

CURRICULUM AND STUDY GUIDE

OPHTHALMOLOGY

4th Year MBBS

Introduction

The study guide is designed in accordance to the curriculum to enable the students to achieve the learning outcomes and course objectives. It meets the requirements of PMDC and NUMS guidelines.

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AIM

Our aim is to equip the students with the essential knowledge, skill and attitude to enable them to:

- Identify common ophthalmological diseases and emergencies,
- Provide primary health care, referral to an appropriate center when required and conduct follow-ups.
- Perform minor procedures safely,
- Enable the students to communicate effectively with the patient and his/her family about the disease and other relevant issues.
- Understanding ethics, being empathetic to the patient's plight and maintaining patient confidentiality.

Curriculum

The curriculum meets the standards of Pakistan Medical Commission and Higher Education Commission of Pakistan so that our students, on completion of program have required competencies as defined worldwide for a graduate doctor. NUMS curriculum, revised 2018, is based on SPICES model of educational strategies. It is student centered, problem based, integrated, community oriented and systematic. The curriculum framework, for MBBS year IV has been developed by the faculty of constituent/affiliated colleges in collaboration with Academic Directorate of NUMS

Curricular Structure

- a.** Total duration of academic year IV is 36 weeks.
- b.** It is divided in 3 blocks.
- c.** The duration of each block is 12 weeks.
- d.** All-important topics will be covered in lectures, clinical rotations and CBLs.
- e.** Assessment will be done at the end of clinical rotations.
- f.** End of block examination will be held which will contribute towards the internal assessment.
- g.** Pre annual examination will be held at the end of academic year.

Academic activities

The following activities will be planned to achieve the goal.

1. Interactive lectures
2. Small group discussion
3. Problem based learning.
4. Clinical rotations and ward visits
5. Tutorials
6. CPCs and Seminars

Outcome:

1. Describe the anatomy of the eye and the visual system,
2. Identify the common eye diseases as laid down in the curriculum.
3. Perform a basic eye examination,
4. Evaluate a patient with acute painless vision loss.
5. Evaluate a patient with chronic vision loss,
6. Evaluate a patient with a red or painful eye,
7. Evaluate a patient with eye trauma,
8. Evaluate a patient with an eye movement abnormality or diplopia,
9. Describe the important causes of vision loss in children,
10. Describe the ocular manifestations of systemic disease.
11. List the most important ocular side effects of systemic drugs,
12. List the common ocular medications that can have systemic side effects.
13. Identify the eye emergencies and when it is necessary to refer a patient urgently to ophthalmology.

Educational Strategies

Lectures

- a. 2 lectures per week will be held.
- b. All the important topics will be covered in interactive sessions.
- c. Detailed timetable with topics will be provided beforehand.
- d. 75% attendance is mandatory to appear in the professional examination.

Clinical Rotation

- a. One clinical rotation will comprise of 3 weeks.
- b. Each student will have 2 clinical rotations in the academic year.
- c. There will be 2 hours of clinical rotation in the morning and 2 hours in the evening.
- d. The clinical rotations will be held 4 days a week, Monday to Thursday.
- e. During the clinical rotation in 4th year, students will be exposed to both inpatients and outpatient clinical practices.
- f. The focus will be on history taking and physical examination.
- g. CBL sessions will be held with emphasis on diagnosis and management.

Learning Outcomes

- a. Take a focused history and perform clinical examination to reach to a provisional diagnosis.
- b. Evaluate common symptoms.
- c. Identify common clinical signs.
- d. Communicate effectively with the patients.
- e. Interpret common investigations whether these are normal or abnormal.
- f. Develop the plans of initial management.
- g. Logbooks will be maintained to keep the record of student performance during the rotation.
- h. At the end of each clinical rotation, a clinical exam will be held which contributes towards the internal assessment.
- i. 75% attendance is mandatory to appear in the professional examination.

Assessment

1. Students will be assessed at the end of each block. It will comprise a theory examination having MCQs and SEQs from the topics covered in the block.
2. Students will be assessed at the end of the clinical rotation. An OSPE will be conducted with interactive stations.
3. Pre annual examination will be held at the end of academic year.
 - a. Written paper on the pattern of professional examination from the complete curriculum
 - b. OSPE with interactive clinical examination.
4. Class tests will be held for important topics.
5. The scores of all the above will contribute towards the calculation of the internal assessment.

Annual Professional Examination.

1. The University will conduct the professional Examination as per PMDC / NUMS guidelines at the end of the academic year.
2. It will comprise of a theory written examination and a practical clinical examination.

Evaluation of the Course.

- a. Student portfolio shall be maintained in the departments in which students will give their feedback either by name or anonymously.
- b. Faculty feedback will also be incorporated.

OPHTHALMOLOGY - BLOCK I

CODE- Y4B1

Written Internal Assessment

Duration: 12 Weeks

By the end of Block-1, the Student will be able to:

Theme	Learning Outcomes	Contents	Weightage %
Eye Lid & adnexa	Identify conditions like ptosis, lid Tumors and benign lesions, Entropion, Ectropion , dry eyes etc based on their clinical assessment and make a referral to ophthalmologist.	Ptosis and its classification, Blephritis, lid tumors & benign lesions, Entropion, Ectropion, Acute and chronic dacrocystitis, evaluation of dry eye	30
Conjunctiva, Episclera& sclera	<ol style="list-style-type: none"> 1. Recognize conditions like Pterygium, Pingecula, conjunctivitis episcleritis and scleritis 2. Identify red eye causing common conditions for their initial management. 	Bacterial, Viral Allergic, and other types of conjunctivitis, Pterygium, Pingecula, Ophthalmianeonatorum, Episcleritis, Scleritis.	30
Orbit	<ol style="list-style-type: none"> 1. Recognize proptosis and its common causes like thyroid eye disease, orbital inflammatory disease and orbital tumors. 2. Advise common investigations required for its evaluation. 	Proptosis and its common causes, Thyroid eye disease. Orbital tumors, Cellulitis	20

	3. Summarize various medical and surgical management options.		
Uveitis	<ol style="list-style-type: none"> 1. Identify uveitis as a cause of decreased vision. 2. Recognize signs and symptoms of acute uveitis for giving its initial treatment 	Uveitis and its Classification Acute Anterior uveitis and its initial treatment	20
End Block Assessment	End Block Assessment to be taken by concerned institute itself Assessment tools: MCQs & SAQs/SEQs		

OPHTHALMOLOGY - BLOCK II**CODE- Y4B2****Written Internal Assessment****Duration: 12 Weeks****By the end of Block-2, the Student will be able to:**

Theme	Learning Outcomes	Contents	Weightage/ %
Cornea I Diseas es	<ul style="list-style-type: none">• Identify corneal ulcers for giving initial treatment.• Summarize principles of corneal disease management.	Bacterial, Fungal, Viral, Corneal Ulcers and use of antibiotics/ cycloplegics Keratoconus	20
Lens	<ul style="list-style-type: none">• Identify different types of cataract and recognize type of visual deterioration in each type of cataract.• Justify different types of surgical options of cataract including phacoemulsification• Indicate possible complications of cataract Surgery	Types of cataracts and their evaluation, ECCE/ Phaco emulsification, Complications of cataract Surgery	30
Refracti ve errors& Refracti ve Surgery	<ul style="list-style-type: none">• Identify common refractive conditions of the eye like myopia, hypermetropia and astigmatism• Summarize various treatment options.	<ul style="list-style-type: none">• Refractive Errors- Types and Management• Introduction to refractive surgery and keratoplasty	20
Glaucoma and ocular therapeutics	<ul style="list-style-type: none">• Differentiate between various types of Glaucoma, its clinical signs, investigations, common VF defects and various anti Glaucoma medications.• Enlist other options of Glaucoma management including laser filtration	Types of glaucoma & Evaluation, Classification, POAG, PACG, Surgery, Drugs, Lasers to treat glaucoma	30

	<p>surgery, cyclo-destructive procedures and implants.</p> <ul style="list-style-type: none"> • Identify shallow anterior chamber for avoiding mydriatic eye drops to prevent acute congestive glaucoma. • Suggest emergency treatment of acute angle closure glaucoma. 		
End Block Assessment	End Block Assessment to be taken by concerned institute itself Assessment tools: MCQs & SAQs/SEQs		

MBBS Curriculum Year-IV (2023)

OPHTHALMOLOGY – BLOCK- III

CODE- Y4B3

Written Internal Assessment

Duration: 12 Weeks

By the end of Block-3 , the Students will be able to :

Topics	Learning Outcomes	Contents	Weightage/ %
Retinal vascular diseases, Retinal Detachment, Common Fundus Pathologies,	<ol style="list-style-type: none"> 1. Correlate symptoms with signs of retinal vascular diseases, ocular tumors and fundus pathologies 2. Identify retinal disorder as a cause of reduce vision. 3. Suggest common treatment option of retinal diseases. 4. Discuss broad outline of management of RD, diabetic retinopathy and AMD and use of lasers in ophthalmology 	Conditions affecting retinal vasculature and their Evaluation, Hypertensive Retinopathy, Diabetic Retinopathy, CRVO, BRVO, CRAO, AMD, RP Types of retinal detachment, clinical exam, investigations and surgical options Vitrectomy and its Indications use of lasers	40
Strabismus & Neuro Ophthalmology	<ol style="list-style-type: none"> 1. Differentiate between comitant and non-comitant strabismus 2. Perform cover & uncover test. 3. Enlist surgical and non-surgical treatment of strabismus. 4. Reproduce Cranial nerve pathway and nerve supply of extra ocular muscles 5. Enlist relevant laboratory investigations and imaging & surgical and non-surgical treatment options. 	Types of squint and its Management, Cranial nerves palsies, tumors, papilledema, visual field in various optic pathway lesions Pupillary disorders associated with nerve palsies and systemic diseases.	30

Ocular trauma & Emergencies	<ol style="list-style-type: none"> 1. Differentiate between penetrating and non-penetrating ocular injuries. 2. Discuss different types of chemicals damaging eye (Acid/alkali/Alcohol/elfy) and its symptoms and signs. 3. Manage chemical injuries of the eye Identify ophthalmic emergencies and their management 	Types of ocular injuries initial Evaluation and management of ocular trauma and Chemical injury Red eye <ul style="list-style-type: none"> • Painful • Painless Causes of sudden Vision loss <ul style="list-style-type: none"> • Painful • Painless 	30
T ot al			100
End Block Assessment	End Block Assessment to be taken by concerned institute itself Assessment tools: MCQs & SAQs/SEQs		

Clinical Trg / List of Competencies

Learning Outcomes	List of <u>Competencies</u>
By the end of 08 weeks clinical rotation, the Students will be able to:	
Establish rapport with the patient	How to greet and council Patients?
Assess level of vision	Visual Acuity Adults), colour vision,
Examine visual field by confrontation	Visual Fields
Examine anterior segments	Torch/Slit lamp examination
Describe common eye drops keeping in mind contraindications of dilating drops	Ocular Pharmacology
Enlist common ophthalmic instruments Like cataract surgery instruments, DCR surgery instruments, Ophthalmoscope, retinoscope etc	Ophthalmic Instruments
Enumerate laser use in ophthalmology	Introduction to Lasers
Enlist helpful investigation	Ocular Investigations an overview
Identification of squint	Ocular movements and squint assessment
Examine the pupils	Pupillary Reactions
Observe common Ophthalmic surgical procedures/ Instruments including Cataract, Glaucoma, Oculoplastics, Retinal Detachment and other common procedures and instruments.	common Ophthalmic surgical procedures/ Instruments
How to use Ophthalmoscope/Retinoscope - basic methods	Perform Ophthalmoscopy steps

PATIENT SAFETY

Total contact hours: 25 hours in 4th year

Preamble: Patient safety is the prevention of errors and adverse effects to patients associated with health care". Patient safety is about being mindful of an expectation that mistakes can happen and consistently looking to prevent them

This document provides guidelines for MBBS/BDS students so that they can understand the importance of patient safety and apply their knowledge to reduce the incidence of medical errors and adverse events in clinical settings

Topics	Learning Outcomes	Course Content
Introduction to Patient Safety	Recognize adverse events occurring in clinical settings and ensure patients' safety	<ul style="list-style-type: none">• Understanding Adverse Events and Patient Safety• Your Role in a Culture of Safety• Your Role in Building Safer, More Reliable Systems
From Error to Harm	Prevent the occurrence of errors to avoid patients' harm	<ul style="list-style-type: none">• The Swiss Cheese Model• Understanding Unsafe Acts• A Closer Look at Harm
Human Factors and Safety	Design Principles to reduce Human Error and ensure safety	<ul style="list-style-type: none">• Understanding the Science of Human Factors• Principles to Reduce Human Error• The Risks and Rewards of Technology
Teamwork and Communication	Practice team work and effective communication	<ul style="list-style-type: none">• Fundamentals of Teamwork and Communication• Tools and Techniques for Effective Communication• Safety During Transitions Across the Continuum of Care

Responding to Adverse Events	Effectively respond to an adverse event through effective communication	<ul style="list-style-type: none"> • Responding to an Adverse Event: A Step-by-Step Approach • Communication, Apology, and Resolution
Root Cause Analyses and Actions	Analyze the adverse event and act accordingly	<ul style="list-style-type: none"> • Preparing for Root Cause Analyses and Actions • Conducting Root Cause Analyses • Actions to Build Safer Systems
Achieving Total Systems Safety	Accomplish total system safety	<ul style="list-style-type: none"> • Eight Recommendations for Total Systems Safety • Supporting the Health Care Workforce with Patients and Families
Pursuing Professional Accountability and a Just Culture	Improve organizational culture	<ul style="list-style-type: none"> • A Just Culture Case Study • Building a Culture of Safety • Understanding and Improving Organizational Culture

Responsibility: Because safety of the patient and infection control is a joint responsibility, students should be taught by experts from various relevant disciplines.

Proposed Teaching Strategies: Some of the suggested methods of teaching are:

1. Bedside / chair-side teaching
2. Demonstrations and discussions in laboratories, wards, clinics, emergency rooms, operation theatres etc.
3. Independent, guided learning
4. Lectures
5. Practice in Skills Lab (for example as role plays/ simulation)
6. Small group discussions (as case-based learning or reflective writing sessions)
7. Team-based learning
8. Tutorials
9. Workshops (e.g. aseptic techniques)

Assessment:

Formative assessment: Skill lab, end of rotation tests

Summative assessment:

Practical with clinical subjects

OSCE = 1 x station in Medicine

1 x station in Surgery

MBBS Curriculum Year-IV (2023)

Amended Academic Calendar - 4th Year MBBS (2022-23)

Weeks	Details	Dates		
		From	To	
1-3	Start of New Class	05 Dec 2022		
	1 st Module (3/12 weeks)	05 Dec 2022	23 Dec 2022	
4	Winter Vacation (1 week)	26 Dec 2022	30 Dec 2022	
5-12	1 st Module (8/12 week)	02 Jan 2023	23 Feb 2023	
13	1st Module Exam (1/12 week)	24 Feb 2023	27 Feb 2023	
	EYE	24 Feb 2023 (Fri)		
	Special Pathology	27 Feb 2023 (Mon)		
	Sport Week	27 Feb 2023	02 Mar 2023	
	Note: 3rd March 2023 - full day routine classes			
14	2 nd Module (1/11 Weeks)	06 Mar 2023	10 Mar 2023	
	ENT	06 Mar 2023 (Med)		
	Final Sport Day	7 Mar 2023		
	Prep leave for 1 st Module Exam	08 Mar 2023		
	Community Medicine	09 Mar 2023 (Thu)		
	Note: The academic activities on 10th March 2023 (Friday) will not be carried out for the Olympiad activities to go as plan.			
15	2 nd Module (1/11 Weeks)	13 Mar 2023	17 Mar 2023	
16	Spring Vacation	20 Mar 2023	26 Mar 2023	
17-24	2 nd Module (08/11 Weeks)	27 Mar 2023	19 May 2023	
	Eid ul Fiter	21 – 25 Apr 2023 (Fri-Tue)		
	Labour Day	1st May 2023		
25	2nd Module Exam (1/11 week)	22 May 2023	29 May 2023	
	Special Pathology	22 May 2023 (Mon)		
	Prep leave	23 May 2023 (Tue)		
	Eye	24 May 2023 (Wed)		
	Prep leave	25 May 2023 (Thu)		
	Community Medicine	26 May 2023 (Fri)		
	27 & 28 May 2023 (Sat & Sun)			
	ENT	29 May 2023 (Mon)		
26-33	3 rd Module (08/10 Weeks)	30 May 2023	21 Jul 2023	
	Eid ul Adha (Tentative)	29-30 Jun 2023 (Thu – Fri)		
34-37	Summer Vacations (4x Weeks)	24 Jul 2023	18 Aug 2023	
	Independence Day	14 Aug 2023		
38	Prep Leave for Pre Annual / Send Up Exam	21 Aug 2023	25 Aug 2023	
39-40	Pre Annual / Send Up Exam (02/10)	28 Aug 2023	08 Sep 2023	
	Special Pathology	28 Aug 2023 (Mon)		
	Prep leave	29 Aug 2023 (Tue)		
	Community Medicine	30 Aug 2023 (Wed)		
	Prep leave	31 Aug 2023 (Thu)		
	Eye	01 Sep 2023 (Fri)		
	02 & 03 Aug 2023 (Sat & Sun)			
	ENT	04 Sep 2023 (Mon)		
OSPE				
41-45	Prep Leave for Annual Exam (5 Weeks)	09 Sep 2023	16 Oct 2023	
	NUMS Annual Exam	17 Oct 2023 onwards		

Note:

1. The summer vacations will be observed from 24th July to 18th Aug 2023.
2. The Annual Prof Examination date has been rescheduled to 17 Oct 2023 instead of 09 Oct 2023.

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Dr Rizwana Kamran
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Prepared By: Miss Humaira Sardar
Dated: 26th July 2023

Table of Specification

FORTH PROFESSIONAL MBBS EXAMINATION 2023

OPHTHALMOLOGY

Marks of theory paper =80
Time Allowed =03hrs
Internal assessment (20%) =20
Total Marks (MCQs:40%+SEQs:40%+IA:20%) =100

Pass Marks =50

Paper-1 :(*Marks of MCQ component shall be rationalized to 40%weightage)

60xMCQs (1mark each) (60 Marks) Time=60min

Paper-2:

8xSEQs (05Marks Each) (40 Marks) Time=120min

*If a candidate obtains 50 marks in MCQ sit will be rationalized as : (50/60*40=33.33)

TOPIC	Number of MCQs (60)		Number of SEQs (8) (05 Marks)
	Recall:20	Application:40	
EyeLid & adnexa	01	04	01
Conjunctiva	02	02	
Episclera & sclera	01	02	
Orbit	02	04	01
Uveitis	01	02	
Corneal Diseases	02	03	01
Lens	02	05	
Refractive errors & Refractive Surgery	01	03	01
Glaucoma and ocular therapeutics	02	05	
Ocular trauma and emergencies	01	02	01
Retinal vascular diseases	01	02	01
Retinal Detachment	01	02	
Common Fundus Pathologies	01	01	01
Strabismus & Neuro Ophthalmology	02	03	01
Total	60(60 Marks)		8(40 Marks)

Practical

Table of Specification For 2023 Examination OPHTHALMOLOGY

Max Marks = 80

Internal Assessment = 20

Grand Total =100

Pass Marks =50

OSCE Ophthalmology													
5x Observed					8x Non-Observed								Total Marks
1	2	3	4	5	6	7	8	9	10	11	12	13	
Focused History	Shortcase-1	Shortcase-2	Shortcase-3	Counselling/Comm Skills	2 x Data Interpretation	2xPicture	2xInstrument	2xXrays	Drugs	Picture/Visual acuity Charts	Picture	Picture	
08	08	08	08	08	05	05	05	05	05	05	05	05	80Marks
5 minutes for each station For25students =125Minutes=2hrs5 minutes													
*Number of rest stations depends upon the number of students													

INTERNAL ASSESSMENT - THEORY	
INTERNAL ASSESSMENT WEIGHTING: 20%	
Exams	Weightings
Attendance in Lectures:	10%
a. ≥90% = 10%	
b. 80-89% = 7%	
c. 75-79% = 5%	
End of Block/ clinical rotation (theory) Examination	45%
Continuous assessment (average score of all tests attempted after every learning session during the academic year)	20%
Pre-Annual Exam	25%
Total	100%
INTERNAL ASSESSMENT STRUCTURE - PRACTICAL	
INTERNAL ASSESSMENT WEIGHTING: 20%	
Exams	Weightings
Attendance in Practicals:	10%
a. ≥90% = 10%	
b. 80-89% = 7%	
c. 75-79% = 5%	
*End of Block/ clinical rotation (OSCE) Examination	45%
*Continuous assessment of practical/ clinical skills and attitude	20%
Pre-Annual Exam	25%
Total	100%