Jordan University of Science and Technology

Faculty of Applied Medical Sciences

Optometry Department

OPT.362 Instrumentation And Investigative Techniques - JNQF Level: 7

Second Semester 2023-2024

Course Catalog
2 Credit Hours. The optometric instrumentation course is designed to provide students with a comprehensive understanding of the various tools and equipment used in optometry practice. The course typically covers a range of topics including the principles of operation, proper usage, maintenance, and interpretation of data obtained from instrumentation commonly employed in eye care. Students will learn about a variety of instruments such as slit lamps, retinoscopes, autorefractors, keratometers, tonometers, ophthalmoscopes, and more. Emphasis is placed on understanding the underlying principles of each instrument, including optics, mechanics, and electronics. Through a combination of lectures, laboratory sessions, and hands-on demonstrations, students will gain practical experience in using these instruments. They will learn how to properly handle, calibrate, and troubleshoot equipment to ensure accurate and reliable measurements. Additionally, the course may include discussions on emerging technologies and advancements in optometric instrumentation, preparing students to adapt to changes in the field and stay current with best practices. Overall, the optometric instrumentation course aims to equip students with the knowledge and skills necessary to effectively utilize instrumentation in the assessment, diagnosis, and management of ocular conditions in clinical practice
Teaching Method: On Campus

Text Book	
Title	Optometric Instrumentation
Author(s)	David Henson
Edition	4th Edition
Short Name	1.
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
2	Manual for Eye Examination and Diagnosis	Mark W. Leitman MD,	1st Edition	DOI:10.1002/9781119630630

Instructor	
Name	**Prof. May Bakkar**
Office Location	FAMS -LEVEL 0
Office Hours	
Email	mmbakkar@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Sun, Tue : 08:30 - 09:30 Room: M3301

Prerequisites		
Line Number	**Course Name**	**Prerequisite Type**
1103630	OPT.363 Optometry Theory Exmination(2) Lab	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Week 1	assessment of the anterior segment of the eye using Slit-lamp biomicroscopy	From **1.**, From **2**
Week 2	Keratometry	From **1.**, From **2**
Week 3	Corneal topography	From **1.**, From **2**
Week 4	Pachymetry	From **1.**, From **2**
Week 5	A-scan biometry & B-scan ultrasonography	
Week 6	ophthalmoscopy and Tonometry	From **1.**, From **2**
Week 8	Ocular coherence tomography	From **1.**, From **2**
Week 10	Fluorescein Angiography	From **1.**, From **2**
Week 7	Perimetry	From **1.**, From **2**

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Demonstrate a comprehensive understanding of the principles and concepts behind various instrumentation used in optometry, including but not limited to anterior segment devices (slit lamps, keratometers, and corneal topography and pachymetery etc) tonometer and posterior segment instrumentation (Fluorescein angiography, OCT, perimetry). [1PLO 3, 1PLO 5] [1L7K1]	25%	Midterm exam, Final Exam
Demonstrate a comprehensive understanding of the indications of selected optometric instrumentation and the ocular anatomical structure and ocular pathology that linked to the usage with such instrumentation. [1PLO 5] [1L7K1]	25%	Midterm exam, Final Exam
Apply critical thinking skills to analyze and interpret data obtained from instrumentation in optometry, enabling accurate diagnosis and treatment planning for a variety of ocular conditions. [1PLO 4] [1L7S2]	50%	Midterm exam, Final Exam

Relationship to Program Student Outcomes (Out of 100%)								
PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9
		12.5	50	37.5				

Relationship to NQF Outcomes (Out of 100%)	
L7K1	L7S2
50	50

Evaluation	
Assessment Tool	**Weight**
Midterm exam	50%
Final Exam	50%

Policy

course policy	Statement on Professionalism Professional behavior is expected of students at all times. Attitude and professional behavior are a minimum criterion for passing this class. Examples of unprofessional behavior include but are not limited to: missing classes, tardiness, lack of attention for a speaker, talking to others during lecture, leaving a lecture prior to its completion without prior authorization of the instructor, working on other class material during class, and sleeping during class. Cheating University regulations will be applied on cases of cheating and/or plagiarism Cell phone The use of cellular phone is prohibited in class rooms and during exams. The cellular phone must be switched off in class rooms and during exams. Attendance No points will be count for points attendance of this class, however attending the lectures will greatly enhance your grade. The student is responsible for any information discussed in lecture sessions. It is imperative to attend all classes! Absences: University regulations will be applied. Students are not allowed to be absent for more than 20% of lectures for any reason or excuse. If a student exceeds the absence limit, he or she will not be allowed to sit for future course exams. (Please review university regulation for more details) Make-up Exam Make-up exams is entitled for students who miss the exam with accepted legal or medical excuse endorsed by the instructor within 24 hours after the scheduled exam (Please review university regulation for more details) Feedback Concerns, complaints, questions, and/or feedback are appreciated and will be important for the instructor. You can contact your instructor using the e-mail or during office hours

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