**Ophthalmology course specification**

**Course title: Ophthalmology 5th year course for M.B.Ch.B program**

**Allocated marks: 100 full mark , 50 pass mark**

**Course duration : theory course ( one semester ), practical course ( two weeks )**

**Head of surgery department** :Prof.Dr.Adel Shakir Al-Timimi

**Teaching staff in ophthalmology:** 2 Prof., 3 assisted professors .

**I-Aim of the course:** Provide students with basic knowledge of normal and abnormal anatomy and physiology of the eye and the process of vision, provide students with an appropriate background covering the common and important eye emergencies and diseases (causes, diagnosis and management).

Provide appropriate ethical and professional education necessary for establishment of excellent communication with patients and colleagues and using sound ethical principles in clinical decision making .

Provide lifelong learning competencies necessary for continuous professional development and research studies.

**II-Intended learning outcomes**:

 by the end of the course, all students should be able to:

**1-Knowledge and understanding** :

 describe the anatomy and the eye, and their clinical aspects, explain the physiology of vision and color vision , common eye emergencies like trauma whether penetrating or blunt trauma and chemical injuries and explain how to basically manage them, explain the common eye disease s in the community like refractive errors and cataract and their pathophysiology and how to manage them .

describe how to diagnose and manage eye infections at different levels like conjunctivitis and keratitis and orbital cellulitis and how to diagnose squint and neurology related problems, understanding the pupillary reactions and their clinical attachments .

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**2-Skills:** by the end of the course all students should be able to:

**Professional skills**: taking quick and informative history from the patients and examine the patient using slit lamp set and understand how to use this set for different examinations techniques, knowing how to diagnose corneal disorders and foreign body and common conjunctival diseases like infections, diagnose anterior segment common diseases like cataract .

Understand how to Examine the patients using direct and indirect ophthalmoscope to see posterior segment disorders like optic atrophy , understand how to examine the patient in refraction room and how to measure visual acuity of the patients by using Snellen chart and other methods for children , examine patients at squint room and understand basic information about different types of squint.

**Intellectual skills:** The student should obtain a complete and reliable and quick history in ophthalmology clinic, and will be able to give a good history .History must include: Patient's identity and eye symptoms bring the patients to the clinic, good systemic history especially neurological symptoms and quick systemic history.

 Examination of the patient include inspection for visible eye abnormality like ptosis or mass, mastering slit lamp examination for good inspection of the anterior segment and its common disease like cataract, ocular motility examination , visual filed examination using machine available, squint examination and posterior segment examination using direct ophthalmoscopy.

**Communication and general skills** : Communicate with the patient as a person, not as a disease, and understand that the patient is a person with believies, values, goals, and concerns, which must be respected in addition to respecting the patient’s dignity, privacy, information confidentiality and autonomy. Counsel the patient before doing any intervention and in different situations with respect to her wish whenever this is possible.

 Maintain the atmosphere of cooperation, peer relationships, and mutual respect in the university society.

Advance the knowledge base of eye diseases by developing and encouraging scientific researches.

**3-Attitudes:** The student will be able to perform slit lamp examination and to do during their clinical attachment ocular motility examination and cover uncover test for squint patient, pupillary reactions test, visual filed test, direct ophthalmoscope for posterior segment examination.

**III- Course contents:**

**1-Topies:**

Lectures:

|  |  |  |
| --- | --- | --- |
| No. | Topics  | Hours |
| 1 | Anatomy and physiology of the eye  | 2 |
| 2 | Conjunctival disorders | 2 |
| 3 | Refractive errors  | 2 |
| 4 | Corneal disorders  | 2 |
| 5 | Lens | 2 |
| 6 | Uveal tract | 1 |
| 7 | Lid disorders | 2 |
| 8 |  glaucoma  | 2 |
| 9 | Scleral disorders | 1 |
| 10 | Trauma  | 1 |
| 11 | Retinal disorders | 2 |
| 12 | Eye and systemic disaeses | 1 |
| 13 | Tumors of the eye  | 2 |
| 14 | Neuro-ophthalmology  | 1 |
| 15 | strabismus  | 1 |
|  | Total  | 24 |

**Theoretical lectures learning objectives**:

1) anatomy of the eye ball and extra-ocular muscles.

# learning objectives :

1.to know the structure of the eye in layer & in segments and chambers.

2.To know the blood and nerve supply of the eyeball,

3.Quick eye assessment

4. Identification of visual acuity and visual field.

Items:

-description of the anatomy with different sections of the eye ball

-anatomy of the extra ocular muscles.

-Definition of the visual acuity visual field and color vision.

-Glossory of ophthalmogical terms.

-education video and discussion.

2) physiology of eye and process of vision .

# learning objectives :

1.Define laser.

2. Recognise the laser media, emissiom.

3.Identify Laser tissue interactions.

4.Determine the uses of each laser type in ophthalmology.

-definition of laser.

 -criteria of laser.

- laser tissue interactions.

-types of laser in ophthalmology.

- indications of each type.

3). Sclera and epislera:

 Objectives:

1.Recognize the anatomy of sclera and episclera.

2.Identify the clinical methods to differentiate between scleritis and episcleritis.

3.Classification, clinical features, and Mx of episcleritis.

4.Classification, clinical features, associations .DDx and Mx of scleritis..

Items:

- definitions

 - clinical manifestations of each type of scleritis and episcleritis.

-differentiation between scleritis and episcleritis

- management.

-compilations.

4) lens disorders and accommodation .

# learning objectives :

1. anatomy and physiology of the lens.
2. to understand the process of accommodation.
3. 3- cataract : causes ,physiology, classification according to maturity and site of cataract, signs and symptoms of cataract , indication of treatment and types of surgery done with advantages and disadvantages of Each procedure , complications of cataract surgery and how to deal with .
4. 4- Congenital cataract: causes and pathophysiology, examination techniques in infants with suspected cataract, treatment modality and time factor importance , types of surgical procedures.
5. 5- Congenital aphakia : causes and treatment.
6. 6- Lens dislocation : causes and physiology , systemic association , signs and symptoms treatments modality and indications.

5) Glaucoma :

Objective: glaucoma is a worldwide blinding disease ,understanding disease concept regarding early diagnosis and appropriate treatment considered a big achievement , there are two main glaucoma categories open and closed angle and according to presentations ;are: the acute and chronic one.

* Angle anatomy and physiology of aqueous circulation :central points in glaucoma explanation

Need to know:

1. factors affect level of IOP
2. always keep glaucoma in mind during examination of old age and diabetic patients

## How to approach patient with glaucoma;

History and perfect ophthalmological examination involve the following:

1.tonometry most commonly used applanation tonometry

2.gonioscopy(examination of angle structure)

3.primetry

4. fundoscopy(examination of the retina and concentrate on the optic disc appearance regarding C/D ratio; cup/disc ratio)

5.imiging in glaucoma like confocal scanning laser tomography ,scanning laser polarimetry

7) refractive errors:

#learning objectives

Anatomy of refractive elements of the eye ,

the cornea and the lens physiology of vision.

Types of refractive errors ,

Causes, signs and symptoms ,

treatment modalities of each one.

Presbyopia definition cause pathophysiology and treatment.

8) The orbit and its disorders:

Objective:

1. acknowledgment of orbital anatomy is important to understand the effects of any orbital pathology on vision and then how we can approach it, also the course of optic nerve has 25 cm intraorbital.

2.Medical and surgical conditions that hit the orbit and its adenxia

Important points:

1.orbital anatomy (bone and soft tissue)

2.thyroid eye disease manifestations

3.emergency orbital infection

4. orbital heamangeoma(infant and adult).

9) Eyelids :

learning objectives to understand

the anatomy and histology of the eyelid and their relationship to disease

the clinical features, investigations and treatment

Abnormality in shape and position of eyelid

Entropian

Ectropian Ptosis Causes ,treatment /Triachiasis/Congential anomaly in lid

10)- lacrimal system

learning objectives

•• to understand the anatomy and pathophysiology of lacrimal apparatus in relation to disease

•• to be able to decide on the most appropriate techniques to use in the investigation of patients

•• to understand the critical importance of excessive watery eye

•• to be able to recognise the presentation of epiphora and dry eye

•• to know about the causes of dacryocystitis

11)-strabismus

 learning objectives

to appreciate:

•• the basic anatomy and physiology of the extraocular muscles

•• the types and classification of squint

to understand:

•• the aetiology and pathology of squint

•• the principles of investigation

•• the importance of non-surgical management of strabismus

 •• the principles of squint surgery

anatomy of exraocular muscles

axes of fick

visual and anatomical axis

12) Neuro-ophthalmology

learning objectives

to appreciate:

•• the basic anatomy and physiology of the cranial nerves

to understand:

•• the aetiology and pathology of common optic nerve problems

•• the principles of investigation of optic nerve problems

•• pupillary light reflex

13) Disorder of the conjunctiva

Learning objectives to understand

 the anatomy of the conjunctiva and the clinical evaluation, symptoms and signed of conjunctival disorders affecting the conjunctiva

Bacterial infection, simple and gonococcal infections with neonatal keratoconjunctivitis

Viral infection

Chlamydia infection

Allergic disease affecting the conjunctiva with conjunctival degeneration which are

 piguecula concretions and pterygium .

14) Ocular trauma

Learning objectives

Determine the types of ocular traumas

Classify the ocular tram anatomically

Outline the management of ocular trauma

Important options on Intraocular FB.

Enoculation and sympathetic ophthalmia

15) Cornea

Anatomy and physiology of the cornea

Infections (bacterial, viral and fungal) all illustration about symptoms and signs with diagnosis and treatment even complications

Keratoconus (pathophysiology, epidemiology, clinical presentation, diagnosis and treatment )with simple talk about the most important and recent technology of treatment

**IV. TEACHING METHODS:**

**Methods used:**

**1-lectures:** two lectures per week to cover the basic minimal knowledge required for all physicians &to utilize the available time (45-50 minutes) in presenting the knowledge as simple , updated, well-illustrated, and easily understood as possible. Rare topics, and those irrelevant to our community should be omitted or given less importance and time. Lectures are delivered by the senior academic staff. Lectures given as clinical presentation to cover each areas.

**2-clinical attachments::** Each term, students are divided into 10-11 groups , students will have a clinical course in ophthalmology department from 8:00am to 11:00 am discussing a clinical case from outpatients then they are subdivided to small groups to examine the patients& they take history from an outpatient lady & do slit lamp examination and refraction.

**2. CLINICAL ATTACHMENT**

All students are offered clinical attachment in ophthalmology department in Al-Diwaniya teaching hospital where they take history and do slit lamp amd general examination with refraction and train how to use ancillary tests available from 8:00 to 11:00 am each group for 2 weeks.

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**\*Students assessment**

1. Attendance
2. Behavioral & ethical attendance
3. Logbook for clinical cases
4. Attendance in outpatient clinic

They whole should be fulfilled .

 the minimum accepted attendance is 70 % at the end of term examination .

1. Assessment tools
2. Written examination : for assessment of general knowledge & understanding .
3. Oral examination by two members of teaching staff to assess how fifth year student deal with eye problems .

\* **The minimum passing score is 50 marks , the passing grades :**

Excellent > 90

Very good > 80

Good > 70

Fair > 60