

# Joint Shantou International Eye Center

Shantou University & the Chinese University of Hong Kong

## Ophthalmology Curriculum for Medical Students

Updated at Feb 22, 2020

课程名称

中文名称: 眼科学

英文名称: Ophthalmology

课程性质: 专业必修课

总学时数: 30 学时 (理论课 14 学时, 见习课 16 学时)

适用专业: 临床医学专业 (全英班)

一 **Textbook:** Vaughan and Asbury's General Ophthalmology, McGraw-Hill Medical; 19<sup>th</sup> edition, Author: Riordan-Eva, Paul; Augsburger, James J. Publication Date: 19/09/2017

### 二 **Activities:**

Activities	Contents	Time
Lecture	Anatomy and physiology of the eye, Blindness	2 hrs
Lecture	Strabismus & Amblyopia	1 hr
Lecture	Uveitis	1 hr
Lecture	Lens	1 hr
Lecture	Cornea	1 hr
Lecture	Conjunctiva	1 hr
Lecture	Optic nerve	1 hr
Lecture	Optics & Refraction	1 hr
Lecture	Ocular surface diseases	1 hr
Lecture	Glaucoma	1 hr
Lecture	Ocular disorders associated with systemic diseases	1 hr
Lecture	Ocular trauma	1 hr
Lecture	Retina	1 hr
Wet lab	Dissecting of porcine eyes	1 hr

Demo and practice	General ophthalmic examination	2 hrs
Demonstration	Ophthalmic investigations	3 hrs
Demo and practice	Inpatient wards	3 hrs
Demo and practice	Outpatient clinics	3 hrs
PBL	case discussion	3 hrs

## Learning Objectives

### 1. Anatomy & physiology of the Eye (1 hour)

Describe the important structures of the eyeball.

Recognize structure of eyelid, orbit, visual pathway and their clinical relevance.

Understand the physiology of the eye.

### 2. Blindness (1 hour)

Describe the definition of blindness and visual impairment.

Understand the present situation of blindness prevention in China and worldwide.

### 3. Ocular surface disease (1 hour)

Recognize the structures of ocular surface.

Identify the components of tear film.

Describe the mechanisms, clinical features and managements of dry eye.

### 4. Conjunctiva (1 hour)

Describe the clinical features and managements of bacterial, viral allergic conjunctivitis and trachoma.

Understand the clinical features and managements of pterygium.

### 5. Cornea (1 hour)

Describe the clinical features and managements of bacterial keratitis, fungal keratitis and Herpes simplex keratitis.

### 6. Lens (1 hour)

Describe the definition, classification and evaluation of cataract.

Describe the clinical features and managements of age related cataract.

### 7. Glaucoma (1 hour)

Understand the definition of intraocular pressure and its normal range.

Describe the mechanisms, clinical features, stages and managements of acute angle closure glaucoma.

Understand the clinical features, diagnosis, and management of primary open angle glaucoma.

### **8. Uveitis (1 hour)**

List the common causes, mechanisms and classifications of uveitis.

Describe the clinical features, complications, differential diagnosis and managements of anterior uveitis.

Describe the clinical features and managements of posterior uveitis.

### **9. Retina (1 hour)**

Describe the causes, clinical features and managements of retinal artery occlusion and retinal vein occlusion.

Describe the clinical features and managements of rhegmatogenous retinal detachment.

Describe the clinical features and managements of age related macular degeneration.

### **10. Ocular Disorders Associated with Systemic Diseases (1 hour)**

Describe the clinical features and managements of diabetic retinopathy.

### **11. Optic nerve disease (1 hour)**

Describe the causes, clinical features and managements of optic neuritis, anterior ischemic optic neuropathy, and papilledema.

### **12. Optics & Refraction (1 hour)**

Understand the definition of refraction, accommodation and convergence.

Describe the causes, clinical features and managements of hypermetropia, myopia, astigmatism and presbyopia.

### **13. Strabismus, amblyopia (1 hour)**

Understand the relationship between extraocular muscles and binocular vision.

Describe the classification, clinical features and managements of esotropia and exotropia.

Describe the definition, classification and managements of amblyopia.

### **14. Ocular trauma (1 hour)**

Describe the classification and prevention measurements of ocular trauma.

Describe the clinical features, complications, diagnosis and managements of ocular blunt trauma, penetrating trauma and intraocular foreign body.

Describe the clinical features, complications and immediate managements of chemical burns.

### **15. Wet lab -dissecting porcine eye**

Identify the important structure of eyeball

### **16. General ophthalmic examination (technical skills training)**

Perform visual function assessments: visual acuity, intraocular pressure, visual field, light perception and color vision.

Perform external examination: ocular adnexa, pupil, eye position and movement

Perform slit lamp biomicroscopy for anterior segment

Perform direct ophthalmoscopy for retina

Describe tonometry, refraction, gonioscopy and three mirror lens.

### **17. Ophthalmic investigations**

Understand the usage of ophthalmic investigations: e.g. fundus photograph, optical coherence tomography, OCT angiography, wide-field laser scanning ophthalmoscopy, automated visual field, electrophysical tests, A/B ultrasound scan, fundus fluorescence angiography.

### **18. Outpatient clinic**

Describe the causes, clinical features and managements of common eye diseases, such as refractive error, cataract, glaucoma, strabismus, dry eyes.

Practice some ophthalmic tests: cover and uncover test, alternative cover test, papillary reaction and confrontation visual field.

### **19. Bedside teaching**

Ward patient based teaching: e.g. cataract, glaucoma, trauma, strabismus, retina, orbit.

Describe the causes, clinical features diagnosis and managements of those eye diseases.

Perform history acquirement and basic assessments of patient.

## 20. PBL or case discussion

Problem based learning or case discussion (classical case).

### 三 Schedule

理论课			
序号	课程内容	学时	授课形式
1	Anatomy and physiology of the eye, Blindness	2	理论
2	Optics & Refraction, Strabismus & Amblyopia	2	理论
3	Ocular surface diseases, Uveal tract	2	理论
4	Conjunctiva, Cornea	2	理论
5	Retina, ocular disorders associated with systemic diseases	2	理论
6	Ocular trauma, Optic nerve	2	理论
7	Glaucoma, Lens	2	理论
见习课			
序号	课程内容	学时	授课形式
1	眼科常用一般检查方法 2、眼科门诊 1、眼科 PBL 教学 1	4	临床见习、PBL
2	眼科门诊 2、眼科常用特殊检查 2	4	临床见习
3	眼科常用特殊检查 1、眼科病房 3	4	临床见习
4	眼科 PBL 教学 3、猪眼解剖 1	4	PBL、实操