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## Master Degree (OPH226B)

### COURSE SPECIFICATION

#### (Physiology of the Eye)

Faculty of Medicine- Aswan 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 1 <sup>st</sup> part
(5) Course title:	<b>Physiology of the Eye</b>
(6) Credit hours	10
(7) 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, and 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 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	Total Teaching Hours
1. <b>Protective mechanism</b> : Eyelids Lacrimal apparatus Cornea.	1	15
2. <b>Ocular circulation</b> .	0.5	
3. <b>Aqueous humour</b> :formation, Criculation , Function , Drainage,	1	
4. <b>Intra Ocular Pressure</b> . : factors influencing, pharmacology, measurment.	1	
5. <b>Vitreous body</b> .	0.5	
6. <b>Iris &amp; Pupil</b> : Reflexes: light, near, pharmacology.	1	
7. <b>Lens &amp; accommodation</b> .	1	
8. <b>Light</b> ;(Nature ,properities), photochemistry of vision & adaptation:(light, dark)	0.5	
9. <b>Colour vision</b> , Theories, colour blindness	1	
10 <b>Sensory response (clinical fusion frequency)</b> .	0.5	
11. <b>Electrical phenomenon of the eye:</b> <b>ERG ,EOG, VEP</b>	1	
12 <b>Visual acuity</b> .	1	
13 <b>Entoptic phenomenon</b> .	1	
14 <b>Metabolism: cornea, lens &amp;retina</b> .	1	
15 <b>Extra ocular muscle, supra nuclear control, Nystagmus</b> .	1	
16 <b>Binocular vision</b> .	1	

**(4) Teaching methods:**

**4.1 :** Lecture

**4.2 :** Practical class

**4.3 :** Small group discussion with case study and problem solving

**(5) Assessment methods:**

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

**5.2 : Oral examination**

**5.3 : Practical examination**

**5.4 : MCQ examination**

**Assessment schedule:**

**Assessment 1:** written after 1 year from master registration

**Assessment 2:** Oral exam 1 year 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.

**Percentage of each Assessment to the total mark:**

**Written exam: 60 Marks including 20% MCQ**

**Oral exam 65 Marks**