

## Course Syllabus

**Course title and code :** Opto225OphthalmicOptics and Dispensing I

**Department :** Optometry and Vision Science

**Program in which the course is offered:** Optometry Doctor (OD)

**Credit hours:** 2 + 1 = 3 Credit Hours

**Total contact hours per semester :-45**

**Level at which this course is offered:**

Level 3 /1<sup>st</sup> Year

**Time:** Thursday 11-1/ **Location:** G2

**College member responsible for the course** Applied Medical Science:

**Contact information:**

**Menwah AL Matrafi** **Office Number: 245 Phone : 805483** **Office hours: Thursday 10-11**

### **Course Description**

This course will consist of one two hour lecture and one two hour lab per week over a period of ten weeks. It will cover ophthalmic materials, optical and physical characteristics of ophthalmic lenses, prisms and decentration, spheric and aspheric lenses, multifocal lenses, lens power measurement methods, lens power-thickness relationships and aberration theory and its application to lens design.

### **Course Objectives**

1. Summary of the main learning outcomes for students enrolled in the course.

Upon completion of this course, the student should be able to:

- the ophthalmic applications of physical and geometrical optics.
- Introduction to lens and lens materials,
- Plastic materials, Curvature,
- Surface powers and forms of lenses,
- Crossed cylinders,
- Toric lenses,
- Prisms,
- Risley prisms and Fresnel press-on prisms,
- Lens aberrations,
- Frames and mounting.

### **Required Text (s)**

1. System of for Ophthalmic Dispensing, Clifford W. Brooks 3<sup>rd</sup> Edition

- **Essential References**

- power point lectures presentation and handout

Topics to be covered	Week due	Contact hours
Introduction	1	9-2-2017
Introduction to ophthalmic Sign Convention Nomenclature Notations	2	16-2-2017
Ophthalmic Lens Materials <ul style="list-style-type: none"> <li>- manufacture of optical Glass</li> <li>- types of optical glass</li> <li>- Properties and desirable qualities of ophthalmic glass</li> <li>- Plastic lenses Materials</li> <li>- manufacturing processes for plastics lenses</li> <li>- CR39</li> <li>- Polycarbonates</li> <li>- Corlon lenses</li> <li>- Curvature</li> </ul>	3	23-2-2017
Power Specification and Measurement : <ul style="list-style-type: none"> <li>- Approximate power</li> <li>- Back vertex power</li> <li>- front vertex power</li> </ul>	4	2-3-2017
Lens Forms , Lens Clock and Base Curve: <ul style="list-style-type: none"> <li>- Flat Lens;</li> <li>- Curved lens (meniscus lens);</li> <li>- periscopic lenses</li> </ul>	5	9-3-2017
Identification of Lenses & Power Measurement: <ul style="list-style-type: none"> <li>- Hand neutralization</li> <li>- Rotation test, Astigmatic lenses, Crossed cylinders</li> </ul>	6	16-3-2017
Midterm 1	7	23-3-2017
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Transposition: Rules of transposition	8	30-3-2017
VOCATION		
Lens Thickness & Surface Power Measurements	9	18-4-2017
Midterm 2	10	20-4-2017
Ophthalmic prisms <ul style="list-style-type: none"> <li>Prismatic effects of cylindrical lenses</li> <li>Risley prisms and Fresnel press-on prisms</li> </ul>	11	27-4-2017
Lens aberrations	12	4-5-2017
Frames and mounting ( Types, Parts & Materials)	13	11-5-2017

### Practice to be done

Introduction to the lab

Identification of lenses' types (lens Materials)

Identification between Sphere lenses (Plus & Minus)

Identification of cylindrical lenses (Rotation test, Astigmatic Lenses)

Power Measurement (hand neutralization)

Lensometer (Sphere lenses)

Lensometer (Cylindrical lenses)

Toric lenses, Prisms, Risley prisms and Fresnel Press-on prisms

Specification of lenses, frames

Review (optional)

Dispensing workshop (edging & cutting lenses)

### Required Assignments:

Week	Exam	Marks
16-3-2017	1ST Mid-Term 1	20
4-5-2017	2 <sup>nd</sup> Mid-Term 2	20
-	Homework,	5
Week 13 11-5-2017	Practical Exam 15	15
-	Final Exam	40
	Total	100

### Course rules :

**Attendance:** Students should attend each session .

**Ask** for explanation if you are confused (in class, office hours, e-mail).

**Good luck**

**KING SAUD UNIVERSITY**  
**COLLAGE OF APPLIED MEDICAL SCIENCES**  
**DEPARTMENT OF Optometry and Vision Science**

***COURSE SYLLABUS-2<sup>nd</sup> semester 1437/1438***  
***Opto 255***  
***Lec.Menwah AL-Matrafi***

I have received a copy of the OPTO255 Course syllabus.

I have read the syllabus and understand its contents and intend to comply with the contents of this syllabus.

Date : .....

Student`s Name .....

Student`s mobile and email: .....

Student`s signature .....

