

# STUDY GUIDE

## Subject of Ophthalmology

FOR  
MBBS students  
4<sup>th</sup> Years

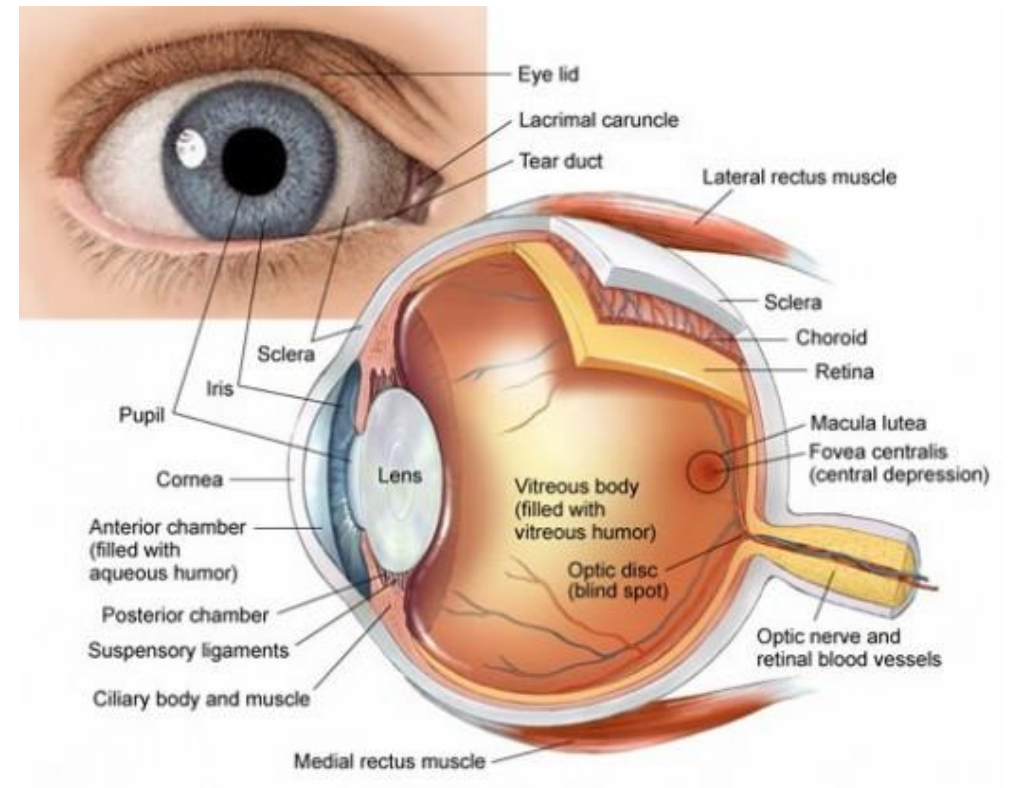
2025

Lahore Medical and Dental College, Lahore

By

*Prof. Mian M. Shafique*

Chair Department of Ophthalmology LMDC, Lahore



### **Mission of LMDC**

The Lahore Medical & Dental College is committed in its pursuit of excellence to providing the best academic facilities and atmosphere to its students.





Our mission is to: “Train future leaders of medicine who set new standards in knowledge, care and compassion.”

The well qualified and committed faculty of LMDC provides combination of nurturing support and challenge to the students to reach their maximum potential.

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## Departmental Hierarchy

1.	<b>HEAD OF DEPARTMENT</b> <b>Prof. Dr. Mian M. Shafique</b> MBBS, MS (Ophth), FRCS (Glasgow) MHPE (Holland) Fellowship in Pediatric Ophthalmology (UK).	
2.	<b>Professor:</b> Prof. Dr. Muhammad Khalil MBBS, FCPS	
3.	<b>Associate Professor:</b> Dr. Muhammad Moeen Bhatti MBBS, FCPS	
4.	<b>Senior Registrar:</b> Dr. Sadia Ilyas, MBBS, FCPS	
5.	<b>Senior Registrar</b> Dr. Sania Munawar Khan MBBS, MCPS, CICO (UK)	
6.	<b>Computer Operator</b> Mr. Zia-ur-Rehman	

## Introduction

Medical education is a life-long process and MBBS curriculum is a part of the continuum of education from pre-medical education, MBBS proceeding to house job, and the post-graduation. Pakistan Medical Commission outlines the guiding principles for undergraduate medical curriculum and has defined the generic competencies and desired outcomes for a medical graduate to provide optimal health care, leading to better health outcomes for patients and societies. These generic competencies set the standards of care for all physicians and form a part of the identity of a doctor. Each competency describes a core ability of a competent physician. The competencies learnt in the department of ophthalmology of Lahore Medical and Dental College are standardized in line with the requirements and guidelines provided by Pakistan Medical Commission and are certified through the exit examination conducted by the University of Health sciences, Lahore.

This study guide will give an insight to the students of MBBS about all these competencies and help them plan their educational activities in the subject of ophthalmology during the period of two years.

## **Summary of the course**

Name of the module:	Ophthalmology
Level of Students:	3 <sup>rd</sup> and 4 <sup>th</sup> -year MBBS
Total No of students:	150 +150
Total No of batches	10+10 (15 students/ batch)
Clinical subjects Coordinator:	Prof. Mian M. Shafique (Ophthalmology)
Student's Coordinator:	Two students, one each from 3 <sup>rd</sup> and 4 <sup>th</sup> year

This module will run in parallel with other modules.

## **Duration of the course**

Total of 150 hours will be spread over a period of two years. 54 hours for whole class activity in the form of interactive lectures and seminars. 96 hours for each clinical batch which will work in clinical wards or community hospitals for a period of 8weeks (4days a week for 3 hours daily). One third of time will be allocated in 3<sup>rd</sup> year while remaining two third in 4<sup>th</sup> year.

## **Learning Outcomes (Objectives) (knowledge, skills, attitude)**

### ***General learning objectives***

To enable the undergraduates to acquire important knowledge, learn skills and bring change in behaviour enabling them to:

- a. Identify the important eye ailments in OPD and emergency and treat or refer if required.
- b. Communicate adequately with the patients, their attendants and society with reference to the disease and its treatment.
- c. Apply therapeutic morals and keep the confidentiality of the patient intact.
- d. Understand the ophthalmic public health problems and know how to prevent these.

- e. Comprehend the effect of systemic diseases on eye.

### ***Specific Learning Objectives***

At the end of ophthalmology module, the student of fourth year MBBS should be able to

1. Take adequate history of eye diseases for
  - a. Problem of vision, perception of colour & field defects
  - b. Discharging eyes
  - c. Painful conditions of eye
  - d. Double vision
2. Examine the eyes adequately and perform
  - Visual acuity for near and distance
  - Pinhole test
  - Colour vision tests
  - Visual fields test by confrontation method
  - Torch examination of eye and adnexa
  - Regurgitation test to check lacrimal passages
  - Cover tests and Hirschberg test to detect squint
  - Extraocular movements to find any limitation
  - Pupil reflexes to detect RAPD (Marcus Gunn Pupil)
  - Intra-ocular pressure (IOP) digitally
  - Distant direct ophthalmoscopy, direct ophthalmoscopy & retinoscopy

3. Make diagnose of common ophthalmic diseases like sty, chalazion, blepharitis, conjunctivitis including trachoma, ocular allergies and acute or chronic dacryocystitis.
4. Identify complex eye diseases and refer the patient to appropriate places for further treatment like cataract, all types of glaucoma, trauma to eye, strabismus, painless or painful blind eyes.
5. Start early management of acute congestive glaucoma, corneal abrasion or foreign body or ulcers, red eye and white pupil and then refer to designated eye hospital.
6. Instill eye drops properly, stain the cornea with fluorescein dye.
7. Identify common eye instruments like slit lamp, different types of tonometers, direct and indirect ophthalmoscope and retinoscope.

## Contents of the Course (Syllabus)

The following is the final list of contents of the module. A special attention will be paid to

- **Eyeball** Essential anatomy, physiology, biochemistry, pharmacology and pathology
- **Adnexa & Orbit:** thyroid eye disease, orbital cellulitis, proptosis and orbital tumors.
- **Lacrimal Apparatus:** Acute and chronic dacryocystitis, tumors of lacrimal sac & gland, Epiphora and lacrimation.
- **Lids:** Congenital Anomalies of Eyelids, Sty (External Hordeolum), Chalazion, Anterior & Posterior Blepharitis, Trichiasis, Distichiasis, Ptosis, Ectropion, Entropion, Molluscum Contagiosum, Herpes Zoster

Ophthalmicus, Benign & Malignant Lid Tumors, Principles & Techniques of reconstruction after Eyelid surgery.

- **Conjunctiva:** Papillary & Follicular Conjunctivitis, Acute & Chronic Bacterial Conjunctivitis, Epidemic / Viral Keratoconjunctivitis, Vernal Keratoconjunctivitis, Atopic Keratoconjunctivitis, Conjunctival Degenerations, Chlamydial Ocular Infections (Trachoma / Adult Inclusion Conjunctivitis / Neonatal Chlamydial Conjunctivitis).
- **Cornea:** Anatomy, Physiology & Histology of Cornea, Factors responsible for Corneal Transparency, Congenital Anomalies of Cornea, Bacterial Keratitis, Fungal Keratitis, Viral Keratitis (Herpes Simplex & Herpes Zoster), Lagophthalmic Ulcer, Mooren's Ulcer, Complications of corneal Ulcer, Keratoconus.
- **Sclera:** Scleral discoloration, episcleritis, scleritis.
- **Uveal Tract:** Uveitis, and its differential diagnosis from other causes of the red-eye.
- **Pupil:** Common abnormalities and pathways of reflexes of pupil.
- **Lens:** Cataract classification, etiology, management including visual rehabilitation. Lens subluxation and dislocation
- **Glaucoma:** Structure of angle of eye, the Layers of retina and optic disc, Circulation of Aqueous Humor. Intraocular pressure and its measurement, Definition and the concept of glaucoma, Classification of glaucoma, Congenital Glaucoma (Buphthalmos), Primary Open Angle Glaucoma, Primary Closed Angle Glaucoma, Secondary Glaucoma, Management of glaucoma Investigation, diagnosis, treatment options, Drugs Used in Glaucoma, Glaucoma surgical Procedures, Role of Lasers in Glaucoma management.
- **Retina and Vitreous:** Vitreous detachment and hemorrhage, retinal detachment, hypertensive retinopathy, diabetic retinopathy, central retinal vein occlusion, central retinal artery occlusion, branch retinal vein

occlusion, branch retinal artery occlusion, age-related macular degeneration, retinoblastoma and retinitis pigmentosa.

- **Errors of refraction:** Introduction to optical system of normal eye, emmetropia, myopia, hypermetropia, anisometropia, astigmatism, presbyopia, aphakia, pseudophakia, and refractive surgery.
- **Squint:** Anatomy and actions of extraocular muscles, Extraocular movements, Binocular vision, Classification of strabismus, Esotropia (Accommodative, Non-accommodative), Exotropia, Intermittent, Constant, Pseudostabismus, Paralytic squints 3<sup>rd</sup> N Palsy, 4<sup>th</sup> N Palsy, 6<sup>th</sup> N Palsy, Management of strabismus, Surgical Procedures for strabismus.
- **Neuro-ophthalmology:** Optic neuritis, papilledema, optic atrophy, Visual field defects in the lesions of optic nerve, optic chiasma, and visual cortex. 3<sup>rd</sup>, 4<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> cranial nerve palsies.
- **Ocular emergencies:** Chemical burns, corneal ulcer, corneal foreign body, acute congestive glaucoma, perforated globe, Leukocoria in children, retinal artery and vein occlusion, acute vitreous hemorrhage, rhegmatogenous retinal detachment and papillitis
- **Injuries:** Intra and extraocular foreign bodies, chemical injuries and burns and sympathetic ophthalmitis and blunt and perforating injuries
- **Systemic Diseases:** Vitamin A deficiency, Diabetes, hypertension, collagen vascular disorders and thyroid eye disease.
- **Ophthalmic therapeutics:** Antibiotics, antiviral, antifungal, local anesthetics, antiglaucoma, fluorescein dye, mydriatic- cycloplegic and steroids

## Teaching Methodologies and Instructional strategies

Multiple teaching and learning formats will be used in this module including

- Interactive lectures
- Tutorials /problem-based learning
- Bedside learning
- Ward rounds→ presentation of cases and observations
- OPD→Practical training for basic skills
- Case-based learning in the clinical meetings and discussions
- Community-based learning
- Operation Theatres
  - skills of sterilization to be learned and practiced
  - observations of major procedures,
- Observation of ocular labs (perimetry, Hess charting, keratometry, ultrasound, laser therapy)
- Emergency duties

## Alignment of activities with study hours

Topic	Activity	Year	Time (Hours)
Introduction of faculty and ophthalmology department	Discussion and visit of the ward	3 <sup>rd</sup> year	2
Anatomy of the eye	Interactive lecture, tutorial with models	3 <sup>rd</sup> year	3
Physiology of the eye	Interactive lectures Tutorials	3 <sup>rd</sup> year	3
History Taking	OPD discussion	3 <sup>rd</sup> year	6

General examination of eye			
Eyelid diseases & Lid eversion	Lecture Case discussion in the ward, OPD and theatre	3 <sup>rd</sup> year	6
Conjunctival diseases	Lecture Case discussion in the ward and OPD	3 <sup>rd</sup> year	6
Corneal diseases Corneal staining Foreign body removal	Lecture Case discussion OPD and theatre	3 <sup>rd</sup> year	6
Lacrimal Apparatus	Lecture Case discussion OPD and theatre	3 <sup>rd</sup> year	4
Diseases of Optic nerve Related to pupil reactions	Discussion in the ward /OPD Ocular lab	4 <sup>th</sup> year	4
Refractive errors Retinoscopy Contact lens, PRK, Lasik	Discussion in the ward & OPD	4 <sup>th</sup> year	6
Visual pathways	Lecture and discussion in the ward & OPD	4 <sup>th</sup> year	4
Orbit Proptosis, Thyroid eye disease	Discussion in the ward & OPD	4 <sup>th</sup> year	4
Lens	Lectures	4 <sup>th</sup> year	10

Distant ophthalmoscopy Cataract (examination management & operation)	Direct Case discussion Bedside and operation theatre Community-based learning		
Glaucoma Tonometry Visual fields Anti-Glaucoma drugs	Lecture OPD and ward discussion theatre	4 <sup>th</sup> year	10
Uveitis	OPD discussion	4 <sup>th</sup> year	4
Pupil reactions and examination	Discussion ward/ OPD	4 <sup>th</sup> year	4
Retina Fundoscopy management	Lecture and discussion in the ward & OPD	4 <sup>th</sup> year	6
Squint, types, management, Hess test and cover test	Discussion in the ward/ OPD Ocular lab	4 <sup>th</sup> year	5
Red eye White pupil Dry eye Wet eye	Problem Based Learning Lecture Discussion in the ward & OPD Ocular lab	4 <sup>th</sup> year	10
Self-study time			30
Assessment			6
Total			150



## NOTICE

### 4<sup>th</sup> YEAR MBBS

Time Table of clinical batches of 4<sup>th</sup> Year MBBS with effect from 10-02-2025.


4<sup>th</sup> year MBBS class has been divided in the following batches for clinical classes at GTTH for Surgery, Medicine, Paediatrics, Gynae/Obst., Eye, ENT:-

Batch	Roll No.
A	26019, 26028, 26051, 26126, 26129, 27006, 27008, 27015, 27028, 27030, 27036, 27037, 27038, 27055, 27076, 27124.
B	27010, 27011, 27012, 27013, 27014, 27017, 27018, 27019, 27021, 27023, 27024, 27033, 27047, 27090
C	27002, 27003, 27004, 27007, 27009, 27016, 27025, 27026, 27027, 27031, 27034, 27042, 27074, 27114, 27127
D	27005, 27040, 27043, 27045, 27048, 27049, 27052, 27053, 27054, 27093, 27113, 27141.
E	27029, 27056, 27057, 27058, 27059, 27060, 27064, 27065, 27067, 27069, 27072, 27075, 27091, 27094, 27103
F	27022, 27041, 27077, 27078, 27080, 27081, 27083, 27084, 27085, 27086, 27087, 27088, 27089, 27102
G	26098, 27046, 27062, 27068, 27071, 27079, 27095, 27097, 27098, 27104, 27105, 27106, 27107, 27108, 27109, 27119
H	27044, 27100, 27110, 27111, 27112, 27115, 27116, 27117, 27118, 27120, 27121, 27126
I	27035, 27122, 27125, 27128, 27130, 27133, 27134, 27136, 27137, 27138, 27148
J	27131, 27135, 27139, 27140, 27142, 27143, 27144, 27145, 27146, 27149, 27150, 27151, 27154

Duration/ Unit	Duration									
	10-02-25 to 03-03-25	04-03-25 to 26-03-25	27-03-25 to 19-04-25	20-04-25 to 13-05-25	14-05-25 to 04-06-25	05-06-25 to 26-07-25	27-07-25 to 18-08-25	19-08-25 to 09-09-25	10-09-25 to 01-10-25	02-10-25 to 24-10-25
Eye	A+B		C+D		E+F		G+H		I+J	
Surgical Unit-I	C	D	E	F	G	H	I	J	A	B
Surgical Unit-II	D	C	F	E	H	G	J	I	B	A
Paediatrics	E	F	G	H	I	J	A	B	C	D
Gynae & Obst.	F	E	H	G	J	I	B	A	D	C
Medical Unit-I	G	H	I	J	A	B	C	D	E	F
Medical Unit -II	H	G	J	I	B	A	D	C	F	E
ENT	I+J		A+B		C+D		E+F		G+H	

MAJOR GENERAL PROF. NAEEM NAQI (Retired)  
PRINCIPAL

#### 4<sup>th</sup> YEAR M.B.B.S. TIMETABLE SESSION 2021-2022 w.e.f. 03-04-2025 (session start: 10-02-2025)

  
Lahore Medical & Dental College  
Canal Bank North, Tulsipura, Lahore  
Phone No. 0346-418891-98  
No. LMD/C/2524-50/2025, Dated: 25-3-25

DAYS & TIME	08:00 a.m. to 08:50 a.m.	08:50 a.m. to 09:40 a.m.	09:40 a.m. to 10:30 a.m.	10:30 a.m. to 10:45 a.m.	10:45 a.m. to 01:15 p.m.	01:15 p.m. to 02:10 p.m.	02:10 p.m. to 03:00 p.m.
MONDAY	Pathology Lecture Theatre No. 7	Medicine Lecture Theatre No. 7	Surgery-I Lecture Theatre No. 7	Travel to GTTH	Ward / SDL	Travel to LMDC & Break	Community Medicine Lecture Theatre No. 7
	08:00 a.m. to 09:30 a.m.	09:30 a.m. to 10:20 a.m.	10:20 a.m. to 11:10 a.m.	11:10 a.m. to 11:25 a.m.	11:25 a.m. to 01:15 a.m.		EYE Lecture Theatre No. 7
TUESDAY	Practical Pathology Lab	Community Medicine Lecture Theatre No. 7	Pathology Lecture Theatre No. 7	Travel to GTTH	Ward / SDL	Travel to LMDC & Break	Community Medicine Lecture Theatre No. 7
	08:00 a.m. to 08:50 a.m.	08:50 a.m. to 09:40 a.m.	09:40 a.m. to 11:10 a.m.		11:25 a.m. to 12:10 p.m.		EYE Lecture Theatre No. 7
WEDNESDAY	Community Medicine Lecture Theatre No. 7	EYE Lecture Theatre No. 7	Pathology Lecture Theatre No. 7	Travel to GTTH	Ward / SDL	Travel to LMDC & Break	Community Medicine Lecture Theatre No. 7
	08:00 a.m. to 08:50 a.m.	08:50 a.m. to 09:40 a.m.	09:40 a.m. to 11:10 a.m.		11:25 a.m. to 12:10 p.m.		EYE Lecture Theatre No. 7
THURSDAY	Surgery-II Lecture Theatre No. 7	Pathology Lecture Theatre No. 7	Practical Pathology Lab	Travel to GTTH	Ward / SDL	Travel to LMDC & Break	Community Medicine Lecture Theatre No. 7
	08:00 a.m. to 08:50 a.m.	08:50 a.m. to 09:40 a.m.	09:40 a.m. to 10:30 a.m.		11:25 a.m. to 12:10 p.m.		EYE Lecture Theatre No. 7
FRIDAY	ENT Lecture Theatre No. 7	Opt. / Ophth. Lecture Theatre No. 7	Medicine Lecture Theatre No. 7	Travel to GTTH	Ward / SDL	Travel to LMDC & Break	Community Medicine Lecture Theatre No. 7
	08:00 a.m. to 08:50 a.m.	08:50 a.m. to 09:40 a.m.	09:40 a.m. to 10:30 a.m.		11:25 a.m. to 12:10 p.m.		EYE Lecture Theatre No. 7

- CC:-
- Principal, LMDC
  - Vice Principal, LMDC
  - Heads of all concerned Departments, LMDC/GTTH
  - HOD Medical Education, LMDC
  - Chief Administrative Officer / Director F&A, LMDC
  - Director IT, LMDC
  - Medical Superintendent, GTTH
  - Transport Incharge, LMDC
  - Lecture Theatre Incharge, LMDC
  - Warden / Assistant Warden Hostel (Boy/Girl)
  - Security Supervisor, LMDC
  - Class Representative (Boy/Girl)
  - Ms All Tours, LMDC
  - Notice Board
- \* In the month of February, March, April, June, July, & September 2025, 1<sup>st</sup> two Fridays Community Medicine, next Friday Research in Lecture Theatre No. 7 & last Friday CRC in Auditorium.
  - \* In the month of May, August & October 2025, 1<sup>st</sup> two Fridays Community Medicine, next two Fridays Research in Lecture Theatre No. 7 & last Friday CRC in Auditorium.
  - \* SDL for 20 minutes practical time.
  - \* SDL for 1 hour ward time.
  - \* Schedule of Still Lab will be issued separately.

MAJ. GEN. (R) PROF. DR. NAEEM NAQI  
PRINCIPAL



## Attendance Requirement

Minimum of 85% attendance will be required for students to qualify to appear in final university examinations and the final exam of the module. They must attend all scheduled teaching sessions and examinations. Absence due to illness must be certified appropriately by the General Physician. Attendance will be recorded through biometrics system. If their attendance is short they will be warned at midterm level.

## The Assessment

Multiple assessment tools will be used during formative and summative assessment as show in the following table.

Type of Assessment	Knowledge	Clinical skills	Attitudes
<b>Formative (Internal)</b> <b>(10% = 20marks)</b> Class test Ward test Log Book	Multiple choice questions (MCQ) Short Answer Questions (SEQ)	Case presentation	Case presentation
<b>Summative (External)</b> <b>(90% =180 marks)</b>  End of 4 <sup>th</sup> year examination by UHS as 3 <sup>rd</sup> professional MBBS	45MCQs: each having 1mark 9 SEQs: each having 5marks (90 marks)	OSPE (14 stations) including interactive Case Presentation (90 marks)	Case presentation during OSPE

- Theory or knowledge assessment by MCQ and SEQ papers by UHS = 90 marks
  - Skills and attitude assessment by OSPE by UHS = 90 marks
  - Internal assessment by formative assessment by LMDC = 20 marks
  - Total = 200 marks
- 
- Internal assessment will include the performance of students both in 3<sup>rd</sup> and 4<sup>th</sup> Year.
  - *10 marks of internal assessment will be added each to theory and practical to make the final result by UHS.*
  - *Minimum of 50% marks will be required to pass each theory and practical separately.*

## Students Counselling

Keeping in mind the overall performance and the behaviour of the students coming to ophthalmology department, a decision is made by the counselling team under supervision of the head of the department to identify the students who need counselling. The identified students are then asked to attend counselling sessions by departmental counsellor, Dr. Saadia Ilyas. She devises a tailor-made strategy to help such students. In case of failure, the students are referred to main counselling department of LMDC.

### **Learning resources/ facilities**

1. Parson diseases of Eye. Butterworth-Heinemann;
2. Clinical Ophthalmology by M. S Jatui, Farooq Kitab Ghar, Urdu Bazar, Karachi.
3. Clinical Ophthalmology by M. Saleem Akhtar, National Book Foundation, Lahore
4. Video tapes of clinical skills and surgical procedure will be made available in IT library.
5. Skills lab will provide the simulated learning experience the basic skills and procedures
6. Computer and Internet resources to gather the latest information.
7. The students will be provided many educational facilities like study room equipped with multimedia facilities and internet connection throughout the college campus.

### **Note:**

**The Summer break is  
from 7<sup>h</sup> July to 3<sup>rd</sup> August.**