COURSE SPECIFICATION

(Physiology of the Eye)

Faculty of Medicine– Mansoura University

(A) Administrative information

(1) Programme offering the course:	MD 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:	MD 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 OPHT 622 PE**
(8) Course code:	**OPHT 622 PE**
(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).

.

(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 the systematic function of the eye.
A2	Recognize and describe Eyebrows, Eyelids, and Face: Structure and Function.
A3	Recognize and describe the lens and iris & pupil function.
A4	Recognize molecular basis of The Tear Film and factors affecting it
A5	Understand the basis of aqueous humor: Secretion and Dynamics and its effect on intraocular pressure.
A6	Understand physiologic basis of Ocular Circulation.
A7	*Recognize the basics of Metabolism and Photochemistry of the Retina.*
A8	Understand physiologic basis of Colour Vision.
A9	Recognize and describe the visual function in the form of acuity, field, color vision, and binocular vision.
A10	Recognize and describe the various ocular phenomenon.
A11	Recognize and describe ocular ability for dark and light adaptation.
A12	Understand and interpret the different electrophysio;ogical studies of the eye with their use in different diseases.
A13	Understand the function of the pupil with interpretation of any abnormality.
A14	Understand the mode of action indications and interaction of ocular pharmacotherapy.

B- Intellectual skills

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

(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)	1				
9. Colour vision, Theories, colour blindness	**1**				
10. Sensory response (clinical fusion frequency)	1				
11. Electrical phenomenon of the eye: ERG ,EOG, VEP	1				
12. Visual acuity	**0.5**				
13. Entoptic phenomenon	**1**				
14. Metabolism: cornea, lens &retina	**0.5**				
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 skill.

5.2 MCQ exam for assessment of intellectual and knowledge ILOs

5.3: Log book for activities for assessment of : mainly for assessment practical & transferrable skills
attendance of different conferences, thesis discussions, seminars, workshops
Attendance of scientific lectures.

5.4: 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: after 6 month from MD registration (100 marks)

Assessment 2 : Log book required activities to go through 1st part examination .

Assessment 3 : MCQ exam for continuous assessment of knowledge and intellectual skills.

***Assessment 4*:** 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: 100 Marks including 20%MCQ

Other assessment without marks: practical tests and exam, seminars and log book assessment are requirement of the 2nd 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 and ILOs Matrix

Programme ILOs are enlisted in the first row of the table (by their code number: a1, a2……etc), then the course titles or codes are enlisted in first column, and an "x" mark is inserted where the respective course contributes to the achievement of the programme ILOs in question.

Subjects	A1	A2	A3	A4	A5	A6	A7	A8	A9
Protective mechanism : Eyelids Lacrimal apparatus Cornea.	√	√		√					
Ocular circulation .	√					√			
Aqueous humour :formation, Criculation , Function , Drainage,	√				√				
Intra Ocular Pressure . : factorsinfluencing, pharmacology, measurment.	√								
Vitreous body.	√								
Iris & Pupil: Reflexes: light, near, pharmacology.	√	√							

Lens & accommodation.	√	√							
Light ;(Nature ,properities), photochemistry of vision & adaptation:(light, dark)	√	√						√	√
Colour vision, Theories, colour blindness	√						√	√	√
Sensory response (clinical fusion frequency)	√								√
Electrical phenomenon of the eye: **ERG ,EOG, VEP**	√								√
Visual acuity	√								√
Entoptic phenomenon	√								√
Metabolism: cornea, lens &retina	√					√			
Extra ocular muscle, supra nuclear control, Nystagmus	√								
Binocular vision	√								√
Visual field.	√								√

Subjects	A10	A11	A12	A13	A14
Protective mechanism : Eyelids Lacrimal apparatus Cornea.					
Ocular circulation .					√
Aqueous humour :formation, Criculation , Function , Drainage,					√
Intra Ocular Pressure . : factorsinfluencing, pharmacology, measurment.					√
Vitreous body.					
Iris & Pupil: Reflexes: light, near, pharmacology.			√		
Lens & accommodation.		√		√	√
Light ;(Nature ,properities), photochemistry of vision & adaptation:(light, dark)		√		√	√
Colour vision, Theories, colour blindness	√	√		√	
Sensory response (clinical fusion frequency)	√	√		√	
Electrical phenomenon of the eye: **ERG ,EOG, VEP**	√	√		√	

Visual acuity	√			√	
Entoptic phenomenon				√	
Metabolism: cornea, lens &retina					
Extra ocular muscle, supra nuclear control, Nystagmus				√	
Binocular vision	√			√	
Visual field.	√				

Subjects	I1	I2	I3	I4	I5
Protective mechanism : Eyelids Lacrimal apparatus Cornea.	√	√	√	√	
Ocular circulation .	√	√	√	√	
Aqueous humour :formation, Criculation , Function , Drainage,	√	√	√	√	
Intra Ocular Pressure . : factorsinfluencing, pharmacology, measurment.	√	√	√	√	
Vitreous body.	√	√	√	√	
Iris & Pupil: Reflexes: light, near, pharmacology.	√	√	√	√	
Lens & accommodation.	√	√	√	√	
Light ;(Nature ,properities), photochemistry of vision & adaptation:(light, dark)	√	√	√	√	
Colour vision, Theories, colour blindness	√	√	√	√	
Sensory response (clinical fusion frequency)	√	√	√	√	
Electrical phenomenon of the eye: **ERG ,EOG, VEP**	√	√	√	√	√
Visual acuity	√	√	√	√	√
Entoptic phenomenon	√	√	√	√	√
Metabolism: cornea, lens &retina	√	√	√	√	√

Extra ocular muscle, supra nuclear control, Nystagmus	√	√	√	√	√
Binocular vision	√	√	√	√	√
Visual field.	√	√	√	√	√

Course methods of assessment and ILOs Matrix

Programme ILOs are enlisted in the first row of the table (by their code number: a1, a2……etc), then the Course methods of assessment are enlisted in first column, and an "x" mark is inserted where the respective course contributes to the achievement of the programme ILOs in question.

Subjects	A1	A2	A3	A4	A5	A6	A7	A8	A9
5.1:Written Examination	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.2 MCQ exam for	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.3: Log book for activities for assessment of : mainly for assessment practical & transferrable skills **attendance of different conferences, thesis discussions, seminars, workshops Attendance of scientific lectures.**									
5.4: 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 .		✓	✓	✓	✓	✓	✓	✓	✓

Subjects	A10	A11	A12	A13	A14
5.1:Written Examination	✓	✓	✓	✓	✓
5.2 MCQ exam for	✓	✓	✓	✓	✓
5.3: Log book for activities for assessment of : mainly for assessment practical & transferrable skills **attendance of different conferences, thesis discussions, seminars, workshops Attendance of scientific lectures.**					

5.4: 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 .		✓	✓	✓	✓

Subjects	I1	I2	I3	I4	I5	I6
5.1:Written Examination	✓	✓	✓	✓	✓	✓
5.2 MCQ exam for	✓	✓	✓	✓	✓	✓
5.3: Log book for activities for assessment of : mainly for assessment practical & transferrable skills **attendance of different conferences, thesis discussions, seminars, workshops Attendance of scientific lectures.**						
5.4: 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 .	✓	✓	✓	✓	✓	✓

Subjects	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10
5.1:Written Examination										
5.2 MCQ exam for										
5.3: Log book for activities for assessment of : mainly for assessment practical & transferrable skills **attendance of different conferences, thesis**										

discussions, seminars, workshops Attendance of scientific lectures.										
5.4: 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 .	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.4: 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 .	✓	✓	✓	✓	✓	✓	✓			✓

Course coordinator: : Prof.Dr Rasheed El-Lakkany

Head of the department: Prof.Dr Rasheed El-Lakkany