Jordan University of Science and Technology

Faculty of Applied Medical Sciences

Optometry Department

OPT.351 Ophthalmic Lenses And Dispensing (2) - JNQF Level: 6

First Semester 2023-2024

Course Catalog
2 Credit Hours. Advanced Ophthalmic Lenses and Dispensing II is an in-depth course that builds upon the foundational knowledge gained in the introductory level course. This advanced course focuses on intricate aspects of ophthalmic lenses and dispensing, equipping students with specialized skills and expertise necessary for professional practice in optometry, ophthalmology, or opticianry. The course curriculum is structured around key topics essential for mastering advanced lens technologies and dispensing techniques. Students will delve into the following areas: Frame Measurements and Markings: Understanding the significance of accurate frame measurements and markings in ensuring proper lens alignment and fit. Practical exercises will cover techniques for measuring pupillary distance, frame dimensions, and other critical parameters essential for precise lens positioning. Lens De-Centration and Prisms: Monocular: Exploring the principles of lens de-centration and prism correction for monocular vision disorders. Students will learn to calculate and apply prism corrections effectively to address visual distortions caused by eye misalignment, enabling optimal visual clarity and comfort for patients. Lens De-Centration: Bifocal Lenses: Analyzing the complexities of lens de-centration specific to bifocal lenses. Practical demonstrations will illustrate techniques for determining the appropriate placement of bifocal segments based on patient prescription and visual needs, ensuring seamless transition between near and distance vision. Progressive Lenses Verification and Edging: Mastering the verification and edging processes for progressive addition lenses (PALs), including techniques for assessing lens parameters such as corridor width, near and intermediate zones, and lens power distribution. Hands-on practice will enable students to verify and edge progressive lenses accurately, maintaining optical precision and visual comfort. Blocking: Understanding the importance of proper blocking techniques in lens finishing processes. Students will learn to securely mount lenses onto blocking pads for subsequent edging, ensuring stability and alignment throughout the lens edging process. Lens Edging: Acquiring advanced skills in lens edging procedures using automated edging systems. Practical sessions will cover techniques for selecting appropriate edging tools, configuring edging parameters, and executing precise lens cuts to achieve desired frame fit and aesthetic outcomes. Coating and Lens Tinting: Exploring the application of lens coatings and tinting for enhancing visual performance and protection. Students will learn about various coating options, such as anti-reflective coatings and photochromic tints, and their benefits in reducing glare, enhancing contrast, and providing UV protection. Base Curve, Vertex Distance: Understanding the significance of base curve and vertex distance in lens prescription and fitting. Students will learn to calculate and adjust base curve and vertex distance parameters to optimize lens performance and minimize aberrations for different prescription types and frame styles. Throughout the course, emphasis will be placed on practical application, critical thinking, and problem-solving skills. By mastering advanced ophthalmic lenses and dispensing techniques, students will be well-prepared to meet the diverse needs of patients and excel in their professional careers in the optical industry.

Text Book	
Title	System for Ophthalmic dispensing
Author(s)	Brooks & Borish

Edition	2nd Edition
Short Name	Ref #1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref #2	Clinical Optics Duke-Elder?s practice of refraction	Butterworth-Heinemann & Churchill livingstone	10th Edition	

Instructor	
Name	**Dr. Mohammad Anwar Alebrahim**
Office Location	Faculty of Applied Medical Sciences - GF
Office Hours	Sun : 14:30 - 15:30 Mon : 10:30 - 12:30 Tue : 14:30 - 15:30 Wed : 10:30 - 12:30
Email	maalebrahim@just.edu.jo

Class Schedule & Room

Section 1:
Lecture Time: Sun, Tue : 08:30 - 09:30
Room: M4201

Prerequisites

Line Number	Course Name	Prerequisite Type
1102540	OPT.254 Ophthalmic Lenses & Dispensing (1) Lab	Prerequisite / Study

Tentative List of Topics Covered

Weeks	Topic	References
Week 1	Introduction	From **Ref #1**
Weeks 1, 2	Frame measurements and markings (1)	From **Ref #1**
Week 3	Frame measurements and markings (2)	From **Ref #1**
Week 4	Lens De-Centration and prisms: Monocular	From **Ref #1**
Weeks 5, 6	Lens De-Centration: Bifocal lenses	From **Ref #1**
Weeks 7, 8	Lens De-Centration: Progressive lenses verification and edging	From **Ref #1**
Week 9	Blocking	From **Ref #1**

Week 10	Lens edging	From **Ref #1**
Weeks 11, 12	Coating and lens tinting	From **Ref #1**
Weeks 13, 14, 15	Base Curve, vertex distance	From **Ref #1**

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Demonstrate proficiency in accurately measuring frame dimensions and pupillary distance, and effectively applying this knowledge to ensure precise lens alignment and fit, thereby enhancing patient comfort and visual acuity. [1PLO 3] [1L6K1, 1L6S1]	25%	
Apply advanced principles of lens de-centration and prism correction to monocular vision disorders, calculating and implementing prism corrections effectively to address visual distortions caused by eye misalignment, ultimately improving patients' visual clarity and quality of life. [1PLO 1] [1L6K2]	25%	
Analyze and implement appropriate techniques for de-centration of bifocal lenses, ensuring optimal placement of bifocal segments based on patient prescription and visual requirements, facilitating seamless transition between near and distance vision for enhanced patient satisfaction and visual performance. [1PLO 2, 1PLO 3] [1L6K2, 1L6C4]	25%	
Master the verification and edging processes for progressive addition lenses (PALs), including assessment of corridor width, near and intermediate zones, and lens power distribution, enabling accurate verification and edging of progressive lenses to maintain optical precision and visual comfort for patients. [1PLO 1, 1PLO 7] [1L6C5]	25%	

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
37.5	12.5	37.5				12.5		

Relationship to NQF Outcomes (Out of 100%)				
L6K1	L6K2	L6S1	L6C4	L6C5
12.5	37.5	12.5	12.5	25

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

Policy

Code of Conduct and Academic Integrity Guidelines	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: 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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