

Course Description Form

1. Course Name:	
Research Methodology	
2. Course Code:	
MTOP3207	
3. Semester / Year:	
2 nd Semester/Third	
4. Description Preparation Date:	
25/2/2025	
5. Available Attendance Forms:	
Physical Presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30 Credit hours/4 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: hassan yossry Email: hassan.yossry_pg@alexu.edu.eg	
8. Course Objectives	
Course Objectives	• General objective: The student will be able to prepare the research correctly • Specific objective: The student will be able to: ○ Identify the different types of studies, how to conduct them, and the objectives and obstacles of each study. ○ Identify the methods of research models and statistical analysis tools.
9. Teaching and Learning Strategies	

Strategy	• Interactive lecture • Dialogue and discussion • Research-based learning
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theoretical	(A6) Analysis and interpretation of research results through the definition of the research and its characteristics	Research; definitions, characteristics, and types	Interactive lectures + exercises	Paper and oral exams and reports
2	2 Theoretical	(A6) Analysis and interpretation of research results through scientific research principles	Principles of research.	Interactive lectures + exercises	Paper and oral exams and reports
3	2 Theoretical	(c5) Adherence to the use of established practices and scientific methods	Scientific Methods	Interactive lectures + exercises	Paper and oral exams and reports
4	2 Theoretical	(A6) Analyzing and interpreting research results through knowledge of	Materials and Methods	Interactive lectures + exercises	Paper and oral exams and reports

		scientific research materials and tools.			
5	2 Theoretical	(A6) Analyzing and interpreting research results through knowledge of data collection methods in analytical research.	Methods of Data Collection	Interactive lectures + exercises	Paper and oral exams and reports
6	2 Theoretical	(A6) Analyzing and interpreting research results through knowledge of data collection methods in analytical research.	Analytic studies	Interactive lectures + exercises	Paper and oral exams and reports
7	2 Theoretical	(A6) Analyzing and interpreting research results through knowledge of variable analysis and its relationship to the research.	Variables	Interactive lectures + exercises	Paper and oral exams and reports
8	2 Theoretical	(A6) Analysis and interpretation of research results through classification	Classification of research	Interactive lectures + exercises	Paper and oral exams and reports

9	2 Theoretical	(c5) Adherence to the use of evidence-based practices through empirical research.	Intervention studies (experimental)	Interactive lectures + exercises	Paper and oral exams and reports
10	2 Theoretical	(A6) Analysis and interpretation of the results of experimental studies	Pilot study	Interactive lectures + exercises	Paper and oral exams and reports
11	2 Theoretical	(c5) Adherence to the use of evidence-based practices through peer studies	Cohort study	Interactive lectures + exercises	Paper and oral exams and reports
12	2 Theoretical	(c5) Adherence to the use of evidence-based practices through review of scientific literature in research.	Introduction and literature review	Interactive lectures + exercises	Paper and oral exams and reports
13	2 Theoretical	(c5) Adherence to the use of evidence-based practices through review of scientific literature in research.	Literature review in research project	Interactive lectures + exercises	Paper and oral exams and reports
14	2 Theoretical	(c5) Adherence to the use of	Research proposal protocol	Interactive lectures + exercises	Paper and oral exams and reports

		evidence-based practices through the use of appropriate protocols in proposing research.			
15	2 Theoretical	(A6) Analysis and interpretation of research problems	Research Problem Formation	Interactive lectures + exercises	Paper and oral exams and reports

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

1. Monthly Exam: 70 marks
2. Semester Exam: 25 marks
3. Interaction: 1 mark
4. Research: 4 marks

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Creswell, John W., and J. David Creswell. Research design: Qualitative, quantitative, and mixed methods approaches. Sage publications, 2017.
Recommended books and references (scientific journals, reports...)	Dane, Francis C., and Elliot Carhart. Evaluating research: Methodology for people who need to read research. Sage Publications, 2022.
Electronic References, Websites	

Course Description Form

1. Course Name:	
Refractive Errors 4	
2. Course Code:	
MTOP3204	
3. Semester / Year:	
2 nd semester/third year	
4. Description Preparation Date:	
09/02/2025	
5. Available Attendance Forms:	
Physical Presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
6 Credit Hours/4 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Qassim Aboud Yasser Email:	
8. Course Objectives	
Course Objectives	General objective: Identify the types of visual defects. Specific objective: Diagnose refractive errors and determine methods of treatment and correction.
9. Teaching and Learning Strategies	
Strategy	- Interactive Lecture - Dialogue and Discussion - Exercises - Self-learning - Learning by Exploration

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theory+ 4 Practical	(A2)	Accommodation (definition & types).	Lectures Interactive + Scientific Experiments + Exercises	Paper, practical, oral exams and reports
2	2 Theory+ 4 Practical	(A2)	Mechanism of accommodation.	Lectures Interactive + Scientific Experiments + Exercises	Paper, practical, oral exams and reports
3	2 Theory+ 4 Practical	(A2) Description, causes, symptoms, classification of Squint	Convergence of accommodation (convergence treatment).	Lectures Interactive + Scientific Experiments + Exercises	Paper, practical, oral exams and reports
4	2 Theory+ 4 Practical	(A2)	Accommodation insufficiency.	Lectures Interactive + Scientific Experiments + Exercises	Paper, practical, oral exams and reports
5	2 Theory+ 4 Practical	(A2)	Paralysis of accommodation.	Lectures Interactive + Scientific Experiments + Exercises	Paper, practical, oral exams and reports
6	2 Theory+ 4 Practical	(A2)	Writing prescription.	Lectures Interactive + Scientific Experiments + Exercises	Paper, practical, oral exams and reports
7	2 Theory+ 4 Practical	(A2)	Transposition.	Lectures Interactive + Scientific Experiments + Exercises	Paper, practical, oral exams and reports
8-9	4 Theory+ 8 Practical	(A2)	Treatment of refractive errors.	Lectures Interactive + Scientific Experiments + Exercises	Paper, practical, oral exams and reports
10	2 Theory+ 4 Practical	(A2)	Contrast sensitivity (instrument of low vision).	Lectures Interactive + Scientific Experiments + Exercises	Paper, practical, oral exams and reports

11	2 Theory+ 4 Practical	(A2)	Color blindness definition & types.	Lectures Interactive + Scientific Experiments + Exercises	Paper, practical, oral exams and reports
12	2 Theory+ 4 Practical	(A2)	Diagnosis of color blindness.	Lectures Interactive + Scientific Experiments + Exercises	Paper, practical, oral exams and reports
13	2 Theory+ 4 Practical	(A2)	Color deficiency.	Lectures Interactive + Scientific Experiments + Exercises	Paper, practical, oral exams and reports
14	2 Theory+ 4 Practical	(A2)	Management of color blindness & treatment.	Lectures Interactive + Scientific Experiments + Exercises	Paper, practical, oral exams and reports
15	2 Theory+ 4 Practical	Review	Revision	Lectures Interactive + Scientific Experiments + Exercises	Paper, practical, oral exams and reports

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

1. Monthly Exam: 25 marks
2. Semester Exam: 70 marks
3. Interaction: 1 mark
4. Reports: 1 mark
5. Oral Exam: 2 marks
6. Practical Exam: 1 mark

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Shukla, Y. (2015). Management Refractive Errors & Prescription Spectacles. JP Medical Ltd.
Recommended books and references (scientific journals, reports...)	, Lens, A. (2024). Optics, retinoscopy, a refractometry. CRC Press.
Electronic References, Websites	www.eyewiki.org

1- Course name:					
Optical instrument 4					
2. Course code:					
MTOP3205					
3. Stage \ semester					
Third stage /second semester					
4. Date this description was prepared					
2025-2-1					
5. Available forms of attendance					
Attendance					
6. Number of study hours (total) / Number of units (total)					
4/105					
7. Name of the course administrator (if more than one name is mentioned)					
Name: Hashim Fadhil Abbas Email: abbas.hashim@alayen.edu.iq					
8-Subject objectives					
Subject objectives			The student must be familiar with all optical devices their use. He must be able to operate the devices and how maintain them.		
9. Teaching and learning strategies					
Strategy		1- Interactive lecture 2- Laboratory experiments 3 -Dialogue and discussion 4- Self-learning 5-Brainstorming			
10. Course structure					
Week	Hours	Name of the unit or topic	Required learning outcomes	Learning method	Evaluation method
1+2	4 theory + 8 practical	Heidelberg analmascope	B1) Perform color vision testing and visual field	Interactive Lectures + Lab	Paper, practical, oral exams and reports

			assessments accurately using appropriate equipment.	Experiment s+ Tutorials	
3+4	4theoretical + 8 practical	Pachometer	B1) Performing tests to measure the central part of your cornea and visual field assessments accurately using the appropriate equipment.	Interactive Lectures + Lab Experiments+ Tutorials	Paper, practical, oral exams and reports
5	2theoretical practical	Dark adaptometer	B1) Perform dark adaptation tests and visual field assessments accurately using appropriate equipment.	Interactive Lectures + Lab Experiments+ Tutorials	Paper, practical, oral exams and reports
6	2theoretical practical	Electroretinography: principle the wave, the b-wave, normal ERG.	B1) Conducting cone sensor adaptation tests and visual field assessments accurately using appropriate equipment.	Interactive Lectures + Lab Experiments+ Tutorials	Paper, practical, oral exams and reports
7	2theoretical practical	Electroretinography: scotopic ERG., photo ERG.	B1) Perform dark adaptation tests and visual field assessments accurately using appropriate equipment.	Interactive Lectures + Lab Experiments+ Tutorials	Paper, practical, oral exams and reports
8	2theoretical practical	Electroretinography: multifocal ERG.	B2) operate and calibrate various vision testing equipment to accurately assess dark adaptation, while adhering to infection control procedures	Interactive Lectures + Lab Experiments+ Tutorials	Paper, practical, oral exams and reports
9	2theoretical practical	Electro-oculography: principle , technique	B2) operate and calibrate various vision testing equipment to accurately assess vision and strabismus, while adhering to infection control procedures.	Interactive Lectures + Lab Experiments+ Tutorials	Paper, practical, oral exams and reports
10	4theoretical practical 8	YAG laser	B2) Operate and calibrate various laser-assisted vision testing equipment to accurately assess strabismus, adhering to infection control procedures + practicing maintenance and	Interactive Lectures + Lab Experiments+ Tutorials	Paper, practical, oral exams and reports

			sterilization policies for equipment to prevent cross-contamination and ensure patient safety		
11	2theoretical practical	Contact lens ,intraocular lens, diagnostic lens	B2)Operate and calibrate contact lenses, examine various vision tests to accurately assess amblyopia, and adhere to infection control procedures.	Interactive Lectures + Lab Experiments+ Tutorials	Paper, practical, oral exams and reports
12	2 theoretical 4 practical	Gonioscope	B1)Perform glaucoma screening tests using appropriate equipment + practice equipment maintenance and sterilization policies to prevent cross-contamination and ensure patient safety	Interactive Lectures + Lab Experiments+ Tutorials	Paper, practical, oral exams and reports
13	2theoretical practical	Perimeter manual and automated.	B1)Perform visual field assessments accurately using appropriate equipment + practice equipment maintenance and sterilization policies to prevent cross-contamination and ensure patient safety	Interactive Lectures + Lab Experiments+ Tutorials	Paper, practical, oral exams and reports
14	2theoretical practical	Perimeter manual and automated.	B1)Perform visual field tests accurately using appropriate equipment + practice equipment maintenance and sterilization policies to prevent cross-contamination and ensure patient safety	Interactive Lectures + Lab Experiments+ Tutorials	Paper, practical, oral exams and reports
15	2theoretical practical	review	Comprehensive review of optical equipment, oral evaluation of students, emphasis on equipment maintenance and sterilization	Interactive Lectures + Lab Experiments+ Tutorials	Paper, practical, oral exams and reports

11. Course Evaluation

The grade is distributed out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly and written exams, reports, etc.

1. Monthly exam 15 points
2. Semester exam 70 points
3. Interaction 2 points
4. Reports 1 point

12. Learning and teaching resources	
Required textbooks (methodology if any)	1-Ophthalmic Instruments and Surgical Tools 2-Diagnostic Instruments
Main References (Sources)	1-Ophthalmic Instruments and Surgical Tools
Recommended supporting books and references (scientific journals, reports...)	1-Ophthalmic Instruments and Surgical Tools
Electronic references, websites	1-ISO 7921:2024 (en), Ophthalmic optics instruments — Near reading charts: 2-Ophthalmic Surgical Instruments - Academia.edu 3-Ophthalmic Instruments and Surgical Tools SpringerLink:

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