Ordinance & Curriculum

Of

Master of Optometry (M.Optom)

(In accordance with the "**Model Curriculum of Optometry"** circulated by Allied Health Section, Ministry of Health and Family Welfare, Govt. of India)

Background of the Optometry profession

An estimated 456 million people of India's population of 1.12 billion people require vision correction (spectacles, contact lenses or refractive surgery) to be able to see and function for learning, work and life in general. Twenty six million people are blind or vision impaired due to eye disease. A further 133 million people, including 11 million children, are blind or vision impaired simply from lack of an eye examination and an appropriate pair of glasses (uncorrected refractive error).

Blindness and vision impairment place a significant economic burden on families, communities and society at large – due to lost productivity, as well as the cost of education and rehabilitation. About 85% of all vision impairment and 75% of blindness globally could be avoided, prevented orcured if the appropriately trained personnel and care facilities existed. The World Health Organisation (WHO) and the International Agency for the Prevention of Blindness (IAPB) launched the global initiative VISION 2020: the Right to Sight to eliminate avoidable blindness and vision impairment.

Uncorrected refractive error is the major cause of avoidable vision impairment, and the second most common cause of blindness. *"Without appropriate optical correction, millions of children are losing educational opportunities and adults are excluded from productive working lives, with severe economic and social consequences. Individuals and families are pushed into a cycle of deepening poverty because of their inability to see".*

In 2007, an estimated 456 million people of India's population of 1.12 billion people required vision correction (spectacles, contact lenses or surgery) to be able to see and function for learning, work and general life activities. This included 37 million children younger than 16 years of age. Almost all of these 456 million adults and children would have normal vision if they had access to an eye examination and an appropriate pair of spectacles. However, lack of access has left 133 million of them, including 11 million children, blind or vision impaired from uncorrected refractive error.

The burden of avoidable blindness and vision impairment on the health care system in India is significant, with India currently having the highest number of blind people in the world. The direct and indirect cost, including lost productivity, due to uncorrected refractive error in India has been estimated at $23 billion per year (I$269 billion globally). As the population ages, future demand for eye care services will increase substantially. Enhancing access to these services will require an increase in the number of eye care professionals, as well as more efficient utilization of existing professionals.

Optometry is recognized by the World Health Organization (WHO) as an independent profession through its ongoing official relations with the World Council of Optometry (WCO) – the international optometric organization which represents almost 300,000 optometrists from 87 member organizations in 47 countries.

Optometry as a profession has the primary public health responsibility for eliminating uncorrected refractive error. To provide excellent vision care to all the people of the country, India needs 116,000 optometrists. India currently has approximately 9,000 4-year trained optometrists and an estimated 30,000 2-year trained eye care personnel.

About Optometry

Optometry means a health care profession that is autonomous and concerned especially with examining the eye for defects and faults of refraction, with prescribing correctional lenses, eye exercises and/or visual rehabilitation care for visually impaired, with diagnosing diseases of the eye,and with treating such diseases or referring them for treatment.

Optometry as a profession has the primary public health responsibility for eliminating uncorrected refractive error (the leading cause of vision impairment globally). As primary eye care practitioners, optometrists have a vital role in detecting potentially serious eye diseases such as cataract, glaucoma and Diabetic retinopathy, age-related maculopathy, as well as general health conditions such as hypertension and diabetes, which means optometrists can also help alleviate the burden of other causes of blindness through diagnosis, referral and in some cases co-management. Optometry can and should play a leading role in eye care provision at the primary level, and can also assist at secondary and tertiary levels where possible, working with ophthalmologists and other eye care providers towards the unified goal of combating blindness.

Nomenclature based on career progression for Optometrist (as per UGC/ UP State AHC)

Levels	Nomenclature in various sectors			Qualification and experience
	Clinical	Academic	Industry/ Management	
Level 4	Ophthalmic Assistant			• Diploma with 0 - 5 years' experience post Diploma
Level 5	Junior optometrist	Clinical Instructor	Optometrist / Junior Manager	• B. Optom (or equivalent) .With more than 5 years of experience based on the performance of the individual as evaluated by the head of the department, promotion to the next one level possible.
Level 6	Consultant Optometrist	Assistant Professor 1	Skill development officer/Manager	• M. Optom /M Sc optom/ MPhil Optom/Equivalent (0-2 years experience)
Level 7	Senior consultant Optometrist	Assistant Professor 2	Project officer/Manager	• M. Optom/M Sc optom/ MPhil Optom/Equivalent (3-6 years' experience)
Level 8	Chief consultant Optometrist	Associate Professor	Project Manager/Chief Optometry Manager	• M Optom/M Sc optom/ MPhil Optom/Equivalent (7- 10 years experience, PhD desirable/not mandatory)
Level 9	Associate Director	Professor	Senior Project Manager	• M Optom/M Sc optom/ MPhil Optom /Equivalent (11-14 years experience, with PhD desirable not mandatory)*
Level 10	Director	Principal/ Dean/ Director	Director	• M. Optom/M Sc optom/ M Phil Optom/Equivalent (15 years or more of experience) with PhD *

Note: Clinical cadre needs clinical experience, academic needs teaching/ research experience and industry can have either clinical/ teaching experience with managerial skills based on the need.

** In absence of PhD or desirable experience post qualifications specified, the rules can be relaxed for initial 10 years. On Job upgradation of degree may be considered as mandatory till the profession has enough numbers to fulfil the requirements. M.Optom/Equivalent will still remain to be mandatory requirement for academic positions.*

According to International standard classification of Occupations (ISCO -08, Volume-I, International Labour Office, Geneva, 2012, Page 13,14), Optometry is classified under occupations (Major Group : Professionals(2); Sub Major Group : Health Professionals(22); Minor

Group : Other Health professionals (226) ; Unit Group : Optometrist (ISC code-2267)) at Skill Level4 typically involving the performance of tasks that require complex problem-solving, decision making and creatively based on an extensive body of theoretical and factual knowledge in a specialised field.

Such skill are usually obtained as the result of study at a higher educational institution for a period of 3-6 years leading to the award of a first degree or higher qualification (ISCED-97 Level 5 or higher)

Teaching faculty, staff and infrastructure

The importance of providing an adequate learning environment for the students cannot be over emphasized. Both the physical infrastructure (College & Hospital) and the teaching staff must be adequate and as per the latest norms of the UP State Allied & Healthcare Council.

Teaching areas should facilitate different teaching methods. Where students may share didactic lectures with other disciplines large lecture theatres may be appropriate, but smaller teaching areas should also be provided for tutorial and problem/case-based learning approaches. In all venues where students are placed the health and safety standards must be adhered to.

It is recommended that a faculty and student ratio of **1:3** to be followed in clinical training and practical. The teaching load and pay-scales as well as leave rules will be based on the latest UGC norms for the designated post. The promotion avenues for each designation will be purely based on latest UGC CAS (Career Advancement Scheme) norms.

For 60 seats intake:

S.No.	Designation of the faculty Position	No. of Faculty
1	Professor	02
2	Associate Professor	02
3	Assistant Professor	06
Total		10

The required non-teaching (Technical & Administrative) staff shall be as per the latest norms of the UGC/ UP State Allied & Healthcare Council.

Job availability

As per ILO documentation, employers worldwide are looking for job applicants who not only have technical skills that can be applied in the workplace, but who also can communicate effectively, including with customers; can work in teams, with good interpersonal skills; can solve problems; have good ICT skills; are willing and able to learn; and are flexible in their approach to work. Graduates can expect to be employed in hospitals and private practices as Optometrist. A career in research, following the completion of a higher degree such as a PhD, is an option chosen by some graduates. Also, graduates are eligible for employment overseas where their qualifications, training and experience are highly regarded. With further experience, graduates may also be employed by equipment manufacturers and development specialists.

Graduates have good employment prospects, and will enter a field in which the demand for professionals has increased in recent years and will keep on increasing due to chronic conditions.

Job Opportunities:

The job sectors for optometrist can be divided into the following areas:

1. Corporate sector
2. Private practice
3. Work for an optical chain or under an optical store
4. Public health
5. Industries/companies
6. Eye care hospitals & institutions
7. Education sector

8. Scientific research
9. Basic research and integrated professional areas

Corporate Sector:

Optometrists are employed as professional service people under various lens manufacturing companies as well as contact lens companies. Some pharmaceuticals and surgical instrument companies (eye related) also employ them. Depending on performance there is a career path for the professional service staff and some optometrist have also risen to regional heads (Asia-pacific head).

Private practice:

Optometrist upon graduation can open their optometry clinic with/without optical store. Currently many optometrists are practicing in their own clinic.

Work for optical chain:

The work environment and the responsibilities for working in a chain would be similar to that of a private practitioner.

Public Health:

Optometrist can also enter into the public health domain as health care providers. They could be involved in epidemiological studies, in primary health centres (PHC) and in SHC. Optometrists can collaborate with NGO in service delivery of health care.

Industries/ Companies:

Optometrist can involve in pre-employment vision screening, periodic eye check-up for employees,set vision standards for various occupations, help in occupational health professional in developing eye safety policy of the company, advise on appropriate eye safety wear and can do awareness campaign among the employees especially on the usage of eye safety wear and protection.

Eye Care Hospitals & Institutions:

Optometrists can provide vision care services like prescribing glasses, contact lens, provide comprehensive low vision care services, advice on vision therapy etc. They can also provide extended role in various eye clinics like managing diagnostic services and co-manage patients in an eye care institutional set up or a hospital set up. Optometrist also acts as clinical trainer, researchers, administrators and clinical heads.

Educational Sector:

Optometrists can be employed as faculty depending on experience and qualification. Optometrists also can head optometry schools or college. Academics can also be combined with clinical practice.

Research:

Research areas in optometry are quiet vast ranging from optics, contact lenses, binocular vision, glaucoma, retinal diagnostics, public health, low vision to primary eye and health care. Optometrists can involve themselves in vision science researches, not restricted with any specific areas.

Translational research:

Vision scientists/ optometrists with higher degree can involve in transformational research wherein the scientific discoveries arises from laboratory, clinical or population studies lead into clinical applications to reduce disease incidence, morbidity and mortality.

Master of Optometry

Master of Optometry

Eligibility for admission:

Bachelor of Optometry or equivalent from a recognised university with minimum 5.5 CGPA

Duration of the course

The M Optom post graduate degree program is of two years duration.
Duration of the course: 2 years or 4 semesters. (4th Semester is internship for 6 months)

Total hours –2310 (including clinical and research)

Semesters - An academic year consists of two semesters

Odd Semester: July to December

Even Semester: January to June

Medium of instruction:

English shall be the medium of instruction for all the subjects of study and for examination of the course.

Attendance:

A candidate has to secure minimum-

1. 75% attendance in theoretical
2. 80% in Skills training (practical) for qualifying to appear for the final examination.

Assessment & Examination:

Assessments should be completed by the academic staff, based on the compilation of the student's theoretical & clinical performance throughout the training programme. To achieve this, all assessment forms and feedback should be included and evaluated.

At the end of each semester, there shall be University examination.

The passing marks for every course is 50 % marks (internal & University exam taken together) in theory and practical separately.

Grace Marks:

If a candidate fails in one subject (theory only) in the University examination, five grace marks will be given to the candidate by the University before the declaration of result.

Carry forward of Marks:

In case a student fails to secure the minimum 50% in any Theory or Practical course as specified, then he/she shall reappear for the end semester examination of that course. However, his/her marks of the Internal Assessment shall be carried over and he/she shall be entitled for grade obtained by him/her on passing.

Promotion Policy:

A student shall be eligible to carry forward all the courses of I, II and III semesters till the IV semester examinations. However, he/she shall not be eligible to get the course completion certificate until all the courses of all the semesters are successfully completed.

Maximum duration of the Program:

The duration for the completion of the program shall be fixed as double the actual duration of the program and the students have to pass within the said period, otherwise they will be discharged from the said program.

Credit details:

1 hour lecture per week	1 credit
2hours of tutorials per week	1 credit
2 hours of clinics per week	1 credit

DIVISION:

• Candidate will be awarded division at the end of fourth academic year as follows:

- Distinction - 75% and above marks in any subject.
- First division - 60% and above in the aggregate of marks of all subjects.
- Second division- 50% or more but less than 60% in the aggregate of marks of all subjects.

DEGREE:

• The degree of M.Optom program of the University shall be conferred on the candidates who have pursued the prescribed course of study for not less than two years (including 6 months internship) and have passed examinations as prescribed under the relevant scheme.

Curriculum Outline

First Semester-

Sl. No.	Course Titles	Hours/week			IA*	UE**	Total marks (IA+ UE)	Total Credits
		L	P/ C/ R	Total contact hours				
MOP101	Epidemiology & Community Eyecare	30		30	50	50	**100**	**2**
MOP102	Research Methodology & Biostatistics	45		45	50	50	**100**	**3**
MOP103	Ocular Diseases and Diagnostics I	75		75	50	50	**100**	**5**
MOP104	Research Project		12		50	50	**100**	**6**
MOP105	Clinic 1 (General)		16		50	50	**100**	**8**
TOTAL		**10**	**28**	**150**	**250**	**250**	**500**	**24**
Total clinical+ Research hours: 420 hours **Total Hours for First semester:** 420 + 150 = 570 hours								

Second Semester

Sl. No.	Course Titles	Hours/week			IA*	UE**	Total marks (IA+ UE)	Total Credits
		L	P/ C	Total contact hours				
MOP201	Ocular Diseases and Diagnostics II	45		45	50	50	**100**	**3**
MOP202	Advanced Contact lens I	30		30	50	50	**100**	**2**
MOP203	Pediatric Optometry & Binocular vision	45		45	50	50	**100**	**3**
MOP204	Low Vision and Geriatric optometry	30		30	50	50	**100**	**2**
MOP205	Research Project		12		50	50	**100**	**6**
MOP206	Clinics (General)		6		50	50	**100**	**3**
MOP207	Clinics specialty		10		50	50	**100**	**5**
TOTAL			**28**	**150**	**350**	**350**	**700**	**24**
Total Clinical+ Research hours: 420 hours **Total Hours for First semester:** 420 + 150 = 570 hours								

Third Semester

Sl. No.	Course Titles	Hours/week			IA*	UE**	Total marks (IA+ UE)	Total Credits
		L	P/ C	Total contact hours				
MOP301	Advanced contact lens II	30		30	50	50	**100**	**2**
MOP302	Low vision care and rehabilitation	30		30	50	50	**100**	**2**
MOP303	Vision Therapy	30		30	50	50	**100**	**2**
MOP304	Research Project		12		50	50	**100**	**6**
MOP305	Clinics (general)		6		50	50	**100**	**3**
MOP306	Clinics (specialty)		12		50	50	**100**	**6**
TOTAL			**30**	**90**	**300**	**300**	**600**	**21**
Total clinical+ Research hours: 450 hours **Total Hours for First semester: 450 + 90= 540 hours**								

Fourth Semester

Sl. No.	Course Titles	Hours/week			IA*	UE**	Total marks (IA+ UE)	Total Credits
		L	P/ C	Total contact hours				
MOP401	Clinics (General)		8		50	50	**100**	**4**
MOP402	Clinics (Specialty)		20		50	50	**100**	**10**
MOP403	Research Project (Dissertation)		14		50	50	**100**	**7**
TOTAL			**42**		**150**	**150**	**300**	**21**
Total clinical+ Research hours: 630 hours								

First Semester

EPIDEMIOLOGY AND COMMUNITY EYE CARE

INSTRUCTOR INCHARGE: Public Health professional / Optometrist with higher degree and experience in teaching the course on epidemiology

COURSE OBJECTIVES: This course deals with the basic s of ocular epidemiology and presents details on various eye diseases. It also introduces the students to the concepts of preventive measures and to inculcate the theoretical knowledge and clinical exposure of community optometry.

COURSE OUTCOMES:

1. Thorough understanding of epidemiological concepts.
2. Thorough understanding of conducting of screening for specific eye conditions, and resultant implications through theoretical and practical exposure.

TEXT BOOKS: Epidemiology of eye diseases: Johnson and Gordon

COURSE PLAN (Total: 30 hours)

No.	Learning Objective	Topics	No of hrs.	Teaching-learning activities	Assessment methods
1.	Define the Prevalence, incidence and distribution of visual impairment	Prevalence, incidence and distribution of visual impairment	2	1. Lectures 2. Power point presentations	1. Short answer type questions 2. Viva-voce
2.	Describe the Methodology Basics of Epidemiology study methods Types of study designs Screening for visual disorders	Methodology Basics of Epidemiology study methods Types of study designs Screening for visual disorders	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
3.	Elaborate the Childhood blindness	Childhood blindness	2	1. Lectures 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
4.	Describe the Refractive errors and presbyopia and its management	Refractive errors and presbyopia	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
5.	Describe the Age related cataract and its management	Age related cataract	1	1. Lectures 2. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
6.	Describe the Low Vision and its management	Low Vision	1	1. Lectures 2. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
7.	Describe the Diabetic retinopathy and its management	Diabetic retinopathy	1	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
8.	Describe the Glaucoma and its management	Glaucoma	2	1. Lectures 2. Chart demonstrations 3. Power point	1. Short answer type questions 2. Long answer type questions

				presentations	3. Viva-voce
9.	Describe the Age related Macular Degeneration and its management	Age related Macular Degeneration	1	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
10.	Describe the Vitamin A deficiency and management	Vitamin A deficiency	1	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
11.	Describe the Corneal and external diseases	Corneal and external diseases	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
12.	Describe the Prevention strategies	Prevention strategies	1	1. Lectures 2. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
13.	Define the Concept of Health and Disease	Concept of Health and Disease	1	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
14.	Describe the Principles of Epidemiology and Epidemiological Methods	Principles of Epidemiology and Epidemiological Methods	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
15.	Describe the Screening for Eye Diseases– Refractive error, Low Vision, Cataract, Diabetic Retinopathy, Glaucoma, Amblyopia and Squint	Screening for Eye Disease– Refractive error, Low Vision, Cataract, Diabetic Retinopathy, Glaucoma, Amblyopia and Squint	2	1. Lectures 2. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
16.	Describe the Blindness and its types	Blindness	1	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
17.	Describe the Health Information and Basic Medical Statistics	Health Information and Basic Medical Statistics	2	1. Lectures 2. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
18.	Describe the Communication for Health Education	Communication for Health Education	1	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
19.	Describe the Health Planning and Management	Health Planning and Management	1	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
20.	Describe the Health care of	Health care of community	1	1. Lectures	1. Short answer type

	community			2. Chart demonstrations 3. Power point presentations	questions 2. Long answer type questions 3. Viva-voce
21.	Describe the How to plan and implement Vision2020	How to plan and implement Vision2020	1	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Viva-voce
Total number of Hours			**30**		

RESEARCH METHODOLOGY

INSTRUCTOR IN CHARGE: M.Optom/PhD

COURSE OBJECTIVES: This course is designed to provide the students the basic knowledge in Bio-statistics. At the conclusion of the course, the students will have the knowledge of data collection, statistical application and finally, presentation of the statistical data.

COURSE OUTCOMES:

1. Ability to write research proposal/grant application
2. Ability to do statistical analysis
3. Ability to write research articles (Medical writing)
4. Ability to critically evaluate the research material

TEXT /REFERENCE BOOKS:

1. Methods in Biostatistics by B.K Mahajan
2. Probability and Statistics by Murray
3. Epidemiology of Eye Diseases, by Gordon and Drawin
4. Research Methodology by SM Israni

COURSE PLAN: (Total: 45 hours)

S. NO	Learning Objective	Content	No. of Hours	Teaching-learning Activities	Assessment Methods
1	1-Explain of need of research in optometry 2-Explain the reasons for research	1-Need for Research in optometry	4	1. Lecture 2. Tutorial 3. Power point presentations	1- Very Short answer questions 2- Viva-voce
2	1- Define research. 2- Explain the objectives of research. 3- Enumerate different methods and approaches of research 4- Define Literature Review 5- What is research design	1-Introduction to research and methods 1 - literature review, Research design	6	1- Lecture 2- Tutorial 3- Power point presentations	1-Very Short answer questions 2-Viva-Voce

3	1-Define sampling & its methods 2- Describe the methods of data collection & data collection tools 3-Differentiate between Quantitative and Qualitatively data 4-Explain Public health research 3- What type of issues & errors occurs during the research 4- How do write a good quality paper	1-Sampling methods, 2-Data collection and its tools 3-Data analysis: Quantitative and Qualitatively 1- Public health research 2- Issues in Research 3- Writing skills for students	6	1- Lecture 2- Tutorial 3- Power point presentations	1. Very Short answer questions 2. Viva-voce
4	1-Describe the methods of data collection	1-Introductionandmethodofcollectingandpresentingofstatisticaldata	3	1- Lecture 2- Tutorial 3- Power point presentations	1-Long answer questions 2-Viva-voce
5	1-Define mean, mode and median. 2-Explain the guidelines for the use of various measures of central tendency. 3-How to calculate the Mean, Median & Mode 4-Explain about Skewness and Kurtosis	1-Calculation and interpretation of various measures like mean, median, standard deviations, Skewness and Kurtosis	5	1- Lecture 2- Tutorial 3- Power point presentations	1- Short answer question 2- Viva-Voce
6	1-Describe the probability and standard	1-Probability distribution	3	1- Lecture 2- Tutorial 3- Power point presentations	1- Short answer question 2- Viva-Voce
7	1-Describe the techniques of testing hypothesis, level of significance and degrees of freedom.	1-Significance tests and confidence intervals	3	1- Lecture 2- Tutorial 3- Power point presentations	1- Long Answer question 2- Viva-Voce
8	1- Define about parametric test and non- parametric test 2- Explain about parametric tests like Test for single proportion, Test for Equality of proportions, Test for single mean, Test for equality of means	1-Parametrictests– • Test for single proportion • Test for Equality of proportions • Test for single mean • Test for equality of means	5	1- Lecture 2- Tutorial 3- Power point presentations	1- Very Short answer question 2- Short answer question 3- Viva-Voce
9	1- Define ANOVA test 2- Define one way ANOVA test and two-way ANOVA test 3- Describe how to and when to use ANOVA	1-ANOVA:- • One way • Two way	5	1- Lecture 2- Tutorial 3- Power point presentations	1- Very Short answer question 2- Short answer question 3- Viva-Voce

10	1- Define Fishers exact test 2- Define McNemar test, Mann-whitney U-test, Median test, Sign test, Wilcoxon test	1-Fisher'sexacttest • McNemar test • Mann-whitney U-test • Median test • Sign test • Wilcoxon test	3	1- Lecture 2- Tutorial 3- Power point presentations	1- Very Short answer question 2- Short answer question 1- Long answer question 2- Viva-Voce
11	1- What is non-parametric test 2- Explain briefly about Chi-square test	1. Nonparametrict ests– • Chi-square tests	2	1- Lecture 2- Tutorial 3- Power point presentations	1- Short answer question 2- Long answer question 3- Viva-Voce
Total Number of Hours			**45**		

OCULAR DISEASES AND DIAGNOSTICS - I

INSTRUCTOR IN CHARGE: Ophthalmologist/M. Optom

COURSE OBJECTIVES: Evidence based approach to Diagnosis, Clinical decision Making, Management and co management of anterior segment ocular diseases. Developing more reading ability of scientific journals for more evidence based management with recent understanding of diseases.

COURSE COMPETENCIES:

1. Ability to perform clinical decision making for Ocular abnormalities
2. Ability to perform and interpret corneal diagnostics including
   Topography/Pentacam/Orbscan
   Specular microscopy
   Pachymetry
   Abberometry
   AS OCT UBM
3. Ability to perform pre and post Lasik evaluation
4. Ability to interpret glaucoma diagnostic reports
   OCT
   HRT
   GDx
   Gonioscopy
   ONH evaluation
5. Ability to perform anterior segment photography
6. Ability to manage and co-manage therapeutics for anterior segment
7. Referral criteria

TEXT/ REFERENCE BOOKS:

1. Clinical Ophthalmology: Jack J Kanski
2. Diagnostics and imaging techniques in Ophthalmology: Amar Agarwal

COURSE PLAN: Total : 80 Hours

No.	Learning Objective	Topics	No of hrs.		
1.	Describe anterior segment ocular diseases, diagnosis and management.	Refresher of anterior segment ocular diseases, diagnosis and therapeutics	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical

2.	Explain glaucoma diagnosis and therapeutics in detail.	Refresher of glaucoma diagnosis and therapeutics	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
3.	Surgical Management of anterior segment diseases such as, keratoplasty, cataract, surgery, glaucoma surgery etc.	Surgical treatment of anterior segment diseases	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
4.	Describe Anterior segment Diagnostics Describe Specular Microscopy and its clinical uses.	Anterior segment Diagnostics Specular Microscopy	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
5.	Describe corneal Topography, its types and clinical uses.	Topography	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
6.	Describe Corneal Hysteresis and its relevance to glaucoma.	Corneal Hysteresis	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
7.	Explain procedure and clinical application of Orbscan, Pentacam	Orbscan, Pentacam	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
8.	Describe Pachymetry and its clinical uses.	Pachymetry	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
9.	Explain clinical applications of Abberometer.	Abberometer	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
10.	Describe anterior segment OCT procedure and its clinical applications.	AS OCT	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical

11.	Describe HRT procedure and its clinical applications.	HRT	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
12.	Describe GDX and ONH procedure and its clinical applications.	GDx ONH evaluation	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
13.	Describe types of gonioscopy, procedures and its clinical application.	Gonioscopy	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
14	Clinical procedure and application of Fluorosceinangiography	Fluorosceinangiography	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
15	Describe types of Refractive surgery	Refractive surgery	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
16	Explain Cataract evaluation in detail.	Cataract evaluation	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
Total number of Hours			**80**		

RESEARCH PROJECT – Total: 180 hours

Students will prepare the protocol during this semester after doing extensive literature search. Each student will be reporting to guide/supervisor who helps the student to go about in systematically. Research proposal need to be presented infront of the experts before going ahead with data collection. In institute which has Institute research board and ethics committee student can be encouraged to present the proposal in it.

CLINICS: GENERAL: Total - 240 hours

OBJECTIVES: The objective of clinics in this semester is to be able to examine the eye and understand the all eye procedures with clinical management.

An approximate of guided 240 hours needs to be completed in this semester. The students will be by rotation go to community clinics, Campus clinics, and associated hospital and optical / optometric clinics.

The logbook has to be maintained and case sheets of each subject in the semester with complete

management and follow up are mandatory for submission at the end of the semester

The log book needs to be signed by the supervisor during every visit. No case record will be considered without the supervisor's signature.

Second Semester

OCULAR DISEASES AND DIAGNOSTICS – II

INSTRUCTOR IN CHARGE: Ophthalmologist/M.Optom

COURSE OBJECTIVES: Evidence based approach to Diagnosis, Clinical decision Making, Management and co management of posterior segment diseases. Developing more reading ability of scientific journals for more evidence based management with recent understanding of diseases.

COURSE COMPETENCIES:

1. Ability to perform electro diagnostic procedures and interpret electro diagnostic reports
   ERG
   EOG
   VEP
2. Ability to perform stereoscopic fundus photography
3. Ability to use Ocular photography as tool for evidence based clinical decision making and progression analysis
4. Ability to perform posterior segment photography
5. Ability to manage and co-manage diseases and disorders of posterior segment

TEXT/ REFERENCE BOOKS:

1. Clinical Ophthalmology: Jack J Kanski
2. Diagnostics and imaging techniques in Ophthalmology: Amar Agarwal

COURSE PLAN: (Total: 45 Hours)

No.	Learning Objective	Topics	No of hrs.		
1.	Describe disease of vitreous humor, retina, optic nerve with their diagnosis and therapeutics.	Refresher of posterior segment ocular diseases, diagnosis and therapeutics	10	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
2.	Elaborate different surgical treatment of posterior segment diseases	Surgical treatment of posterior segment diseases	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
3.	Explain diagnostic procedures and interpret electro diagnostic reports ERG EOG VEP	Posterior segment Diagnostics ERG EOG VEP	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical

4.	Describe posterior segment photography with interpretation. OCT	OCT	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
5.	Describe posterior segment photography with interpretation. FFA.	Fundus photography	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
6.	Describe Neuro optometric diseases – Visual pathway lesions, Pupillary reflexes abnormalities , optic nerve disease, color blindness, Amblyopia etc.	Neuro optometric diseases and disorders	10	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
Total number of Hours			**45**		

ADVANCED CONTACT LENSES – I

INSTRUCTOR IN CHARGE: M.OPTOM/PhD/FIACLE

COURSE OBJECTIVES: Upon completion of the course, the student should be able to understand the corneal oxygen requirements and recommend the best suitable contact lens for a particular condition. Management of ocular complications with contact lenses. Understand contact lens fitting for compromised corneas and keratoconus. The student should also be able to understand the fitting philosophy of orthokeratology and myopia control.

COURSE COMPETENCIES:

1. Ability to understand corneal physiology and oxygen needs
2. Ability to diagnose and manage complications due to contact lenses
3. Ability to fit specialized contact lenses
   Keratoconus
   Rose'K lenses
   Mini scleral lenses

TEXT/ REFERENCE BOOKS:

1. IACLE modules
2. Contact lenses – Stone and Philips

COURSE PLAN: (Total: 30 hours)

No.	Learning Objective	Topics	No of hrs.		
1.	Revise the Anatomy and Physiology of the Cornea and related Structures	Anatomy and Physiology of the Cornea and related Structures	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical

2.	Describe the Contact Lens Materials	Contact Lens Materials	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
3.	Describe the Microbiology, Lens Care and Maintenance	Microbiology, Lens Care and Maintenance	3	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
4.	Describe the relation between Tears and contact lenses	Tears and contact lenses	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
5.	Describe the Optics and Lens Design	Optics and Lens Design	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
6.	Describe the need of clinical Instrumentation in contact lens practice	Clinical Instrumentation in contact lens practice	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
7.	Describe the Rigid Gas Permeable corneal lens fitting	Rigid Gas Permeable corneal lens fitting	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
8.	Describe the Soft contact lens fitting	Soft contact lens fitting	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
9.	Describe the Toric Contact lens and its fitting	Toric Contact lens fitting	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
10.	Describe the Lens care regimen	Lens care regimen	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical

11.	Describe the Contact lens standards	Contact lens standards	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
12.	Describe the Lens checking : Soft and Rigid	Lens checking : Soft and Rigid	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
13.	Describe the Contact lens complications	Contact lens complications	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
14.	Define the Special types of Contact lenses – diagnosis, surgery, protective, therapeutic, sports, partiallysighted	Special types of Contact lenses – diagnosis, surgery, protective, therapeutic, sports, partiallysighted	3	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
Total number of Hours			**30**		

1.

PEDIATRIC OPTOMETRY AND BINOCULAR VISION

INSTRUCTOR IN CHARGE: M.Optom/FCOVD

COURSE OBJECTIVES: Upon completion of the course, the student should be able to understand the, basic concept behind visual perception, binocular vision anomalies and management and co- management of strabismic, non-strabismic binocular vision disorders and amblyopia.

COURSE COMPETENCIES:

1. Ability to diagnose and manage and co-manage binocular vision anomalies
2. Ability to co-manage visual perceptual anomalies
3. Ability to manage diplopia, suppression and ARC
4. Ability to manage amblyopia

TEXT/ REFERENCE BOOKS:

1. Clinical management of binocular vision Mitchell Scheiman and Bruce Wick
2. Applied concepts in vision therapy: Leonard Press
3. Pediatric optometry: Jerome K Rosner

COURSE PLAN: (Total: 45 hours)

No.	Learning Objective	Topics	No of hrs.		
1.	After studying this, student will able to describe- 1. Prerequisites for development of good refractive media, and cause of its abnormalities and 2.Refractive anomalies. Accommodation and Convergence relation	Refractive Development: Early Refractive Development Visually Guided control of Refractive State: Animal Studies Infant Accommodation and	10	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical

	and its anomalies.	Convergence			
2.	Describe Conjugate eye movement of infant. Explain development of Vestibuloocular and Optokinetic reflexes	Oculomotor Function: Conjugate Eye Movements of Infants Development of the Vestibuloocular and Optokinetic reflexes	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
3.	Describe Spatial vision and Chromatic Vision: Front-end Limitations to Infant Spatial vision: Examination of two analyses Development of the Human Visual Field Development of Scotopic Retinal Sensitivity Infant Color vision Orientation and Motion selective Mechanisms in Infants Intrinsic Noise and	Spatial and Chromatic Vision: Front-end Limitations to Infant Spatial vision: Examination of two analyses Development of the Human Visual Field Development of Scotopic Retinal Sensitivity Infant Color vision Orientation and Motion selective Mechanisms in Infants Intrinsic Noise and Infant performance	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
4.	1. Explain Development of vision in infants. 2. Explain Development of stages of binocular vision and Stereopsis in infant. 3. describe Horopter.	Binocular Vision: Development of intraocular vision in Infants Stereopsis in Infants and its developmental relation to visual acuity Sensorimotor Adaptation and Development of the Horopter Two stages in the development of Binocular Vision and Eye Alignment	10	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
5.	Cause of abnormal visual development (Retinal and cortical developmental anomalies). Describe future prospective of infant vision research.	Retinal and cortical Development Abnormal Visual Development What next in Infant Research	5	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
6.	1-Describe Clinical Applications:	Clinical Applications: Assessment of Child	10	1. Lectures 2. Chart demonstrations 3. Power point	1. Short answer type questions 2. Long answer type

	Assessment of Child Vision and Refractive Error. 2-Explain pediatric routine eye examination. Describe refraction Cycloplegic Refraction Color Vision Assessment in Children. 3-Describe Dispensing for the Child patient 4- Pediatric Contact Lens Practice. 5-Explain Dyslexia and Optometry Management 6- Electro diagnostic Needs of Multiple Handicapped Children Management 7- Ametropia, Constant Strabismus Management Guidelines – Amblyopia 8-Describe anomalies of Accommodation and Vergence . 9-Describe Nystagmus. 10-Common genetic problems in Paediatric optometry Pediatric Ocular Diseases Ocular Trauma in Children Myopia control Clinical uses of prism	Vision and Refractive Error Refractive Routines in the Examination of Children Cycloplegic Refraction Color Vision Assessment in Children Dispensing for the Child patient Pediatric Contact Lens Practice Dyslexia and Optometry Management Electro diagnostic Needs of Multiple Handicapped Children Management Guidelines – Ametropia, Constant Strabismus Management Guidelines – Amblyopia Accommodation and Vergence anomalies Accommodation and Vergence anomalies Common genetic problems in Paediatric optometry Pediatric Ocular Diseases Ocular Trauma in Children Myopia control Clinical uses of prism		presentations	questions 3. Assignments 4. Viva-voce 5. Practical
Total number of Hours			**45**		

LOW VISION CARE AND GERIATRIC OPTOMETRY

INSTRUCTOR INCHARGE: M.Optom/PhD

COURSE OBJECTIVES: Upon completion of the course, the student should be able to understand the best suitable low vision and functional assistive device for a particular condition and rehabilitation. This course gives both in-depth theoretical knowledge and clinical exposure in low vision care. The outcomes of this course are: Thorough understanding of the causes of the low vision, its functional and psychosocial consequences. Help visually impaired individuals to utilize their residual visual skills optimally and rehabilitate.

COURSE COMPETENCIES:

1. Ability to diagnose and manage patients with vision impairment

2. Ability to perform specialized diagnostics for patients with low vision with multiple disabilities
   Rudimentary vision
   Berkeley visual field test
   Hand disc perimetry
3. Ability to train for eccentric viewing and steady eye techniques
4. Ability to rehabilitate patients with VI with vocational counselling and activities of daily living

TEXT/ REFERENCE BOOKS: The lighthouse handbook on vision impairment and Vision rehabilitation: Barbara Silverstone, Mary Ann Lang, Bruce Rosenthal, Faye.

COURSE PLAN (Total: 30 hours)

S. No	Learning Objective	Content	No. of Hours	Teaching-learning Activities	Assessment Methods
1	1-Write in Details about Visual disorders in adults and children's 2-Write in details of causes of vision impairment in india 3-Write short notes on a) Age – Related Cataract, b) Glaucoma c) ARMD d) Diabetic retinopathy e) Corneal Disorders f) Ocular Trauma g) Sensory Neuro-ophthalmology and Vision Impairment h) Refractive Disorders	1-Visual Disorders – 2-The Epidemiology of Vision Impairment 3-Vision Impairment in the paediatric population 4-Ocular Diseases : • Age – Related Cataract, • Glaucoma • ARMD • Diabetic retinopathy • Corneal Disorders • Ocular Trauma • Sensory Neuro-ophthalmology and Vision Impairment • Refractive Disorders	2	1- Lecture 2- Tutorial 3- Power point presentations	Very Short answer type Short answer type Long Answer type Viva
2	1- What is functional vision 2- What are thepsychosocialimplications of low vision? 3- What are the challenges of a	1-Visual Disorders – The Functional Perspective 2-Low Vision and Psychophysics 3-Visual Functioning in Paediatric Populations with Low Vision 4-Perceptual correlates of Optical Disorders	2	1- Lecture 2- Tutorial 3-]Power point presentations	Long answer type Short answer type Viva-voce

	child with a visual impairment? **4- What is visual perceptual dysfunctions and assessment** 5- What neurological disorders affect the eyes? 6- What part of the brain causes visual disturbances? 7- How does visual impairment affect performance on tasks of everyday life the SEE project?	5-Functional aspects of Neural Visual Disorders of the eye and Brain 6-Visual Disorders and Performance of specific Tasks requiring vision			
3	1- What are the psychological implications of visual impairment? 2- What are some psychosocial issues patients may have when it comes to a loss of visual sensory perception? 3- What are the cognitive characteristics of visual impairment? 4- What is orientation and mobility training for a student with vision impairment? 5- What is the importance of orientation and mobility to visually impaired learners? 6- What would be most useful for	1- Visual Disorders – The Psychosocial Perspective 2-Developmental perspectives YouthVision Impairment and Cognition 3-Spatial orientation and Mobility of people with vision impairments Social skills Issues in vision impairment 4-Communication and language: Issues and concerns 5-Developmental perspectives on Aging and vision loss 6-Vision and cognitive Functioning in old age	3	1- Lecture 2- Tutorial 3- Power point presentations	Long answer type Short answer questions Viva-voce

	orientation and mobility training for visual impairment? 7- What are some communication problems associated with the elderly? 8- What are the communication barriers for elderly people? 9- How does vision loss affect communication? 10- How does aging affect language?				
4	1- How do you interact with a vision impaired patient? 2- What are some do's and don'ts when interacting with a person with a visual impairment? 3- What are three things you can do to ensure users with a visual impairment can use the app? 4- How does vision impairment affect physical development? 5- How does diabetes mellitus affect the eyes? 6- What complications can diabetes cause vision impairment? 7- What causes blurred vision in diabetes mellitus? 8- What vision problems are caused by MS? 9- What is the most common ocular manifestation of multiple sclerosis?	1- Interactions of Visionimpairment with otherDisabilities and sensory Impairments. 2- Children with Multiple Impairments 3- Dual Vision and Hearing Impairment 4- Diabetes Mellitus and Vision Impairment 5- Vision Problems associated with Multiple Sclerosis 6- Vision Impairment related to Acquired Brain Injury 7- Vision and Dementia 8- Low Vision and HIV infection	2	1- Lecture 2- Tutorial 3- Power point presentations	Long answer type Short answer questions Viva-voce

	10- How does MS affect vision physiology? 11- Can MS cause visual disturbances? 12- What types of visual impairments are common following brain injuries 13- What are common vision related symptoms of brain injury? 14- What are the three most common visual impairments after a brain injury? 15- What brain injury causes vision loss? 16- Is vision loss a symptom of HIV? 17- Does HIV cause vision? 18- What is ocular manifestation of HIV? 19- What is 8 How does a person get affected with HIV?				
5	1- How do you apply universal design to any product or environment 2- How do you design a visually impaired person? 3- What are the 7 principles of universal design? 4- What are the main purposes of universal design? 5- What is the disabilities Act in India?	1- The Environment and Vision Impairment: Towards Universal Design 2- Indian Disabilities act 3- Children's Environments 4- Environments of Older people 5- Outdoor environments 6- Lighting to enhance visual capabilities 7- Signage and way finding 8- Accessible Environments through Technology	2	1- Lecture 2- Tutorial 3- Power point presentations	Long answer type Short answer questions Viva-voce

	6- What are the 2 types of disabilities? 7- What are the types of disability in India? 8- How many types of disabilities are listed in the PWD Act 2016 of India? 9- What is accessibility to technology? 10- What are the assistive technologies for accessibility? 11- What are the different types of accessibility? 12- What are examples of available accessibility features? 13- What lighting is best for visually impaired? 14- What are 3 types of lighting options? 15- What is the importance of lighting in vision system? 16- How many lighting techniques are there in vision applications?				
6	1- How many blind people are there in Asia? 2- What is rehabilitation in low vision? 3- Who needs vision rehabilitation? 4- Does Singapore	1- Vision Rehabilitation: In Western Countries In Asia 2- Personnel preparation in Vision Rehabilitation	2	1- Lecture Tutorial 2- Power point presentations	Long answer type Short answer questions Viva-voce

	have a comprehensive low vision service? 5- What can you do to support someone with a vision impairment? 6- Who needs vision rehabilitation?				
7	1- What are the psychological implications of visual impairment? 2- What are the psychological needs of a blind person? 3- What are the factors of visual impairment? 4- What is visual impairment in psychology? 5- What are the psychological implications of visual impairment? 6- What are some of the psychological and behavioral characteristics of learners with visual impairments? 7- What are some psychosocial issues patients may have when it comes to a loss of visual sensory perception? 8- What is the role of family in the development of a visually impaired child?	1-Psychological and social factors in visual Adaptation and Rehabilitation 2-The Role of psychosocial Factors in adaptation to vision Impairment and Rehabilitation outcomes for Children and Youth 3-The Role of psychosocial Factors in adaptation to vision Impairment and Rehabilitation outcomes for Adults and Older adults 4-Social support and adjustment to vision Impairment across the life span 5-The person – Environment perspective of vision impairment 6-Associated Depression, Disability, and rehabilitation 7-Methodological strategies and issues in social research on vision Impairment and rehabilitation	2	1- Lecture 2- Tutorial 3- Power point presentations	Long answer type Short answer questions Viva-voce

	9- What are the struggles and challenges do you think visually impaired people face in their daily lives? 10- What are the challenges faced by visually impaired students? 11- How can the barriers to visual impairment be overcome? 12- What should you consider when communicating with someone with sight loss? 13- 14- How do you deal with depression and disability? 15- What is considered a psychiatric disability? 16- What are the psychological problems of disability? 17- What is the difference between physical disability and mental disability?				
Total Number of Hours			15		

RESEARCH PROJECT:

Data Collection and submit the progress of the research at the end of the semester.

CLINIC: GENERALOBJECTIVES:

The objective of clinics in this semester is to be able to examine the eye and understand the all eye procedures with clinical management.

An approximate of guided 240 hours needs to be completed in this semester. The students will be by rotation go to community clinics, Campus clinics, and associated hospital and optical / optometric clinics.

The logbook has to be maintained and case sheets of each subject in the semester with complete management and follow up are mandatory for submission at the end of the semester

The log book needs to be signed by the supervisor during every visit. No case record will be considered without the supervisor's signature

CLINIC: SPECIALITY

OBJECTIVES: The objective of clinics in this semester is to be able to gets hand-on experiencerelated to diagnosis, interpretation of the reports/findings and management.

An approximate of guided 240 hours needs to be completed in this semester. The students will be by rotation go to community clinics, Campus clinics, and associated hospital and optical / optometric clinics.
The focus will be on the specialized subjects studies in this semester.

The logbook has to be maintained and case sheets of each subject in the semester with complete management and follow up are mandatory for submission at the end of the semester

The log book needs to be signed by the supervisor during every visit. No case record will be considered without the supervisor's signature

Third Semester

ADVANCED CONTACT LENSES – II

INSTRUCTOR IN CHARGE:M.OPTOM/PhD/FIACLE

COURSE OBJECTIVES: Upon completion of the course, the student should be able to understand the corneal oxygen requirements and recommend the best suitable contact lens for a particular condition. Management of ocular complications with contact lenses. Understand contact lens fitting for compromised corneas and keratoconus. The student should also be able to understand the fitting philosophy of orthokeratology and myopia control.

COURSE COMPETENCIES:

1. Ability to fit specialized contact lenses
   Keratoconus
   Rose'Klenses
   Mini scleral lenses
   Hybrid lenses
   Orthokeratology
   Scleral lenses: Dry eyes, SJS, Post PK, Post C3R, Post LASIK ectasia
2. Ability to fit custom made ocular prosthesis
3. Ability to fit pediatric contact lenses

TEXT/ REFERENCE BOOKS:

1. IACLE MODULES
2. CONTACT LENSES – STONE AND PHILIPS

COURSE PLAN: (Total: 30 hours)

No.	Learning Objective	Topics	No of hrs.		
1.	Define and differentiate the Extended and Continuous wear Lenses	Extended and Continuous wear Lenses	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
2.	Describe the Scleral Contact lenses and its fitting	Scleral Contact lenses	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
3.	Describe the Bifocal and Multifocal contact lenses	Bifocal and Multifocal contact lenses	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
4.	Elaborate the Orthokeratology in detail	Orthokeratology	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
5.	Describe the Keratoconus and CL fitting options	Keratoconus	2	1. Lectures 2. Chart demonstrations 3. Power point	1. Short answer type questions 2. Long answer type

				presentations	questions 3. Assignments 4. Viva-voce 5. Practical
6.	Describe the Post keratoplasty (PK) CL fitting	Post keratoplasty contact lens fitting	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
7.	Describe the Post refractive surgery contact lens fitting	Post refractive surgery contact lens fitting	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
8.	Describe the Pediatric contact lens fitting	Pediatric contact lens fitting	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
9.	Describe the Cosmetic and Prosthetic CL fitting	Cosmetic and prosthetic contact lens fitting	3	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
10.	Explain the CL options for abnormal ocular conditions	Contact lens for abnormal ocular conditions	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 4. Viva-voce 5. Practical
11.	Describe the Contact lens and Myopia control strategy	Contact lens and Myopia control	3	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce
12.	Describe the Legal issues and contact lenses	Legal issues and contact lenses	2	1. Lectures 2. Power point presentations	1. Short answer type questions 4. Viva-voce
13.	Describe the Contact lens manufacturing methods	Contact lens manufacturing	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Viva-voce 4. Practical
14.	Describe the CL modifications procedures	Modifications procedures	2	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3.Viva-voce
Total number of Hours			**30**		

LOW VISION CARE AND REHABILITATION

INSTRUCTOR IN CHARGE: M.Optom/PhD

COURSE OBJECTIVES: Upon completion of the course, the student should be able to understand the best suitable low vision and functional assistive device for a particular condition and rehabilitation. This course gives both in-depth theoretical knowledge and clinical exposure in low vision care. The outcomes of this course are: Thorough understanding of the causes of the low vision, its functional and psychosocial consequences. Help visually impaired individuals to utilize their residual visual skills optimally and rehabilitate.

COURSE COMPETENCIES:

1. Ability to diagnose and manage patients with vision impairment
2. Ability to perform specialized diagnostics for patients with low vision with multiple disabilities
3. Ability to train for eccentric viewing and steady eye techniques
4. Ability to rehabilitate patients with VI with vocational counselling and activities of daily living

TEXT/ REFERENCE BOOKS: The lighthouse handbook on vision impairment and Vision rehabilitation: Barbara Silverstone, Mary Ann Lang, Bruce Rosenthal, Faye.

COURSE PLAN: (Total – 30 hours)

S. NO	Learning Objective	Content	No. of Hours	Teaching-learning Activities	Assessment Methods
1	1- How can help a child who is visually impaired 2- What are the needs of visually impaired children? 3- What is the role of family in the development of a visually impaired child? 4- What are the challenges of a child with a visual impairment? 5- What is rehabilitation?	1.Rehabilitation of Children and Youth with vision Impairment	2	1- Lecture 2- Tutorial 3- Power point presentations	Very Short answer questions Practical exam Viva-voce
2	1- What kind of rehabilitation is provided for middle aged visually impaired individuals? 2- What is rehabilitation in low vision? 3- How do you work with someone with visual impairment? 4- Who needs vision rehabilitation?	1 . Rehabilitation of working–age Adults with Vision Impairment	3	1- Lecture 2- Tutorial 3- Power point presentations	Very Short answer questions Viva-Voce
3	1- What is rehabilitation in blind people? 2- What is rehabilitation in low vision? 3- How can help the elderly with poor eyesight? 4- What can you do to support someone with a vision impairment?	1.Rehabilitation of older Adults with Vision Impairment	3	1- Lecture 2- Tutorial 3- Power point presentations	Very Short answer questions Viva-voce

4	1- What are the consequences of visual impairment? 2- What arefunctional effects of low vision? 3- What is functional visual impairment? 4- What are the functional limitations of blindness?	1.Functional consequences of vision Impairment	3	1- Lecture 2- Tutorial 3- Power point presentations	Long answer questions Viva-voce
5	1- How do you assess visual acuity of an infant? 2- What is paediatric vision chart? 3- How is visual acuity tested in children? 4- What is the visual acuity of a new-born infant?	1.VisionevaluationofInfants	3	1- Lecture 2- Tutorial 3- Power point presentations	Short answer question Viva-Voce
7	1- What are functional evaluation methods? 2- What does a functional assessment evaluate? 3- What is a functional assessment of a patient? 4- How do you assess functional disability?	1.Functional Evaluation of the Adult	2	1- Lecture 2- Tutorial 3- Power point presentations	Long Answer question Viva-Voce
8	1- What is the concept of orientation and mobility? 2- What are the four basic techniques in orientation and mobility? 3- How does blindness affect mobility? 4- What does mobility mean in reference with low vision?	1.Functional orientation and Mobility	2	1- Lecture 2- Tutorial 3- Power point presentations	Very Short answer question Short answer question Viva-Voce
9	1- What is included in a functional vision assessment? 2- What is ADL in low vision? 3- How does low vision affect daily life? 4- How do you assess low vision?	1.Functional Assessment of Low Vision for Activities of Daily living	2	1- Lecture 2- Tutorial 3- Power point presentations	Very Short answer question Short answer question Viva-Voce
10	1- What are the psychological implications of visual impairment? 2- What are some psychosocial issues patients may have when it comes to a loss of visual sensory perception? 3- What are some of the psychological and behavioral characteristics of learners with visual impairments? 4- What is visual impairment in psychology?	1.Psychosocial assessment of adults with vision impairment	3	1- Lecture 2- Tutorial 3- Power point presentations	Very Short answer question Short answer question Long answer question Viva-Voce

11	1- Which assistive technology is used by blind users? 2- What device helps low vision people see better? 3- What are 5 assistive devices? 4- What are the alternative technologies in use for the visually impaired people?	1.Assistive Devices and Technology for Low Vision	3	1- Lecture 2- Tutorial 3- Power point presentations	Short answer question Long answer question Viva-Voce
	1- What is considered as low vision? 2- What is the difference between low vision and visual impairment? 3- What are examples of low vision? 4- What are the different levels of vision?	1.Vision and Reading-Normal Vs Low Vision	2	1- Lecture 2- Tutorial 3- Power point presentations	Short answer question Long answer question Viva-Voce
	1- How does color vision deficiency affect a person? 2- What is the most common color perception deficiency? 3- What is usually the cause of color deficiency? 4- Why do we need educate patients on color vision deficiency?	1.Clinical Implications of color vision Deficiencies	2	1- Lecture 2- Tutorial 3- Power point presentations	Short answer question Long answer question Viva-Voce
Total Number of Hours			**30**		

VISION THERAPY

INSTRUCTOR IN CHARGE:FCOVD/M.Optom

COURSE OBJECTIVES: The course is designed to help expand the student's knowledge base in all aspects of behavioural vision care. Advanced competency is expected in the following principles and procedures for each clinical condition.

COURSE COMPETENCIES:

Principles and Procedures – The student should be able to define and explain:

1. The unique qualities, scientific, and clinical principles of each clinical condition.
2. The epidemiological and demographic characteristics of each clinical condition.
3. The characteristic history, signs and symptoms for each clinical condition.
4. How to assess each clinical condition, including specific test protocols and their interpretation.
5. The differential diagnosis for each clinical condition.
6. The specific treatment and management of each clinical condition including:
   Prognostic indicators
   Treatment options
   Duration and frequency of treatment
   Treatment philosophy and goals
   Specific lens treatment and therapy procedures including rationale for treatment
   Ergonomics and visual hygiene
   Outcomes to determine successful completion of treatment
   Frequency of follow-up care and patient instructions
   Referral criteria (medical, neurological, educational, etc.)

TEXT/ REFERENCE BOOKS:

1. Clinical management of binocular vision Mitchell Scheiman and Bruce Wick

2. Applied concepts in vision therapy: Leonard Press

COURSE PLAN: (Total - 30 hours)

No.	Learning Objective	Topics	No of hrs.		
1.	The student should be able to define and explain: Amblyopia Anisometropic / Isometropic Refractive Amblyopia Hysterical Amblyopia Form Deprivation Amblyopia Elaborate Differential diagnoses in childhood visual acuity loss Strabismus	Clinical Conditions Strabismus and Amblyopia Anisometropic / Isometropic Refractive Amblyopia Hysterical Amblyopia Form Deprivation Amblyopia Differential diagnoses in childhood visual acuity loss Strabismus	3	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
2.	Describe Accommodative Acquired Microtropia Sensory Convergence Excess Divergence Insufficiency Non-accommodative Sensory Adaptations	Accommodative Acquired Microtropia Sensory Convergence Excess Divergence Insufficiency Non-accommodative Sensory Adaptations	3	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
3.	Describe types of Exotropia with clinical features. Explain Congenital Sensory Vertical Deviations Noncomitant Deviations (AV Syndrome; Duane's Retraction Syndrome;Brown's Syndrome; III, IV, VI nerve palsy, etc.)	Exotropia Divergence Excess Convergence Insufficiency Basic Exotropia Congenital Sensory Vertical Deviations Noncomitant Deviations (AV Syndrome; Duane's Retraction Syndrome;Brown's Syndrome; III, IV, VI nerve palsy, etc.)	3	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
4.	Describe Anomalous Correspondence Eccentric Fixation Suppression Motor Ranges Stereopsis.	Differential diagnoses in strabismus Special clinical considerations Anomalous Correspondence Eccentric Fixation	3	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical

		Suppression Motor Ranges Stereopsis			
5.	Describe Horror fusionalis/intractable diplopia Perception and Information Processing Ambient / focal systems. Visual perceptual midline Parvo cellular / Magno cellular function Perceptual Style (central, peripheral) Impact of colored filters Attention	Horror fusionalis/intractable diplopia Perception and Information Processing Ambient / focal systems. Visual perceptual midline Parvo cellular / Magno cellular function Perceptual Style (central, peripheral) Impact of colored filters Attention	3	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
6.	Describe Visual-auditory Visual-vestibular Visual-oral Visual-motor Visual-tactual	Intersensory and Sensorimotor Integration Visual-auditory Visual-vestibular Visual-oral Visual-motor Visual-tactual	3	1. Lectures 2. Chart demonstrations 3. Power point presentations	1. Short answer type questions 2. Long answer type questions 3. Assignments 4. Viva-voce 5. Practical
7.	Explain Visual requirements for academic success Bilaterality Gross and fine motor ability Form perception/visual analysis Spatial awareness Visualization Visual memory Visual sequential memory Form constancy Visual speed and visual span Visual sequencing Refractive conditions and visual skills Describe emmetropization Aniseikonia Myopia	Performance indicators Laterality and directionality Visual requirements for academic success Bilaterality Gross and fine motor ability Form perception/visual analysis Spatial awareness Visualization Visual memory Visual sequential memory Form constancy Visual speed and visual span Visual sequencing Refractive conditions and visual skills	5		

	Astigmatism Hyperopia Explain Ocular Motor Function. Describe Pursuit dysfunctions Nystagmus Saccadic Dysfunctions Accommodation Explain Role in myopia development Role in computer-related asthenopia Fusion in Non-Strabismic Conditions Fixation disparity. Explain Motor fusion Sensory fusion.	Refractive Conditions Developmental influence on refraction &emmetropization Aniseikonia Myopia Astigmatism Hyperopia Ocular Motor Function Eye movements and reading Pursuit dysfunctions Nystagmus Saccadic Dysfunctions Accommodation Role in myopia development Role in computer-related asthenopia Fusion in Non-Strabismic Conditions Fixation disparity Motor fusion Sensory fusion			
8	Describe Acquired brain injury (traumatic brain injury {TBI} and stroke) Developmental disabilities (Down Syndrome, Developmental delay, etc.) Explain Visually induced balance disorders Motor disabilities (Cerebral Palsy, ataxia, etc.) Behavioral disorders Autism spectrum disorders ADD / ADHD Dyslexia and specific reading disabilities Learning Disabilities Computer Vision Syndrome Describe Development, rehabilitation, prevention, enhancement Behavioral lens	Special clinical conditions Acquired brain injury (traumatic brain injury {TBI} and stroke) Developmental disabilities (Down Syndrome, Developmental delay, etc.) Visually induced balance disorders Motor disabilities (Cerebral Palsy, ataxia, etc.) Behavioral disorders Autism spectrum disorders ADD / ADHD Dyslexia and specific reading disabilities Learning Disabilities Computer Vision Syndrome Vision Therapy Concepts to Consider	7		

	application Yoked prism rationale for treatment and application The relationship between the visual and vestibular systems SILO/SOLI Visual stress and its impact on the visual system Explain Role of posture in vision development, comfort and performance Disruptive therapy: Discuss this type of therapy and how it can be used as a clinical therapeutic tool. Relationship of speech-auditory to vision How television, reading, video gaming might restrict movement, computerwork, nutrition, etc., impact vision? Perceptual Style, e.g., spatial/temporal, central/peripheral	Peripheral awareness: focal / ambient roles Significant findings which are good or poor prognostic indicators of vision therapy and lens application Development, rehabilitation, prevention, enhancement Behavioral lens application Yoked prism rationale for treatment and application The relationship between the visual and vestibular systems SILO/SOLI Visual stress and its impact on the visual system Role of posture in vision development, comfort and performance Disruptive therapy: Discuss this type of therapy and how it can be used as a clinical therapeutic tool. Relationship of speech-auditory to vision How television, reading, video gaming might restrict movement, computerwork, nutrition, etc., impact vision? Perceptual Style, e.g., spatial/temporal, central/peripheral			
Total number of Hours			**30**		

RESEARCH PROJECT:

Data Collection, Literature search , Presentation of the progress of the project to the guide.

CLINIC: GENERAL

OBJECTIVES: The objective of clinics in this semester is to be able to examine the eye and understand the all eye procedures with clinical management.

An approximate of guided 240 hours needs to be completed in this semester. The students will be by rotation go to community clinics, Campus clinics, and associated hospital and optical / optometric clinics.

The logbook has to be maintained and case sheets of each subject in the semester with complete management and follow up are mandatory for submission at the end of the semester

The log book needs to be signed by the supervisor during every visit. No case record will be considered without the supervisor's signature

CLINIC: SPECIALITY

OBJECTIVES: The objective of clinics in this semester is to be able to gets hand-on experience related to diagnosis, interpretation of the reports/findings and management.

An approximate of guided 240 hours needs to be completed in this semester. The students will be by rotation go to community clinics, Campus clinics, and associated hospital and optical / optometric clinics.
The focus will be on the specialized subjects studies in this semester.

The logbook has to be maintained and case sheets of each subject in the semester with complete management and follow up are mandatory for submission at the end of the semester

The log book needs to be signed by the supervisor during every visit. No case record will be considered without the supervisor's signature

Fourth Semester

RESEARCH PROJECT:

Literature search, Data analysis, Interim Analysis, Thesis write-up, Presentation of the research work in front of the experts, and manuscript write –up for journal (optional)

CLINIC: GENERAL OPTOMETRY

OCULAR DISEASES AND DIAGNOSTICS - I

COURSE COMPETENCIES:

1. Ability to perform clinical decision making for Ocular abnormalities
2. Ability to perform and interpret corneal diagnostics including
   Topography/Pentacam/Orbscan
   Specular microscopy
   Pachymetry
   Abberometry
   AS OCT UBM
3. Ability to perform pre and post Lasik evaluation
4. Ability to interpret glaucoma diagnostic reports
   OCT
   HRT
   GDx
   Gonioscopy
   ONH evaluation
5. Ability to perform anterior segment photography and ophthalmic imaging
6. Ability to manage and co-manage therapeutics for anterior segment

OCULAR DISEASES AND DIAGNOSTICS - II

COURSE COMPETENCIES:

1. Ability to perform electro diagnostic procedures and interpret electro diagnostic reports
   ERG
   EOG
   VEP
2. Ability to perform stereoscopic fundus photography
3. Ability to use Ocular photography as as tool for evidence based clinical decision making and progression analysis
4. Ability to perform posterior segment photography
5. Ability to manage and co-manage diseases and disorders of posterior segment

LOW VISION CARE

COURSE COMPETENCIES:

1. Ability to diagnose and manage patients with vision impairment
2. Ability to perform specialized diagnostics
   Rudimentary vision
   Berkeley visual field test
   Hand disc perimetry
3. Ability to train for eccentric viewing and steady eye techniques
4. Ability to rehabilitate patients with VI with vocational counselling and activities of daily living

PEDIATRIC OPTOMETRY AND BINOCULAR VISION:

COURSE COMPETENCIES:

1. Ability to diagnose and manage and co-manage binocular vision anomalies
2. Ability to co-manage visual perceptual anomalies
3. Ability to manage diplopia, suppression and ARC
4. Ability to manage amblyopia

ADVANCED CONTACT LENSES – I

COURSE COMPETENCIES:

1. Ability to understand corneal physiology and oxygen needs
2. Ability to diagnose and manage complications due to contact lenses
3. Ability to fit specialized contact lenses
   Keratoconus
   Rose'Klenses
   Mini scleral lenses

ADVANCED CONTACT LENSES – II

COURSE COMPETENCIES:

1. Ability to fit specialized contact lenses
   Keratoconus
   Rose'Klenses
   Mini scleral lenses
   Hybrid lenses
   Orthokeratology
   Scleral lenses: Dry eyes, SJS, Post PK, Post C3R, Post LASIK ectasia
2. Ability to fit custom made ocular prosthesis
3. Ability to fit pediatric contact lenses

VISION THERAPY

COURSE COMPETENCIES:

1. Principles and Procedures – The student should be able to define and explain:
   The unique qualities, scientific, and clinical principles of each clinical condition.
   The epidemiological and demographic characteristics of each clinical condition.

The characteristic history, signs and symptoms for each clinical condition.

How to assess each clinical condition, including specific test protocols and their interpretation.

The differential diagnosis for each clinical condition.

The specific treatment and management of each clinical condition including:

Prognostic indicators

Treatment options

Duration and frequency of treatment

Treatment philosophy and goals

Specific lens treatment and therapy procedures including rationale fortreatment

Ergonomics and visual hygiene

Outcomes to determine successful completion of treatment

Frequency of follow-up care and patient instructions

Referral criteria (medical, neurological, educational, etc.)

Skills based outcomes and monitorable indicators for Optometrist

1. PATIENT HISTORY

Communicates with the patient

Modes and methods of communication are employed which take into account the physical, emotional, intellectual and cultural background of the patient.

A structured, efficient, rational and comfortable exchange of information between the optometrist and the patient takes place.

Makes general observations of patient

Obtains the case history

Obtains and interprets patient information from other professionals

2. PATIENT EXAMINATION

Formulates

An examination plan based on the patient history is designed to obtain the information necessary for diagnosis and management.

Tests and procedures appropriate to the patient's condition and abilities are selected.

Implements examination plan

Tests and procedures which will efficiently provide the information required for diagnosis are performed.

The examination plan and procedures are progressively modified on the basis of findings.

Assesses the ocular adnexae and the eye

The structure and health of the ocular adnexae and their ability to function are assessed.

The structure and health of the anterior segment and its ability to function are assessed.

The structure and health of the ocular media and their ability to function are assessed.

The structure and health of the posterior segment and its ability to function are assessed.

The nature of the disease state is determined.

Microbiological tests are selected and ordered

Assesses central and peripheral sensory visual function and the integrity of the visual pathways

Vision and visual acuity are measured.

Visual fields are measured.

Colour vision is assessed.

Pupil function is assessed.

Assesses refractive status

Assesses oculomotor and binocular function.

Eye alignment and the state of fixation are assessed.

The quality and range of the patient's eye movements are determined.

The status of sensory fusion is determined.

The adaptability of the vergence system is determined.

Placement and adaptability of accommodation are assessed.

Assesses visual information processing

Visual perceptual abilities are assessed.
Visual-motor integration is assessed.

Assesses the significance of signs and symptoms found incidental to the ocularexamination in relation to the patient's eye and/or general health.

Pertinent non-ocular signs and symptoms found incidentally during the ocular examination are identified and considered.
Ensures that significant non-ocular signs and symptoms are investigated.

3. DIAGNOSIS

Interprets and analyses findings to establish a diagnosis or diagnoses.

Accuracy and validity of test results and information from the case historyand other sources are critically appraised.
Test results and other information are analysed, interpreted and integrated toestablish the diagnosis or diagnoses.

4. PATIENT MANAGEMENT

Designs a management plan for each patient and implements the plan agreed to withthe patient.
The diagnosis is presented and explained to the patient.

Consideration is given to the relative importance or urgency of thepresenting problems and examination findings.
Management options to address the patient's needs are explained.

A course of management is chosen with the patient, following counselling and explanation of the likely course of the condition, case management and prognosis.
The informed consent of the patient is obtained for the initiation and continuation of treatment.
Patients requiring ongoing care and review are recalled as their clinical condition indicates, and management is modified as indicated.
Prescribes spectacles

The suitability of spectacles as a form of correction for the patient is assessed.
The patient's refraction, visual requirements and other findings are applied to determine the spectacle prescription.
Prescribes contact lenses

The suitability of contact lenses as a form of correction for the patient isassessed.
The patient's refraction, visual requirements and other findings are appliedto determine the contact lens prescription.
Therapeutic and cosmetic contact lenses are recommended and prescribed.

Contact lenses are correctly ordered and on receipt, parameters are verifiedbefore the lenses are supplied to the patient.
Contact lenses are checked on the eye for physical fitting and visualperformance.
The patient is instructed in matters relating to ocular health and vision incontact lens wear, contact lens care and maintenance.
Contact lens performance, ocular health and patient adherence to wearingand maintenance regimen is monitored.
Prescribes low vision devices.

A range of low vision devices is demonstrated.

Low vision devices suited to the patient's visual requirements and functionalneeds are prescribed.

The patient is instructed in the use of the low vision device.

The success of the low vision device is evaluated and monitored andadditional or alternative devices are prescribed.

The patient is informed of and, if necessary, referred to other rehabilitativeservices.

Prescribes pharmacological treatment regimens

Selects appropriate pharmacological agents for the treatment of the patient'scondition.

- Microbiological factors are considered in the choice of therapeutic agent(s)
- Pharmacological factors are considered in the choice of therapeutic agent(s)
- Systemic factors are considered in the choice of therapeutic agent(s)
- Ocular factors are considered in the choice of therapeutic agent(s)
- Available delivery systems are considered in the choice of therapeutic agent(s)
- Drug substitution factors are considered in the choice of therapeutic agent(s)

Prescribes therapeutic drugs.

Monitors and modifies treatment regimen.

Instructs/counsels patient on the correct use of the prescribed drugs.

Patients are instructed about precautionary procedures and non-therapeuticmanagement.

Dispenses optical prescriptions accurately.

The prescription is interpreted and responsibility for dispensing is accepted.

The patient is assisted in selecting an appliance.

Lenses are ordered and fitted to spectacle frames in accordance withaccepted standards.

The appliance is verified against the prescription prior to delivery.

The appliance is adjusted and delivered and the patient is instructed in the proper use and maintenance of the appliance and of any adaptation effects which may be expected.

Manages patients requiring vision therapy.

Treats patients diagnosed with accommodative, vergence, strabismic andamblyopic conditions.

The patient is instructed in the use and maintenance of vision trainingequipment.

Goals of the vision therapy program and criteria for discharge are set.

Progress of the vision therapy program is monitored.

Treats ocular disease and injury.

Non-pharmacological treatment or intervention procedures are performed.

Pharmacological and/or other regimens are instituted and therapeuticdevices are introduced to treat eye conditions.

The patient is instructed in the use, administration, storage and disposal ofpharmaceutical agents.

The effect of treatment is monitored and changes in management arerecommended.
Refers the patient.

The need for referral to other professionals for assessment and/or treatmentis recognised and discussed with the patient.
A suitable professional is recommended to the patient.

Timely referral, with supporting documentation, is made to other professionals.
Patients can be jointly managed with other health care practitioners.

Co-operates with ophthalmologist in the provision of pre- and post-operative management of patients.
Provides pre-operative assessment and advice.

Provides post-surgical follow-up assessment and monitoring of its according to the surgeon's requirements and the procedure undertaken.
Provides emergency management for observed post-surgical complication.

Arranges appropriate referral for further post-operative treatment or assessment of complications.
Provides advice on vision in the workplace.
Visual screenings for occupational or other purposes are provided.

Advice is provided on eye protection, visual standards and visual ergonomicsin the workplace.
Individuals are counselled on the suitability of their vision for certainoccupations.
Certification of an individual's visual suitability for designated occupations ortasks is provided.

5. RECORDING OF CLINICAL DATA

Ensures that data is organised in a legible, secure, accessible, permanent and unambiguous manner.
All relevant information pertaining to the patient is recorded in a format which is understandable and useable by the optometrist and his/her colleagues.
Patient records are kept in a readily retrievable format and are physically secure.
Maintains confidentiality of patient records.

Understands the need to ensure that access to records is limited to authorised personnel.
Information from patient records and/or obtained from patients is released only with the consent of the patient.