

Curriculum



Diploma in Community Ophthalmology (DCO)

**Bangabandhu Sheikh Mujib Medical University
Shahbagh, Dhaka.**

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Introduction

In the face of acute shortage of eye care services in the country a voluntary social service organisation "Bangladesh National Society for the Blind" was formed in the year 1972 immediately after the liberation of the country with the triple objectives of prevention, cure and rehabilitation of blind.

Over the years the Organisation has established eight base eye hospitals in the country and a multidisciplinary Eye Infirmary and Training Complex (EITC) at Chittagong and it has been rendering its services both through static and mobile eye care programs.

To meet the requirement of various categories of trained ophthalmic manpower for delivery of its ever expanding eye care services the task of its manpower development began since 1979. Realising that a more could be achieved in educating and training in Community Ophthalmology by setting up an academic institution, carrying out research in proper academic environment has led to the establishment of Institute of

Community Ophthalmology (ICO) under the Statute made by the University of Chittagong. It is an Institution within the Faculty of Medicine of the University and managed by a Governing Body headed by the Vice-Chancellor. The Institute is housed in EITC campus which is situated in the picturesque Foy's Lake area of Chittagong city.

At present the Institute conducts Diploma course in Community Ophthalmology under Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka. The Diploma in Community Ophthalmology is recognized by Bangladesh Medical and Dental Council (BMDC).

**1. Name of the course : Diploma in
Community
Ophthalmology (DCO)**

2. Duration : Two academic years

3. Date of commencement : July of each years

4. Aims and objective :

- a) To provide educational opportunities for medical graduates interested in Community Ophthalmology and the relevant basic sciences.
- b) To provide training in eye care delivery and in the prevention of blindness in the community.
- c) To provide research opportunities for better understanding of the important eye diseases in the community.
- d) To collaborate with other institutions concerned with saving sight.

5. Eligibility :

- a) Medical graduates registered / recognized with Bangladesh Medical and Dental Council (BMDC).

- b) Minimum two years after passing MBBS or its equivalent degree recognized by BMDC.

6. Admission Test:

The entrance examination will be MCQ type, containing 60% of question from basic subjects related to the practice of ophthalmology and 40% from Ophthalmology

7. Course Content

Paper I (Basics Science and Optics)

- Group A :**
1. Ocular Anatomy
 2. Ocular Physiology

- Group B :**
1. Ocular Pathology
 2. Ocular Pharmacology
 3. Optics

Paper II (Community Ophthalmology)

Group A :

1. Basic concepts of Community Ophthalmology
2. Status of Global + Regional + Country Blindness
3. Surgery of a eye care Program (Methodology, Validity of a test)
4. Epidemiological concepts and status of common eye disease Cataract, POAG, Child hood blindness, Vit A deficiency, Trachoma, DR, ARMD, ROP, STD
5. Patient's care and counseling
6. National eye care plan and program
7. Vision 2020 Program
8. G.O and N.G.O Involved in eye care program

Group B :

1. Research methodology
2. Biostatistics

3. Basic concepts of Epidemiology
4. Data–collection, Organization, gross analysis
6. Planning, Monitoring and Evaluation of Program
7. Sustainability of a Program
8. Different levels of eye care prevention and delivery

Paper III (Ophthalmic Medicine and Surgery)

Group A :

1. Orbit Oculoplasty
2. Cornea and Ocular surface disorders
3. Cataract
4. Glaucoma

Group B :

1. Uveal disorders
2. Retinal disorders
3. Neuro Ophthalmology
4. Paediatric Ophthalmology, Strabismus
5. Ocular Injury

8. Rotation Schedule:

The total period will be divided into 3 blocks and rotation schedule would be as follows.

| Block | Specialty | Duration | | |
|-------|--------------------------------------------|-----------|--|----------|
| 01 | General Ophthalmology | 6 Months | | |
| 02 | Different Sub specialty | 16 months | | |
| | I. Cataract | | | |
| | II. Glaucoma | | | 2 Months |
| | III. Orbit- Oculoplasty | | | 2 Months |
| | IV. Cornea & Microbiological Lab | | | 2 Months |
| | V. Paediatric Ophthalmology | | | 2 Months |
| | VI. Neuro Ophthalmology | | | 2 Months |
| | VII. Surgical Retina | | | 2 Months |
| | VIII. Medical Retina & Uveal Clinic | | | 2 Months |
| 03 | Out Patient Department & Hands on Training | 2 Months | | |

Note: Student will perform full time residential duties along with academic activities. They will attend the theoretical classes, morning sessions (Journal Club and Case Presentation), seminar and conferences etc.

COURSE OUTLINE

| | |
|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Term – 1</p> <p>July – December (6 months)</p> | <ul style="list-style-type: none">• Orientation (1 Month)• Theoretical (Lectures and Tutorials) :<ul style="list-style-type: none">▪ Basic Science and Optics• Ward attachment• Clinical Attachment <p style="text-align: center;">First Assessment</p> |
| <p>Term – 2</p> <p>January - June (6 Month)</p> | <ul style="list-style-type: none">• Outreach Programs:<ul style="list-style-type: none">▪ Mobile Screening Camps▪ Primary Eye Care Program▪ Schools Eye Health Program• Theoretical (Lectures and Tutorials) :<ul style="list-style-type: none">▪ Community Ophthalmology▪ Optics & Refraction• Subspecialty based tutorial• Patient Counseling• Ward attachment• Clinical Attachment at OPD and different subspecialty <p style="text-align: center;">Second Assessment</p> |

| | | |
|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Term – 3</p> <p>July – December (6 months)</p> | <ul style="list-style-type: none"> • Theoretical (Lectures and Tutorials): <ul style="list-style-type: none"> ▪ Clinical Ophthalmology ▪ Clinical Refraction • Tutorial & Case discussions • Casualty Activities • Journal & Case Presentation • Project Work • Clinical Attachment at OPD and different subspecialty • Hands on Training - Basic Surgical procedure <p style="text-align: center;">Third Assessment</p> | |
| <p>Term – 4</p> <p>January – June (6 Month)</p> | <p>Jan - April</p> | <ul style="list-style-type: none"> • Refresher Course <ul style="list-style-type: none"> ▪ Basic Science and Optics ▪ Community Ophthalmology ▪ Clinical Ophthalmology • Hands on Training - Basic Surgical procedure • Clinical Attachment at OPD and different subspecialty |
| | <p>May</p> | <p style="text-align: center;">DCO Final Assessment</p> |
| | <p>June</p> | <p>Preparation for BSMMU final Exam</p> |

9. Summative Examination:

- Summative or final examination will be after end of the course & then every January & July, the date determined by the university.
- There will be three papers on written examination.
- Written question: In each paper there will be four questions. Two of them will be Structured Essay questions (SEQ) and two will be Short Answer questions (SAQ), five in each question.
- Clinical practical:
 - Clinical (Long case 50 + Short case 50=100 marks): There will be one long case and minimum three short cases. In long case 30 minutes will be for history taking and examination and 15 minutes for crossing by two examiners. 15 minutes will be allotted

for short case. Two examiners will assess the candidate in Long case. Two examiners will assess short cases of opposite group of students.

- Practical: OSCE= 10 Stations x 10= 100 marks
- Oral: There will be two boards: In each board there will be two examiners. 15 minutes for each board equally divided into two examiners. There will be 4 examiners, Associate professor and above. 50% of the examiners will be external.
- To pass the candidate have to secure at least 60% marks in each of the three components of written (three paper combindly), clinical practical and oral examination.

Summative Examination & Marks Distribution

| Compartment A Written | | Compartment B Clinical Exam. | | Compartment C Practical/OSPE | | Compartment D Oral | |
|-----------------------------------------------------|------------|---------------------------------|------------|---------------------------------------|------------|----------------------------------------------------------------------------------|------------|
| | Marks | | Marks | | Marks | | Marks |
| Paper-I : Basic Science & Optics | 100 | Long Case | 50 | O S P E (10 Stations) | 100 | Viva Board-I Basic Science & Optics + Community Ophthalmology | 50 |
| Paper-II : Community Ophthalmology | 100 | Short Case | 30 | | | Viva Board-II Clinical Ophthalmology + Ophthalmic Medicine & Surgery | 50 |
| Paper-III: Ophthalmic Medicine and Surgery | 100 | Refractio n | 20 | | | | |
| Total | 300 | | 100 | | 100 | | 100 |
| Pass marks | 180 | 120 | | | 60 | | |

**** Total Marks 600**

10. Formative assessment:

There will be 3 formative assessments after each 6 months of training by the department / supervisor. 3 satisfactory certificates along with other requirements must be fulfilled before appearing in the final exit examination. The last 6 month will end with summative examination

11. Core clinical syllabus

LECTURES

| 11.1 Anatomy: | Hours |
|---------------------------------|--------------|
| Embryology | 3 |
| Orbit | 3 |
| Lid | 3 |
| EOM | 1 |
| Lacrimal Gland & Drainage Syste | 1 |
| Conjunctiva | 1 |
| Cornea, Sclera | 2 |
| Limbus & angle of ant. Chamber | 1 |
| Uveal track | 2 |
| Lens | 1 |

| | |
|------------------------------------|-----------|
| Vitreous | 1 |
| Retina | 2 |
| Optic Nerve | 1 |
| Visual Pathway | 2 |
| Cranial Nerves (III to VII) | 2 |
| Ciliary & Pterygopalatine Ganglion | 1 |
| Cavernous Sinus | 1 |
| Ocular Circulation | 1 |
| | 30 |

11.2 Physiology:

Hours

| | |
|----------------------|---|
| Eye Lid | 1 |
| Tear Film | 1 |
| Cornea | 1 |
| Aqueous Humor | 1 |
| Pupil | 1 |
| Lens | 1 |
| Entoptic Imagery | } |
| Visual Adaptation | |
| Vitreous Physiology | 1 |
| Retinal Physiology | 1 |
| Physiology of Vision | 1 |

| | |
|----------------------|-----------|
| Light Reflex | 1 |
| Accommodation Reflex | 1 |
| Binocular Vision | 1 |
| Colour Vision | 1 |
| Dark Adaptation | 1 |
| Light Adaptation | 1 |
| | 17 |

11.3 Optics:

Hours

| | |
|-----------------------|-----------|
| Physical optics | 4 |
| Geometrical optics | 4 |
| Clinical optics | 6 |
| Instruments (optical) | 3 |
| | 17 |

11.4 Pharmacology:

Hours

| | |
|-----------------------------------------|----------|
| Antibiotics, antifungal, antiviral | 3 |
| Antiglaucoma | |
| + Drugs act on Autonomic nervous system | 3 |
| Steroid | 1 |
| NSAID & others | 1 |
| | 8 |

| 11.5 Pathology: | Hours |
|--------------------------|--------------|
| Inflammation | 2 |
| Neoplasia | 2 |
| Degeneration & Dystrophy | 2 |
| Immunology | 2 |
| Genetics | 2 |
| | 10 |

| 11.6 Community Ophthalmology: | Hours |
|-----------------------------------------------------------------------|--------------|
| • Basic Concepts of Community Ophthalmology | 5 |
| • Epidemologic concepts- | 20 |
| Indices of morbidity (prevalence & incidence) | |
| Evaluation of diagnostic & screening tests (validity and reliability) | |
| Natural history of disease | |
| Research methodology | |
| Basic Biostatistics | |
| Primary, Secondary & Tertiary Eye Care Services | |
| Primary, Secondary & Tertiary level of Prevention | |
| • Epidemiology of : - | |
| Cataract, Glaucoma, Corneal infection | } 10 |
| Vit. A deficiency, Diabetic Retinopathy, | |
| ARMD, Trachoma, Onchocerciasis, HIV | |
| • Monitoring & Evaluation | 5 |
| • Discussion on Research / Project work | 5 |
| | 45 |

11.7 Clinical Ophthalmology: Hours

| | |
|------------------------------------------|----------|
| Diseases of Eye Lids | 3 |
| Diseases of Lacrimal gland | 2 |
| Diseases of the Lacrimal Drainage System | 2 |
| Diseases of the Conjunctiva | 3 |
| Diseases of the Cornea & Sclera | 4 |
| Diseases of the Lens | 4 |
| Glaucoma | 5 |
| Uveitis | 4 |
| Intraocular Tumors | 3 |
| Retinal Detachment | 3 |
| Acquired Macular Disorder | 3 |
| Hereditary Fundus Dystrophies | 2 |
| Retinal Vascular Disease | 4 |
| Strabismus | 4 |
| Diseases of the Orbit | 3 |
| Neurophthalmology | 5 |
| Trauma | 6 |
| | <hr/> |
| | 6 |

11.8 Attend Outreach Programs:

- Mobile Eye/ Screening Camp
- School Eye Health Program
- Primary Eye Care Program
- Under- Five Program

11.9 Hospital Activities:

- Clinical Attachment at OPD and different subspecialty
- Casualty activities
- Ward attachment
- Patient Counseling
- Hands on Training - Basic Surgical procedure

12. Procedural skill

| Diagnostic Procedure | Surgical Procedure |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>I. History and Clinical Examination:</p> <ol style="list-style-type: none"> 1. Adult 2. Children <p>II. Exposure to the Instruments</p> <ol style="list-style-type: none"> 1. Retinoscopy 2. Autorefractometry 3. Slit lamp Exam (With & Without accessories) 4. Direct Ophthalmoscopy 5. Indirect Ophthalmoscopy 6. Aplanation Tonometry 7. Gonioscopy 8. Biometry 9. Macular function Tests 10. Exophthalmometry <p>III. Investigation Procedures</p> <ol style="list-style-type: none"> 1. Color vision tests 2. Prism cover tests 3. Maddox wing 4. Visual field study 5. Maddox rod test 6. Duochrome test 7. Diplopia chart 8. Ophthalmic use of Fluorescein 9. Hess chart | <ol style="list-style-type: none"> 1. Local Anaesthesia 2. Superficial FB removal 3. Chalazion & abscess drainage 4. Dacryocystectomy 5. Dacryocystorhinostomy 6. Excision of pterygium 7. Squint surgery 8. Ptosis surgery 9. Ectropion correction 10. Entropion correction 11. Orbit reconstructive Surgeries 12. ECCE & PCIOL 13. Secondary IOL 14. Phacoemulsification 15. Trabeculectomy 16. Combined procedure 17. Vitreoretinal Surgery 18. YAG Laser Capsulotomy, Iridotomy 19. Retina Laser Surgery 20. Intra Vitreal Injection 21. Ocular Injury Repair |

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <ul style="list-style-type: none"> 10. Interpretation of X- Rays, CT Scan, MRI, MRA ECG, 11. Collection of Specimen <ul style="list-style-type: none"> a. Corneal Scrapping b. Vitreous Aspiration c. Biopsy Materials 12. Pachymetry 13. Visual field analysis 14. USG (B- Scan) 15. FFA (Fundus Fluorescein Angiography) 16. OCT (Optical Coherence Tomography) 17. Assessment of BSV 18. Latest developments <p>IV. Ocular Emergency Management</p> | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

13. Writing case note / Operation note

Each student will write case note (History, Examination, Investigation Treatment including Operation note and Follow up). Total no at least 10.

15. Eligibility for appearing in the final examination:

1. Two years in course training
2. 3 satisfactory 6 monthly report of formative assessment
3. 75% attendance in lectures
4. 75% attendance in case presentation in journal club & other academic activities
5. Satisfactorily completed logbook & case book



Bangabandhu Sheikh Mujib Medical University

Shahbag, Dhaka

Diploma trainee's Block progress report

Name of the trainee : Session :

Name of the course : Reg. No:

Name of the institute :

Period of block :

| Performance | Poor | Satisfactory | Good | Excellent |
|-------------------------|-------------|---------------------|-------------|------------------|
| Written* | | | | |
| Clinical- Practical* | | | | |
| Oral* | | | | |
| Attendance* | | | | |
| Attitude | | | | |

* Poor: <50%, Satisfactory: ≥50-60%, Good: >60-75%, Excellent : >75%

Note: "Poor" grade in more than two performance during a particular block means deficient training and also cause disqualification for appearing in the final examination unless training in particular block is complete.

Signature:
Head of the Department
(Seal)

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