II	Knowledge and application	2 theoretical 3 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Amblyopia and Its Relation to Strabismus	Knowledge and application	2 theoretical 3 + practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Esotropia	Knowledge and application	2 theoretical 3 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Exotropia	Knowledge and application	2 theoretical 3 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Vertical Strabismus	Knowledge and application	2 theoretical 3 + practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Paralytic and Restrictive Strabismus	Knowledge and application	2 theoretical 3 + practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Non-surgical Management	Knowledge and application	2 theoretical 3 + practical	thirteenth
,Reports oral and written	,whiteboard powerpoint ,slides	Surgical Management of Strabismus	Knowledge and	2 theoretical	fourteenth

theoretical exams	hands-on experiments		applicati on	3 + practi cal	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Case Discussions and Course Review	Knowle dge and applicati on	2 theore tical 3 + practi cal	fifteent h

Course Evaluation -11	
Student activities and reports, oral and written theoretical and practical exams	
36-	
Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

refractive errors	**Course name -1**
OPT307	**Course code -2**
First semester 2025/2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
theoretical hours + 45 practical hours / 3 30 units	**/ Number of credit hours (total) -6 Number of units (total)**
Prof. Dr. Ya'rab Qahtan Abdulrahman	**Name of the course supervisor -7 mention all names, if there is more) (than one name**
Course objectives -8	
Introducing students to the types of refractive errors ,such as myopia) hyperopia , and astigmatism), and their causes ,Abnormalities in the eye) lens or cornea), and how to measure them (Subjective refraction measurement) and its treatment (Eyeglasses, contact lenses, and surgery) and their effect on vision (Headache, blurred vision, and eye strain) to	

enable them to accurately diagnose and correct them to ensure the best .visual acuity for the patient

Teaching and learning strategies -9

Focus on practical understanding of diagnosis using tools such as manual and automatic refractive lenses, practical workshops on measuring prescription for people with various visual problems such as myopia and astigmatism , in ,addition to learning about different treatments such as changing lenses glasses and contact lenses, and finally using practical scenarios to discuss .how to target and correct refractive error

. B. Course specific skill objectives

To enable graduates to accurately identify and diagnose types of refractive errors using appropriate examination tools, determine the most appropriate means of correction (eyeglasses, contact lenses, or surgical procedures), and effectively use computer-aided visual aids in diagnosing and treating these errors, with the ability to advise and guide patients on treatment options and .maintaining eye health

Teaching and learning methods

In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson

C. Affective and value- based goals

Affective : Objectives

Developing the student's internal motivation to learn about .1 refraction and correct errors, and realizing its importance in improving .the quality of vision

Demonstrate interest and discipline when performing clinical .2 examinations related to refractive errors (such as refraction .(examination Positive interaction with classmates and medical team members .3 .during clinical case discussions and practical training Willingness to take responsibility when dealing with patients and .4 .providing the best level of visual care Feeling confident while practicing practical skills, such as using .5 .refraction examination tools (refractor , ophthalmoscopy , etc.) Respecting patients and appreciating their visual and human needs .6 .during examination and diagnosis : Objectives Value Objectives 🌟 To enhance the value of accuracy and professionalism in measuring .1 and correcting refractive errors to ensure the provision of high-quality .optical services ,Commitment to professional ethics, such as confidentiality .2 .honesty, and respect for patient privacy Adopting the value of teamwork and cooperation within the optical .3 .medical team Instilling the value of human concern and compassion when dealing .4 with patients, especially sensitive groups (such as children and the .(elderly Deepening the belief in the importance of optics as a means of .5 .improving the quality of life of individuals through vision correction Pride in professional identity as an optician capable of making a .6 .positive impact on society
(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• Evaluation methods

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital
D. General and transferable skills (other skills related to employability and . (personal development **.D1 . Skills of cooperation and teamwork** **.D2 . Computer typing skills** **.D3 . English communication skills** **.D4 . Skills of enduring work performance and solving problems** **. D5 . Internet conversation skills**

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Astigmatism definition& sing- symptoms	Knowledge and application	2 theoretical 3 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Astigmatism type e & correction	Knowledge and application	2 theoretical 3 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	I 'm so much for you	Knowledge and application	2 theoretical 3 + practical	the third

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	An i so m e t r op i a& c o rrec t i on	Knowle dge and applicati on	2 theore tical 3 + practi cal	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	An i s ei k on i a& c o rr e c t i on	Knowle dge and applicati on	2 theore tical 3 + practi cal	Fifth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Apha k i a & ps e udo A ph a k i a	Knowle dge and applicati on	2 theore tical 3 + practi cal	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	P re sb y op i a & C o rr ec t i on	Knowle dge and applicati on	2 theore tical 3 + practi cal	Sevent h
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Int r ao c u l a r l e ns	Knowle dge and applicati on	2 theore tical 3 + practi cal	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	E y e s t r a i n	Knowle dge and applicati on	2 theore tical 3 + practi cal	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	A m b l yop i ad e f i n i t i o n	Knowle dge and applicati on	2 theore tical 3 + practi cal	tenth
,Reports oral and written	,whiteboard powerpoint ,slides	A m b l yop i at r e at m e nt	Knowle dge and	2 theore tical	elevent h

theoretical exams	hands-on experiments		application	3 + practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	In my soul a c u i ty the st for r c h i l d	Knowledge and application	2 theoretical 3 + practical	twelfth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	In my life a c u i ty the st for r c h i l d	Knowledge and application	2 theoretical 3 + practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Condu c t i v e K e r a t o p l a s t y	Knowledge and application	2 theoretical 3 + practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	R e v i s i on	Knowledge and application	2 theoretical 3 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

37.

Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)

	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

Eye examination devices	**Course name -1**
OPT308	**Course code -2**
Second semester 2025/2026	**Semester/Year -3**

2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
theoretical hours + 45 practical hours / 3 30 units	**/ Number of credit hours (total) -6 Number of units (total)**
M.M. Suleiman Masara Karim	**Name of the course supervisor -7 mention all names, if there is more) (than one name**

Course objectives -8

Preparing specialized personnel to examine and evaluate vision using ,optical medical devices, with a focus on determining vision and strabismus prescribing eyeglasses and contact lenses, manufacturing ophthalmic prosthetics, and maintaining devices. Graduates acquire the skills necessary to use modern equipment, whether in clinics, hospitals, or lens .fitting workshops, qualifying them to work in the field of eye care

Teaching and learning strategies -9

Combining theoretical knowledge with practical skills , including theoretical explanation of types of devices and how they work, practical training on the operation and maintenance of these devices, the use of simulation to train students on examination and diagnosis, linking theoretical information to practical reality through field visits or specialized lectures, in addition to developing effective communication skills among students to interact with .patients

. B. Course specific skill objectives

Providing students of optometry with the practical and theoretical skills ,necessary to diagnose vision defects, accurately examine vision conditions and evaluate visual aberrations such as strabismus using various devices. ,Skill objectives also include the ability to use computers in examinations calibrate devices, measure lens parameters, prescribe eyeglasses and contact .lenses, and maintain and care for devices

Teaching and learning methods

In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals Instilling values of professional and ethical responsibility in students, such as patience and understanding when explaining test results to patients, attention to the cleanliness and sterilization of equipment to prevent infection, and adherence to evidence-based practices to achieve the highest levels of accuracy in vision care. It also seeks to develop an appreciation for the importance of technology in improving the efficiency of eye examinations, a desire to educate patients to enable them to maintain their visual health, and a high level of professionalism in dealing with patients and communicating with .various disciplines
(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• **Evaluation methods**
Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital
D. General and transferable skills (other skills related to employability and . (personal development **.D1 . Skills of cooperation and teamwork** **.D2 . Computer typing skills**

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Introduction to Optometric Instruments	Knowledge and application	2 theoretical 3 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Visual Acuity Charts	Knowledge and application	2 theoretical 3 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Retinoscope	Knowledge and application	2 theoretical 3 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Autorefractor and Keratometer	Knowledge and application	2 theoretical 3 + practical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Trial Frame and Trial Lens Set	Knowledge and application	2 theoretical 3 +	Fifth

				practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Phoropter (Refractor Head)	Knowledge and application	2 theoretical 3 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Slit Lamp Biomicroscope – Part I	Knowledge and application	2 theoretical 3 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Slit Lamp Biomicroscope – Part II	Knowledge and application	2 theoretical 3 + practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Ophthalmoscopy – Direct	Knowledge and application	2 theoretical 3 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Ophthalmoscopy – Indirect	Knowledge and application	2 theoretical 3 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Tonometers	Knowledge and application	2 theoretical 3 + practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Perimetry (Visual Field Testing)	Knowledge and application	2 theoretical 3 + practical	twelfth

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Color Vision Testing Devices	Knowledge and application	2 theoretical 3 + practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Binocular Vision Testing Instruments	Knowledge and application	2 theoretical 3 + practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Review and Practical Demonstration	Knowledge and application	2 theoretical 3 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

Laser treatment of eye diseases	**Course name -1**
OPT309	**Course code -2**
Second semester 2025/2026	**Semester/Year -3**
2025/9/1	**Date of preparation of the -4 description**
In-person lectures	**Available forms of -5 attendance**
/ hours of theory + 30 hours of practical 15 units 2	**/ Number of credit hours (total) -6 Number of units (total)**
Prof. Dr. Ya'rab Qahtan Abdulrahman	**Name of the course supervisor -7 mention all names, if there is more) (than one name**

Course objectives -8

To enable students to understand the mechanism of laser operation in correcting refractive errors (such as myopia, hyperopia, and astigmatism) and treating retinal diseases (such as diabetic retinopathy and detachment) and high eye pressure, by providing them with the technical knowledge necessary to use these technologies, understanding their physical and medical foundations, and developing the practical skills to perform these .treatments accurately and effectively to provide better care to patients

Teaching and learning strategies -9

Strategies should be used that combine theoretical knowledge with practical application, such as interactive lectures focusing on laser principles and imaging techniques, as well as practical modules using simulators, clinical case studies that demonstrate how diseases are diagnosed and treated with lasers, and collaborative learning to enhance research and communication .skills

. B. Course specific skill objectives

To qualify technicians capable of using laser technologies in the treatment of retinal diseases (such as fixing tears and detachments) and other visual conditions that require precise intervention, in addition to understanding the

role of lasers in correcting refractive errors and improving vision stability in various cases, in order to support the efficiency of diagnosis and treatment in .the field of optics
Teaching and learning methods
In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals Providing students with a deep knowledge and understanding of how laser technologies work in the field of vision care, appreciating their role in improving visual acuity, emphasizing the importance of precision and sensitive patient .care, and building high ethical and professional values in them
(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• **Evaluation methods**
Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital
D. General and transferable skills (other skills related to employability and . (personal development **.D1 . Skills of cooperation and teamwork** **.D2 . Computer typing skills**

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Laser in medicine (Define , Properties, Advantage with Disadvantages, Types of laser).	Knowledge and application	1 theoretical 2 + practical	the first
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Laser in eye treatment (diseases in the eye, method of the treatment).	Knowledge and application	1 theoretical 2 + practical	the second
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Laser in eye treatment (diseases in the eye, method of the treatment).	Knowledge and application	1 theoretical 2 + practical	the third
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Laser effects on biological tissue, (thermal effect), (chemical, mechanical effects).	Knowledge and application	1 theoretical 2 + practical	Fourth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Laser effects on biological tissue, (thermal effect), (chemical, mechanical effects).	Knowledge and application	1 theoretical 2 +	Fifth

				practical	
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Co2 Laser (wavelength = 10.6 nm).	Knowledge and application	1 theoretical 2 + practical	Sixth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Excimer Laser (wavelength (λ ().	Knowledge and application	1 theoretical 2 + practical	Seventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	ND-YAG Laser (Define, λ = 1064 nm).	Knowledge and application	1 theoretical 2 + practical	The eighth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Properties of Diode Laser λ =810 nm to 110 nm.	Knowledge and application	1 theoretical 2 + practical	Ninth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Properties of Diode Laser λ =810 nm to 110 nm.	Knowledge and application	1 theoretical 2 + practical	tenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Side effects of Laser eye operation.	Knowledge and application	1 theoretical 2 + practical	eleventh
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Retinal Laser treatment (Define retina with properties).	Knowledge and application	1 theoretical 2 + practical	twelfth

,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Argon Laser ($\lambda_{blue} = 488\,nm$ and $\lambda_{green} = 514\,nm$).	Knowledge and application	1 theoretical 2 + practical	thirteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Argon Laser ($\lambda_{blue} = 488\,nm$ and $\lambda_{green} = 514\,nm$).	Knowledge and application	1 theoretical 2 + practical	fourteenth
,Reports oral and written theoretical exams	,whiteboard powerpoint ,slides hands-on experiments	Revision .	Knowledge and application	1 theoretical 2 + practical	fifteenth

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	Main References (Sources)
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

Course Description / Level Four

Eye Diseases	**Course name -1**
OPT 402	**Course code -2**
First Semester 2026/2027	**Semester/Year -3**
1/9/2025	**Date of preparation of the -4 description**
Practical and face-to-face lectures	**Available forms of -5 attendance**
30 theoretical hours + 45 practical hours 2 units	**/ Number of credit hours (total) -6 Number of units (total)**
	Name of the course supervisor -7 mention all names, if there is more) (than one name

Course objectives -8

The course aims to provide students with a comprehensive understanding of various eye diseases, their symptoms, and methods of management. This is achieved through an expanded study of pathological cases and appropriate diagnostic techniques, training students in proper guidance and counseling, and equipping them with the ability to refer patients to specialists for appropriate healthcare in accordance with professional and ethical standards.

Teaching and learning strategies -9

The course relies on **interactive lectures** supported by clinical images and illustrative presentations, alongside the **discussion of real pathological cases** to apply theoretical concepts in practice. It also encourages **self-**

directed learning through reports, seminars, and the review of recent scientific literature
. B. Course specific skill objectives The student will be able to **perform clinical eye examinations** and **diagnose common conditions** using appropriate instruments and tools. They will further develop the ability to **analyze and connect practical findings with theoretical knowledge**, in addition to enhancing their skills in **preparing scientific reports and engaging in professional medical communication**.
Teaching and learning methods
In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson
C. Affective and value- based goals Providing students with a deep knowledge and understanding of how laser technologies work in the field of vision care, appreciating their role in improving visual acuity, emphasizing the importance of precision and sensitive patient .care, and building high ethical and professional values in them
(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects
• **Evaluation methods**
Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Diseases of the orbit (infection)	Knowledge & Application	2 theory + 3 practical	the first
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Diseases of the eye lids (infections: viral, bacterial, allergic)	Knowledge & Application	2 theory + 3 practical	the second
Reports, oral and written	Blackboard, PowerPoi	Diseases of the eye lids (ptosis, ectropion & entropion)	Knowledge &	2 theory + 3	the third

theoretical exams	nt slides, practical experimen ts		Applica tion	pract ical	
Reports, oral and written theoretical exams	Blackboar d, PowerPoi nt slides, practical experimen ts	Lacrimal drainage diseases (causes & evaluation)	Knowle dge & Applica tion	2 theor y + 3 pract ical	**Fourth**
Reports, oral and written theoretical exams	Blackboar d, PowerPoi nt slides, practical experimen ts	Lacrimal drainage diseases (obstruction & infection)	Knowle dge & Applica tion	2 theor y + 3 pract ical	**Fifth**
Reports, oral and written theoretical exams	Blackboar d, PowerPoi nt slides, practical experimen ts	Diseases of the conjunctiva (infections: viral, bacterial)	Knowle dge & Applica tion	2 theor y + 3 pract ical	**Sixth**
Reports, oral and written theoretical exams	Blackboar d, PowerPoi nt slides, practical experimen ts	Diseases of the conjunctiva (allergic conjunctivitis & degenerative diseases)	Knowle dge & Applica tion	2 theor y + 3 pract ical	**Sevent h**
Reports, oral and written	Blackboar d, PowerPoi nt slides,	Disorders of the cornea inflammation (infection & allergic)	Knowle dge & Applica tion	2 theor y + 3	**The eighth**

theoretical exams	practical experiments			practical	
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Anomalies of the cornea (congenital: microcornea, megalocornea, sclerocornea, keratoconus, anophthalmus)	Knowledge & Application	2 theory + 3 practical	**Ninth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Diseases of the crystalline lens (abnormalities of shape, ectopia, watery eye)	Knowledge & Application	2 theory + 3 practical	**tenth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Congenital cataracts	Knowledge & Application	2 theory + 3 practical	**eleventh**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Acquired cataracts	Knowledge & Application	2 theory + 3 practical	**twelfth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical	Diseases of the uveal tract (uveitis: infection, fungal, bacterial)	Knowledge & Application	2 theory + 3 practical	**thirteenth**

	experiments				
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Anterior & posterior uveitis	Knowledge & Application	2 theory + 3 practical	**fourteenth**
Reports, oral and written theoretical exam	Blackboard, PowerPoint slides, practical experiments	Vitreous opacities (introduction, vitreous hemorrhage, etc.)	Knowledge & Application	2 theory + 3 practical	**fifteenth**

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	**Main References (Sources)**
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

glasses and Contact Lenses	**Course name -1**
OPT 405	**Course code -2**
First Semester 2026/2027	**Semester/Year -3**
1/9/2025	**Date of preparation of the -4 description**
Practical and face-to-face lectures	**Available forms of -5 attendance**
30 theoretical hours + 45 practical hours 2 units	**/ Number of credit hours (total) -6 Number of units (total)**
	Name of the course supervisor -7 mention all names, if there is more) (than one name

Course objectives -8

The course aims to enable students to identify the types of medical frames and lenses required by patients and to order them using numerical language. It also equips students with the ability to select appropriate spectacles and apply proper maintenance methods, ensuring high-quality visual performance and proper care of medical eyeglasses.

Teaching and learning strategies -9

The course relies on **interactive lectures** supported by clinical images and illustrative presentations, alongside the **discussion of real pathological cases** to apply theoretical concepts in practice. It also encourages **self-directed learning** through reports, seminars, and the review of recent scientific literature

. B. Course specific skill objectives

- Mastering the skills of **clinical eye examination** using basic instruments and tools for preliminary diagnosis.

- Applying **practical procedures** in diagnosing common eye diseases such as strabismus and refractive errors.
- Developing the ability to **analyze clinical cases** and link them with theoretical knowledge to reach an appropriate treatment plan.
- Enhancing **medical communication skills** with patients and colleagues through the preparation of scientific reports and seminars.

Teaching and learning methods

In-person education (scientific films and videos, Laboratories, summer and (professional 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 on the subject seminars on the study subjects , discussions and conversations during the . lesson

C. Affective and value- based goals

Providing students with a deep knowledge and understanding of how laser technologies work in the field of vision care, appreciating their role in improving visual acuity, emphasizing the importance of precision and sensitive patient .care, and building high ethical and professional values in them

(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects

- **Evaluation methods**

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Spectacle, parts of spectacle	Knowledge & Application	**2 theory + 3 practical**	**the first**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Spectacle frames and measurements for different types of spectacles	Knowledge & Application	**2 theory + 3 practical**	**the second**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	How to maintain eyeglasses	Knowledge & Application	**2 theory + 3 practical**	**the third**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	B.V.P (Back Vertex Power)	Knowledge & Application	**2 theory + 3 practical**	**Fourth**

Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Decentration (single lens and bifocal lens)	Knowledge & Application	**2 theory + 3 practical**	**Fifth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Lenticular lenses (spherical (+) or (-))	Knowledge & Application	**2 theory + 3 practical**	**Sixth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Bifocal glasses and how to fit bifocals	Knowledge & Application	**2 theory + 3 practical**	**Seventh**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Progressive glasses	Knowledge & Application	**2 theory + 3 practical**	**The eighth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Auto reflection coating for different materials, method of lens tinting	Knowledge & Application	**2 theory + 3 practical**	**Ninth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Prism lens and stages of making prism lens	Knowledge & Application	**2 theory + 3 practical**	**tenth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Image jump, productive and safety glasses	Knowledge & Application	**2 theory + 3 practical**	**eleventh**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Variation in the size of the retinal image	Knowledge & Application	**2 theory + 3 practical**	**twelfth**

Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Spectacle, parts of spectacle (revision)	Knowledge & Application	**2 theory + 3 practical**	**thirteenth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Spectacle frames and measurements for different types of spectacles (revision)	Knowledge & Application	**2 theory + 3 practical**	**fourteenth**
Reports, oral and written theoretical exam	Blackboard, PowerPoint slides, practical experiments	Revision	Knowledge & Application	**2 theory + 3 practical**	**fifteenth**

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	**Main References (Sources)**
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

Kind alternatives	**Course name -1**
OPT 406	**Course code -2**
Second Semester 2026/2027	**Semester/Year -3**
1/9/2025	**Date of preparation of the -4 description**
Practical and face-to-face lectures	**Available forms of -5 attendance**
30 theoretical hours + 45 practical hours 2 units	**/ Number of credit hours (total) -6 Number of units (total)**
	Name of the course supervisor -7 mention all names, if there is more) (than one name

Course objectives -8

The course aims to enable students to identify the types of medical frames and lenses required by patients and to order them using numerical language. It also equips students with the ability to select appropriate spectacles and apply proper maintenance methods, ensuring high-quality visual performance and proper care of medical eyeglasses.

Teaching and learning strategies -9

The course relies on **interactive lectures** supported by clinical images and illustrative presentations, alongside the **discussion of real pathological cases** to apply theoretical concepts in practice. It also encourages **self-directed learning** through reports, seminars, and the review of recent scientific literature

. B. Course specific skill objectives

- Learning how to take an impression of the eye or facial defect using appropriate materials and tools.
- Designing a wax model for the ocular prosthesis and modifying it according to the patient’s condition.

- Acquiring the skill of selecting suitable materials and devices used in manufacturing ocular and facial prostheses.
- Mastering the steps of fabricating a complete ocular prosthesis from start to final form.
- Developing the ability to evaluate patient conditions and determine the most suitable prosthesis in terms of form and function.
- **Teaching Methods:** Face-to-face instruction (scientific films and videos, laboratories, summer and professional training, graduation projects). **Clinical Training:** Hospital visits and practical training supervised by specialized medical staff.
- **Assessment Methods:** Daily quizzes, midterm and final exams, weekly reports, seminars, and practical discussions during hospital sessions.

Teaching and learning methods

The course seeks to foster professional and ethical responsibility in dealing with patients, while reinforcing values of compassion and humanity in providing visual care. It also instills commitment to quality standards and scientific integrity, in addition to promoting teamwork and collaboration in both academic and clinical environments.

Evaluation methods

Daily tests, semester exams, final exams, weekly reports on the subject seminars on the study subjects , discussions and conversations during the . lesson

C. Affective and value- based goals

Providing students with a deep knowledge and understanding of how laser technologies work in the field of vision care, appreciating their role in improving visual acuity, emphasizing the importance of precision and sensitive patient .care, and building high ethical and professional values in them

(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects

- **Evaluation methods**

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Assessment Methods	Teaching Methods	Unit / Topic	Learning Outcomes	Hours (Theory + Practical)	Week
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Anatomy of the eye	Knowledge & Application	2 theory + 3 practical	**the first**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Introduction to the ocular prosthesis	Knowledge & Application	2 theory + 3 practical	**the second**
Reports, oral and written	Blackboard, PowerPoint slides,	Types of ocular prosthesis (advantages and disadvantages)	Knowledge &	2 theory + 3	**the third**

theoretical exams	practical experiments		Application	practical	
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Causes of eye and facial damage	Knowledge & Application	2 theory + 3 practical	**Fourth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Types of eye damage	Knowledge & Application	2 theory + 3 practical	**Fifth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Materials used for ocular and orbital prosthesis	Knowledge & Application	2 theory + 3 practical	**Sixth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Instruments and devices used for ocular prosthesis	Knowledge & Application	2 theory + 3 practical	**Seventh**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Patient assessment for ocular and orbital prosthesis	Knowledge & Application	2 theory + 3 practical	**The eighth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Impression materials for ocular and orbital prosthesis	Knowledge & Application	2 theory + 3 practical	**Ninth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Impression of the eye defect	Knowledge & Application	2 theory + 3 practical	**tenth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides,	Types of wax pattern ocular prosthesis	Knowledge & Application	2 theory + 3	**eleventh**

	practical experiments			practical	
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Wax pattern for ocular defect	Knowledge & Application	2 theory + 3 practical	**twelfth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Wax pattern for facial defect	Knowledge & Application	2 theory + 3 practical	**thirteenth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Try-in of anterior and posterior wax pattern on patient with modifications	Knowledge & Application	2 theory + 3 practical	**fourteenth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Fabrication of the complete artificial eye from the wax pattern	Knowledge & Application	2 theory + 3 practical	**fifteenth**

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	**Main References (Sources)**
	Recommended books and references (scientific (...journals, reports

	Electronic references and websites

Eye rays and sonar	**Course name -1**
OPT 409	**Course code -2**
first Semester 2026/2027	**Semester/Year -3**
1/9/2025	**Date of preparation of the -4 description**
Practical and face-to-face lectures	**Available forms of -5 attendance**
30 theoretical hours + 45 practical hours 2 units	**/ Number of credit hours (total) -6 Number of units (total)**
	Name of the course supervisor -7 mention all names, if there is more) (than one name

Course objectives -8

Understand the fundamentals of using X-rays and ultrasound in diagnosing eye diseases.

Learn how to operate and maintain radiological imaging devices and perform ocular ultrasound examinations.

Acquire the skill of interpreting radiological images and ultrasound finding

Teaching and learning strategies -9

The course relies on **interactive lectures** supported by clinical images and illustrative presentations, along with **discussion of real pathological cases** to apply theoretical concepts in practice. It also encourages **self-directed learning** through reports, seminars, and the review of recent scientific literature.

- **Perform ocular examinations using X-ray and ultrasound devices.**
- **Interpret radiological images and examination reports, linking them to clinical cases.**
- **Diagnose common eye diseases such as tumors, internal hemorrhage, or retinal detachment using imaging techniques.**
- **Develop the skill of preparing accurate medical reports after examinations.**
- **Acquire the ability to communicate scientifically with physicians and colleagues when discussing examination results.**

Teaching Methods: Face-to-face instruction (scientific films and videos, laboratories, summer and professional training, graduation projects). Clinical Training: Hospital visits and practical training supervised by specialized medical staff.

Assessment Methods: Daily quizzes, midterm and final exams, weekly reports, seminars, and practical discussions during hospital sessions.

Teaching and learning methods

The course seeks to foster professional and ethical responsibility in dealing with patients, while reinforcing values of compassion and humanity in providing visual care. It also instills commitment to quality standards and scientific integrity, in addition to promoting teamwork and collaboration in both academic and clinical environments.

Evaluation methods

Daily tests, semester exams, final exams, weekly reports on the subject seminars on the study subjects , discussions and conversations during the . lesson

C. Affective and value- based goals

Providing students with a deep knowledge and understanding of how laser technologies work in the field of vision care, appreciating their role in improving visual acuity, emphasizing the importance of precision and sensitive patient .care, and building high ethical and professional values in them

(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects

- **Evaluation methods**

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Assessment Methods	Teaching Methods	Unit / Topic	Learning Outcomes	Hours (Theory + Practical)	Week
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Introduction to radiology, X-ray	Knowledge & Application	2 theory + 3 practical	**the first**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides,	Standard orbital views, orbital anatomy, radiographic changes in pathology	Knowledge & Application	2 theory + 3	**the second**

	practical experiments			practical	
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Foreign body localization by plain X-ray film	Knowledge & Application	2 theory + 3 practical	**the third**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Introduction to CT of the orbit	Knowledge & Application	2 theory + 3 practical	**Fourth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Optic nerve tumors, orbital tumors (primary, secondary, metastasis) by CT-scan	Knowledge & Application	2 theory + 3 practical	**Fifth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Introduction to MRI of the orbit, physical principles of MRI	Knowledge & Application	2 theory + 3 practical	**Sixth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Clinical applications of MRI in orbital diseases	Knowledge & Application	2 theory + 3 practical	**Seventh**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Trauma and tumors of the orbit by MRI	Knowledge & Application	2 theory + 3 practical	**The eighth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Advantages and disadvantages of MRI vs. CT-scan	Knowledge & Application	2 theory + 3 practical	**Ninth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides,	Introduction to ultrasonography, ultrasound biomicroscopy (UBM)	Knowledge & Application	2 theory + 3	**tenth**

	practical experiments			practical	
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Diagnostic orbital ultrasonography	Knowledge & Application	2 theory + 3 practical	**eleventh**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	A-scan and B-scan ultrasonography	Knowledge & Application	2 theory + 3 practical	**twelfth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Indications of orbital ultrasonography	Knowledge & Application	2 theory + 3 practical	**thirteenth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	Ophthalmic ultrasound and ultrasound biomicroscopy	Knowledge & Application	2 theory + 3 practical	**fourteenth**
Reports, oral and written theoretical exams	Blackboard, PowerPoint slides, practical experiments	How to write an ultrasound report	Knowledge & Application	2 theory + 3 practical	**fifteenth**

Course Evaluation -11
Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available

Internet	Main References (Sources)
American Academy of Ophthalmology • Textbook of Radiology and Imaging	Recommended books and references (scientific (...journals, reports
	Electronic references and websites

Workshop of Optical Technologies	Course name -1
OPT 410	Course code -2
Second Semester 2026/2027	Semester/Year -3
1/9/2025	Date of preparation of the -4 description
Practical, Face-to-Face Lectures	Available forms of -5 attendance
60 Practical Hours / 4 Units	/ Number of credit hours (total) -6 Number of units (total)
	Name of the course supervisor -7 mention all names, if there is more) (than one name
Course objectives -8	
Enable students to understand how medical spectacles work and differentiate between them, while acquiring the ability to manage the optical workshop professionally and practically.	
Teaching and learning strategies -9	

Equip students with the ability to identify how medical spectacles function and distinguish between different types, master examination and practical application skills, and develop workshop management skills including work organization, quality control, and efficient use of tools and devices.
• **Develop professional and ethical responsibility in dealing with patients, reinforce compassion and humanity in providing visual care, instill commitment to quality standards and scientific integrity, and strengthen Teamwork, computer .teamwork in academic and clinical environments typing, English communication, work endurance and problem-solving, online communication skills.**
Teaching and learning methods
Interactive lectures supported by clinical images and demonstrations **Real case discussions to apply theoretical concepts practically** **Self-directed learning through reports, seminars, and recent scientific readings** **Practical training: scientific films, laboratory work, summer and professional training, graduation projects** **Field visits and hospital-based training by specialized medical staff**
Evaluation methods
Daily quizzes **Midterm and final examinations (oral and written)** **Weekly reports** **Seminars within the course** **Practical discussions and conversations during hospital-based training**
C. Affective and value- based goals Providing students with a deep knowledge and understanding of how laser technologies work in the field of vision care, appreciating their role in improving visual acuity, emphasizing the importance of precision and sensitive patient .care, and building high ethical and professional values in them

(In-person lectures), summer and professional training, graduation projects . field visits, and practical training in clinical subjects

- **Evaluation methods**

Daily, midterm and final exams , weekly reports Patient seminars, clinical follow-up reports, and practical discussions followed by the practical lesson in . the hospital

D. General and transferable skills (other skills related to employability and . (personal development

.D1 . Skills of cooperation and teamwork

.D2 . Computer typing skills

.D3 . English communication skills

.D4 . Skills of enduring work performance and solving problems

. D5 . Internet conversation skills

Course structure -10

Assessment Methods	Teaching Methods	Unit / Topic	Learning Outcomes	Hours (Theory + Practical)	Week
Reports, Oral & Written Exams	Blackboard, PowerPoint, Practical Experiments	Introduction	Knowledge & Application	4 Practical	**the first**

Reports, Oral & Written Exams	Blackboard, PowerPoint, Practical Experiments	Types of lenses	Knowledge & Application	4 Practical	**the second**
Reports, Oral & Written Exams	Blackboard, PowerPoint, Practical Experiments	IPD measurement	Knowledge & Application	4 Practical	**the third**
Reports, Oral & Written Exams	Blackboard, PowerPoint, Practical Experiments	IPD measurement	Knowledge & Application	4 Practical	**Fourth**
Reports, Oral & Written Exams	Blackboard, PowerPoint, Practical Experiments	Drawing patterns of different frames	Knowledge & Application	4 Practical	**Fifth**
Reports, Oral & Written Exams	Blackboard, PowerPoint, Practical	Drawing patterns of different frames	Knowledge & Application	4 Practical	**Sixth**

	Experiments				
Reports, Oral & Written Exams	Blackboard, PowerPoint, Practical Experiments	Drawing patterns of different frames	Knowledge & Application	4 Practical	**Seventh**
Reports, Oral & Written Exams	Blackboard, PowerPoint, Practical Experiments	Determining cylinder lens center & axis	Knowledge & Application	4 Practical	**The eighth**
Reports, Oral & Written Exams	Blackboard, PowerPoint, Practical Experiments	Determining cylinder lens center & axis	Knowledge & Application	4 Practical	**Ninth**
Reports, Oral & Written Exams	Blackboard, PowerPoint, Practical Experiments	Determining cylinder lens center & axis	Knowledge & Application	4 Practical	**tenth**
Reports, Oral & Written Exams	Blackboard, PowerPoint,	Transposition	Knowledge & Application	4 Practical	**eleventh**

	Practical Experiments				
Reports, Oral & Written Exams	Blackboard, PowerPoint, Practical Experiments	Cutting lenses	Knowledge & Application	4 Practical	**twelfth**
Reports, Oral & Written Exams	Blackboard, PowerPoint, Practical Experiments	Cutting lenses	Knowledge & Application	4 Practical	**thirteenth**
Reports, Oral & Written Exams	Blackboard, PowerPoint, Practical Experiments	Cutting lenses	Knowledge & Application	4 Practical	**fourteenth**
Reports, Oral & Written Exams	Blackboard, PowerPoint, Practical Experiments	Cutting lenses	Knowledge & Application	4 Practical	**fifteenth**

Course Evaluation -11

Student activities and reports, oral and written theoretical and practical exams

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Learning and Teaching Resources - 12	
	Required textbooks (curriculum (books, if available
Internet	**Main References (Sources)**
	Recommended books and references (scientific (...journals, reports
	Electronic references and websites