COURSE SPECIFICATION

(Physiology of the Eye)

Faculty of Medicine– Mansoura University

(A) Administrative information

(1) Programme offering the course:	Master degree of Ophthalmology programme
(2) Department offering the programme:	Ophthalmology department
(3) Department responsible for teaching the course:	Ophthalmology department
(4) Part of the programme:	Master degree of Ophthalmology programme 1st part.
(5) Date of approval by the Department`s council	31/7/ 2016
(6) Date of last approval of programme specification by Faculty council	9-8-2016
(7) Course title:	**Physiology of the Eye OPHT503**
(8) Course code:	**OPHT 503**
(9) Credit hours	1
(10) Total teaching hours:	15 hours

(B) Professional information

(1) Course Aims:

The broad aim of the course is to educate students about Physiology of the Eye also to provide the students with updated data and researches concerned the eye, adnexae and nervous system, including related general physiology (its laws and phenomena). This extends to the organisation, function, mechanism of action, regulation and adaptations of structures and their component tissues relevant to clinical methods of assessment (e.g. acuity, visual fields, electrodiagnostics, intraocular pressure).

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(2) Intended Learning Outcomes (ILOs):

On successful completion of the course, the candidate will be able to:

A- Knowledge and Understanding

A1	Recognize and describe Eyebrows, Eyelids, and Face: Structure and Function.
A2	Recognize and describe the lens and iris & pupil function.
A3	Recognize molecular basis of The Tear Film and factors affecting it
A4	Explain the basis of aqueous humor: Secretion and Dynamics and its effect on intraocular pressure.
A5	Discuss the physiologic basis of Ocular Circulation.
A6	Recognize the basics of Metabolism and Photochemistry of the Retina.
A7	Recognize physiologic basis of Colour Vision.
A8	Recognize physiologic basis of visual adaptation
A9	Recognize physiologic basis of Electrical Signals of the Retina and Visual Cortex.
A10	Recognize basis of Visual Function Testing.
A11	Explain the physiology of the Entoptic phenomena and after images.
A12	Explain physiology of Visual pathway Dysfunction.
A13	Explain d physiologic basis of binocular vision.
A14	Recognize and describe ocular motility.

B- Intellectual skills

I1	Comment on some clinical parameters such as: ERG, EOG, and VEP.
I2	Interpret the clinical situations resulting from physiological malfunction
I3	Interpret the variable methods for testing ocular functions.
I4	Integrate the physiology of the eye with other basic and clinical sciences.
I5	Choose the proper ocular therapy

(3) Course content:

Subjects	Lectures	Clinical	Laboratory	Field	Total Teaching Hours
1. **Protective mechanism** : Eyelids Lacrimal apparatus Cornea.	1				**15**
2. **Ocular circulation** .	**0.5**				
3. **Aqueous humour :**formation, Criculation , Function , Drainage,	**1**				
4. **Intra Ocular Pressure .** : factors influencing, pharmacology, measurment.	**1**				
5. **Vitreous body.**	**0.5**				
6. **Iris & Pupil:** Reflexes: light, near, pharmacology.	**1**				
7. Lens & accommodation.	**1**				
8. Light ;(Nature ,properities), photochemistry of vision & adaptation:(light, dark)	0.5				
9. Colour vision, Theories, colour blindness	1				
10. Sensory response (clinical fusion frequency)	0.5				
11. Electrical phenomenon of the eye: **ERG ,EOG, VEP**	**1**				
12. Visual acuity	**1**				
13. Entoptic phenomenon	**1**				
14. Metabolism: cornea, lens &retina	**1**				
15. Extra ocular muscle, supra nuclear control, Nystagmus	1				
16. Binocular vision	**1**				

17. Visual field.	**1**				

(4) Teaching methods:

4.1: Lecture

4.2: Practical class

4.3: Small group discussion with case study and problem solving

4.4: Tutorial

4.5: Seminars

4.6: Workshops

(4) Assessment methods:

5.1:Written Examination for assessment of ILOs knowledge & intellectual.

5.2: Oral examination for assessment of ILOs knowledge & intellectual.

5.3: MCQ examination for assessment of ILOs knowledge & intellectual.**5.4: Log book for activities for assessment of** : mainly for assessment of practical & transferrable skills which are accepted through attending different conferences, thesis discussions, seminars, workshops, attending scientific lectures as well as self learning.

5.5: seminars: the candidate should prepare and present at least one seminar in atopic related to the course and determined by the supervisors in front of the department staff .

Assessment schedule:

Assessment 1: written after 6 month from master registration

Assessment 2 : Oral exam 6 month from master registration

Assessment 3 : MCQ exam for continuous assessment of knowledge and intellectual skills at the end of the semester after 15 weeks

Assessment 4 Log book required activities to go through 1st part examination .

***Assessment 5*:** the candidate should prepare and present at least one seminar in atopic related to the course and determined by the supervisors in front of the department staff (without marks).

Percentage of each Assessment to the total mark:

Written exam: 180 Marks including 20% MCQ
Oral exam 120 Marks

Other assessment without marks: practical tests and exam, seminars and log book assessment are requirement of the 1st part exam.

(5) References of the course:

6.1: Text books:

- Physiology of the eye: by Duke elder,

6.2: Websites:

- rcoph.org.uk

6.3: Recommended books

- Physiology of the eye: by Duke elder,

(6) Facilities and resources mandatory for course completion:

- Lecture rooms: available in the department

Course content														
	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14
1.Protective mechanism : Eyelids Lacrimal apparatus	√		√											

Cornea.														
2.Ocular circulation .						√								
3.Aqueous humour :formation, Criculation , Function , Drainage,					√									
4.Intra Ocular Pressure . : factors influencing, pharmacology, measurment.					√									
5.Vitreous body.							√							
6.Iris & Pupil: Reflexes: light, near, pharmacology.			√											
7.Lens & accommodation.			√											
8.Light ;(Nature ,properities), photochemistry of vision & adaptation:(light, dark)							√							
9.Colour vision, Theories, colour blindness								√						
10.Sensory response (clinical fusion frequency)											√			
11.Electrical phenomenon of the eye: ERG ,EOG, VEP										√	√		√	
12.Visual acuity											√		√	
13.Entoptic phenomenon												√		
14.Metabolism: cornea, lens &retina						√								
15.Extra ocular muscle, supra nuclear control, Nystagmus														√
16.Binocular vision													√	
17.Visual field.											√			

Course content	I1	I2	I3	I4	I5
1.Protective mechanism : Eyelids Lacrimal apparatus Cornea.		√	√	√	√
2.Ocular circulation .		√	√	√	√
3.Aqueous humour :formation, Criculation , Function , Drainage,		√	√	√	√
4.Intra Ocular Pressure . : factors influencing, pharmacology, measurment.		√	√	√	√
5.Vitreous body.		√	√	√	√
6.Iris & Pupil: Reflexes: light, near, pharmacology.		√	√	√	√
7.Lens & accommodation.		√	√	√	√
8.Light ;(Nature ,properities), photochemistry of vision & adaptation:(light, dark)		√	√	√	√

9.Colour vision, Theories, colour blindness		√	√	√	√
10.Sensory response (clinical fusion frequency)		√	√	√	√
11.Electrical phenomenon of the eye: ERG ,EOG, VEP	√	√	√	√	√
12.Visual acuity		√	√	√	√
13.Entoptic phenomenon		√	√	√	√
14.Metabolism: cornea, lens &retina		√	√	√	√
15.Extra ocular muscle, supra nuclear control, Nystagmus		√	√	√	√
16.Binocular vision		√	√	√	√
17.Visual field.					

Method of assessment														
	A1	**A2**	**A3**	**A4**	**A5**	**A6**	**A7**	**A8**	**A9**	**A10**	**A11**	**A12**	**A13**	**A14**
Written Examination	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Oral Examination	√	√	√	√	√	√	√	√	√	√	√	√	√	√
MCQ	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Log book for activities														
seminars:	√	√	√	√	√	√	√	√	√	√	√	√	√	√

Method of assessment					
	I1	**I2**	**I3**	**I4**	**I5**
Written Examination	√	√	√	√	√
Oral Examination	√	√	√	√	√
MCQ	√	√	√	√	√
Log book for activities					
seminars:	√	√	√	√	√

Course coordinator: : Prof. Dr Adel El layeh

Head of the department: Prof. Dr Adel El layeh