(C) OPHTHALMOLOGY

The course outline is as follows :

General Learning Objectives of the Ophthalmology Course:
To equip doctors with essential knowledge, skill and attitude in order to enable them to:

1. Identify ophthalmic diseases including emergencies, provide primary eye care, refer to the appropriate center and provide follow up to the patients.
2. Perform essential minor surgical procedures
3. Communicate effectively with the patient, the family and the community regarding eye diseases and its related issues
4. Understand medical ethics and its application pertaining to ophthalmology and maintaining confidentiality of the patient.
5. To understand the prevalence and prevention of the common public health problems related to ophthalmology.
6. Understand the principles of Medical Research including fundamentals of information technology.

INSTRUCTIONAL STRATEGY

▪ **METHODOLOGY**
- Problem-based Learning
- Tutorials/ Practical sessions/Skills Lab practice
- Clinical rotations and ward visits
- Lectures/Seminars/CPC's – using modern audio visual techniques,
▪ Distant learning using electronic devices and current Information
▪ Technology facilities.

COURSE CONTENTS

- Basic Anatomy and the functions of the Eyeball and Orbit
- **Orbit:** Orbital Cellulitis, Proptosis
- **Lids:** Blepharitis, Stye, Chalazion, Trichiasis, Entropion, Ectropion, Ptosis, and Common Tumors.
- **Conjunctiva:** Infective and Allergic Conjunctivitis, Pterygium.
- **Cornea:** Corneal Ulcers, risk factors, complications and its management.
- **Sclera:** Episcleritis and Scleritis
- **Pupil:** Pupillary reflexes and their common abnormalities
- **Lacrimal Apparatus:** Composition and function of Tear film, Dry Eye
- Excessive watering (Epiphora), Dacryocystitis (Acute & chronic).
- **Therapeutics:** Drugs used in common ophthalmic conditions
- **Vitamin "A":** Ocular manifestation of vitamin A deficiency and its management.
- **Uveal Tract:** Uveitis, and its differential diagnosis from other causes of the Red Eye.
- **Lens:** Classification of cataract,
- Congenital Cataract (lamellar, signs and symptoms and management), Rubella syndrome, Acquired Cataract (senile, traumatic, drug induced), cataract due to systemic diseases (clinical picture and management including visual rehabilitation).
- **Glaucoma:** Physiology of Aqueous humor formation and its circulation.
- Measurement of IOP
- Definition & classification of glaucoma
- Primary open angle and closed angle glaucoma
- Secondary glaucoma due to hyper-mature cataract and uveitis. Principles of medical and surgical management of glaucoma.
- **Vitro-Retina:** Posterior vitreous detachment, primary retinal detachment (common presentation and principle of management)
- Diabetic Retinopathy, Hypertensive Retinopathy,
- Retinitis Pigmentonsa, Retinoblastoma.
- **Optic Nerve**: Papilloedema, Optic Neuritis (Papillitis and Retrobulbar Neuritis), Optic Atrophy

- **Visual Pathway:** Introduction to Visual Field defects in the lesions of Chiasma and visual Pathway.
- **Injuries:** Extraocular Foreign Bodies, Closed globe injuries,Open globe injuries with or without retained Intra ocular foreign bodies
- Burns and Chemical Injuries
- Sympathetic Ophthalmitis.
- **Squint and Amblyopia:** Definition, Classification and Principle of Management.
- **Errors of Refraction:** Introduction to Optical System of Normal Eye
- Emetropia, Myopia, Hypermetropia, Astigmatism, Presbyopia, Aphakia, Pseudophakia, Anisometropia and Amblyopia.

Details of Clinical and Practical Competence:
- Level of Learning:
- Level-1 Observer status
- Level-2 Assistant status
- Level-3 Perform under supervision
- Level-4 Perform Independently
- LEVEL 4

History Taking
- Defects in Vision
- Pain in and around the Eye
- Discharging Eye
- Abnormal appearance of the Eye and Orbit

Examination
- Visual Acuity, for distance and near
- Use of a pinhole
- Examination of Adnexa and anterior segment of the eye.
- Eversion of the upper Eye Lid and Lacrimal regurgitation Test
- Detection of the Deviated Eye

- Ocular Movement

- Pupillary Reflexes (Afferant Pupillary defects)

- Measurement of Intra ocular pressure.

- Palpation Assessment

- Schiotz Tonometer 1

- Distant Direct Ophthalmascopy for Identification of defects in Ocular Media

- Direct Ophthalmascopy with emphasis on disc and its abnormalities

- Swollen disc, cup disc and pale disc.

- Confrontation test for field of vision

- Familiarization with Retinoscopy

- Indirect Ophthalmascopy,

- Slit Lamp and its Uses

- Visual Fields and Use of Laser in Ophthalmology

Procedures
- Irrigation of eye
- Instillation of eye drops
- Staining for corneal ulcer
- Removal of superficial foreign bodies
- Rational use of topical anaesthesia
- Preparation for operation and post operative management
- Understand medical ethics and maintain the confidentiality of the patient

Assessment of Level of Competence:
- To Diagnose, treat and prevent certain common eye conditions e.g.
    - Blepheritis
    - Sty and Chalazion
    - Dacryocystitis
    - Conjunctivitis
    - Trachoma
    - Ocular Trauma (Corneal Foreign Body / Abrasion)
    - Ocular Allergies

- To diagnose certain eye disease, initiate first aid treatment and refer them in time e.g.
  - Corneal Ulcer
  - Uveitis
  - Acute Congestive Glaucoma
  - Open or closed globe injuries
  - Red Eye
- To enable them to diagnose other eye conditions and refer them to secondary or tertiary eye care centers for further management(Medical / Surgical) e.g.
  - Cataract
  - Squint and Amblyopia
  - Refractive Errors
  - Tumours (Leucocoria-white Pupil)
  - Serious Ocular Trauma
  - Painful or painless loss of vision.
- To understand the importance of prevention in Ocular Diseases
- Deficiency Diseases resulting in ocular problems(Thyroid, Vit"A")
- Early Detection of Glaucoma
- Diabetic Retinopathy

RECOMMENDED BOOKS

1. **Parson's Diseases of the Eye** by Ramanjit Sihala and Radhika Tandor. 3rd Ed
2. **Ophthalmology** by Renu Jogi
3. **Clinical Textbook of Ophthalmology** by Dr. Saleem Akhter
4. **Kanski's** Ophthalmology
5. **Ophthalmology Principles and Concepts** Newill F. W.
6. **Online Journals and Reading Materials through HEC Digital Library Facility.**