Course Curriculum

For

Master of Optometry

DEPARTMENT OF PARAMEDICAL SCIENCES

HAMDARD INSTITUTE OF MEDICAL SCIENCES AND RESEARCH

JAMIA HAMDARD

HAMDARD NAGAR, NEW DELHI – 110062

JAMIA HAMDARD

Hakeem Abdul Hameed, the founder of Jamia Hamdard, had a vision to develop Jamia Hamdard into an institution of excellence imparting modern professional education with special emphasis on Unani medicine and Islamic studies. Today, it has evolved into an excellent centre of higher learning, fulfilling the objective of the *wakf*, which has been funding the University ever since its inception.

As a mark of tribute and thanks to the Almighty Allah for bestowing his guiding spirit to its founder and his associates, Jamia Hamdard adopted a seal inscribed with the following

"*He (the Prophet, peace be upon him)*
Instructs them in the Book and Wisdom"

Ever since the inception of Jamia Hamdard, this holy verse (*ayat*) has been a source of inspiration and guidance for all those associated with its management and administration. As an Islamic charity, *wakf* has played the vital financial role in the making of Jamia Hamdard. He (PBUH) preached his followers that

"Wisdom is (like) the lost animal of a believer
Wherever he finds it, catches hold of it"

Inspired by the Holy Qur'an and exhorted by the Prophet (PBUH), Muslims became the torch-bearers of knowledge and civilization in the medieval period, but are lagging behind in present times. Late Hakeem Abdul Hameed Sahib wisely chose education and pursuit of knowledge as his prime objective when he decided to convert *Hamdard Dawakhana* into a *wakf*, a charity dedicated to fulfilling educational and health care needs of Indian Muslims. Hamdard (*wakf*) continues to provide generous grant to the University for Buildings, equipments and salaries of staff and other development activities.

Jamia Hamdard was inaugurated by late Shri Rajiv Gandhi, the then Prime Minister of India, on August 01, 1989. In his impressive speech, the Prime Minister applauded the efforts of Hakeem Abdul Hameed Sahib in setting up institutions of higher learning, which were emerging in the form of a "Deemed to be University." He said, "This will enable (the Muslim) minority to go forward and thus help India to march forward."

The University offers professional courses, which equip the students to get placements in the highly competitive job market. On the basis of the record of performance of the University and quality of infrastructure including staff, the University has been accredited by NAAC in category 'A' of Indian Universities.

MASTERS IN OPTOMETRY

a)	**Name of the course**	Master of Optometry
b)	**Nature**	Regular
c)	**Duration**	Two years
d)	**Medium of instruction and examinations**	English
e)	**Eligibility**	Bachelor of Optometry or equivalent from a recognised university with a CGPA of 5.5 or an aggregate of 55%marks
f)	**Commencement of the course**	July of every year
g)	**Mode of Admission**	As per the norms prescribed by Jamia Hamdard from time to time.
h)	**Period of completion (span period)**	Not more than 04 years
i)	**Fees**	As per university norms
j)	**Total Number of Students per year**	05
k)	**Total Theory paper**	As given in subsequent pages.
l)	**Total number of credits**	
m)	**Number of papers carry over**	01
n)	**Minimum pass mark**	50%, Grade C
o)	**Attendance**	A candidate has to secure minimum-75% attendance in theory and skills training (practical) respectively for qualifying to appear for the final examination.

COURSE CURRICULUM

Course Structure

The course work shall be divided into two years annual system of examinations as given below:

I Year July to mid-June

II Year July to mid-June

During an academic year, a candidate shall be enrolled only for one course of study and shall not appear at any other examination of this or any other University.
The annual course outline, total marks allocated to each course, internal assessment and Annual examinations marks for all specialization are listed in Annexure. Detailed course content of the syllabus shall be prescribed by the Board of Studies (BOS) and shall be reviewed periodically.

The BOS, depending on circumstances prevailing in the market, may change any paper and increase or decrease the number of optional papers.

Title of the courses

Master of Optometry

Course of study

Beside Theory Classes in students shall be posted to HAHC Hospital or any other specialized hospital for practical training in the Eye OPD.

Work record

Every candidate shall attend symposia, Seminars, conference, journal review meetings and lectures during each academic year as prescribed by the department. Every candidate shall make a work diary and record his or her participation in the training program, presentations given by the candidate and details of OPD work conducted by the candidate.

The candidate will also be involved in teaching and Training of under Graduate Courses.

Dissertation:

Each candidate pursuing Master of Optometry course has to select a topic under the guidance of a recognized post graduate teacher; prepare and submit a synopsis and carry out dissertation work for one year. The result of such work should be submitted in the form of thesis. Every candidate shall submit to the registrar of the university in the prescribed Performa two hard copies of the synopsis within six months from commencement of the course. The synopsis should be send through proper channel.

The university shall make a committee for review of synopsis and if found suitable shall register the topic for dissertation. No change in dissertation topic or guide shall be made without prior approval by the university.

The dissertation is aimed to train in research methods and techniques. It includes identification of problem, formulation of hypothesis, search and review of literature, resent advances, critical analysis and interpretation of results.

The dissertation should be written under the following headings:

- Introduction
- Aims and Objectives
- Review of literature
- Material and Methods
- Results
- Discussion
- Conclusion
- Summary
- References
- Tables
- Annexure

The text of dissertation should be Minimum of fifty pages and shall not exceed 100 pages excluding references, tables, questionnaires and other annexure. It should be typed neatly typed on one side of A4 sized paper and bound properly. Spiral binding shall not be done. A declaration by the candidate that the work is done by him or her shall be included. The guide, head of the department and head of the institution shall certify the bonafide of the dissertation.

Four hard copies of the dissertation should be submitted to the university through proper channel along with the soft copy two months before the 2nd year examination. It shall be assessed by two examiners appointed by the university, one internal and one external. No marks will be awarded for dissertation. A candidate will be eligible to appear in 2nd year examination after acceptance of the dissertation. In a genuine case, if dissertation is left to be cleared, permission may be granted to sit in 2nd year examination with prior approval of the Vice Chancellor. The certificate of successful completion of course to such be awarded only after submission and acceptance of the thesis.

Student guide ratio:-5:1. A recognized guide shall supervise dissertation work of not more than five students per academic years

Attendance

a) All students must attend every lecture delivered, however, to account for the late joining or other such contingencies, the attendance requirement for appearing in the semester examinations shall be a minimum of 75% of the total taken separately in theory and posting.
b) The course shall be pursued on full time basis. No candidate shall be permitted to work in a hospital or laboratory outside the institution while pursuing the course in Jamia Hamdard, however the Dissertation work can be carried out out side Jamia Hamdard if required after permission through HOD Paramedical Sciences.
c) In order to maintain the attendance record of a course, a roll call will be taken by the teacher in every scheduled lecture.
d) Attendance on account of participation in the prescribed functions of NCC, NSS, Inter-University sports, educational tours/field work assigned by the university to students shall be credited to the aggregate, provided the attendance record, duly counter signed by the officer in-charge, is sent to the Head of Department within two weeks time after the function/activity.
e) The teacher in-charge will consolidate the attendance record for the lectures for each student. The statements of attendance of students shall be displayed on the Department's Notice Board by the teacher concerned at the beginning of the following month and consolidated attendance before the conclusion of each year as given in the University Calendar. A copy of the same shall be sent to the Head of Department for record. Notices displayed on the Notice Board shall be deemed to be a proper notification, and no individual notice shall be

sent to students.

f) If a student is found to be continuously absent from the classes without information for a period of 30 days, the teacher in charge shall report it to the Head of Department, who will inform the Registrar through the Dean. Registrar will issue a notice to such student, as to why his/ her admission should not be cancelled. The Registrar will take a decision on cancellation of admission within 30 days of issue of the notice. A copy of the order shall be communicated to the student.

g) A student with less than 75% attendance in the lectures and 80% in lab postings shall be detained from appearing in the annual examination each year. The Dean of Faculty concerned may consider application for the condonation of shortage of attendance up to 5% on account of sickness or any other extra ordinary circumstances, provided the medical certificate duly certified by registered Medical Practitioner, had been submitted within 7 days of the recovery from the illness.

h) A student detained on account of attendance will be re-admitted to the same class in the next academic year on payment of current fees except Enrolment and identity card fees

Internal Assessment

Internal assessment for 25 marks in respect of theory papers will be based on written tests, assignments, presentations, viva-voice etc.

- The evaluation shall be done by subject teacher and marks will be notified within a week of such test.
- There shall be two written tests in each year. The test will be conducted as per the academic calendar individual faculty member to announce the date for tests or conduct them as per academic calendar.
- Average of the two tests or best of the two tests will be compute for internal assessment.
- The teacher concerned shall maintain records of marks of various components of evaluation for each student.
- The internal assessment marks shall be submitted by head of the Department to the Registrar at the end of each year.
- A candidate who has to reappear (as an ex-student) in the annual examination of a course will retain the marks of internal assessment.
- A student who will be required to seek re-admission, for whatever reason, will have to appear for internal assessment and tests afresh.

Setting of Question paper:

- **The question paper** will be of 75 marks comprising of long Questions, Short notes, along with objective types questions with distribution of marks accordingly. The duration of theory paper will be of three hours.

- The paper setter should set and send question paper to the examination Department in a sealed envelope within a week of receiving letter, No hard or soft copy should be kept by the paper setter to maintain the confidentiality. The whole procedure should be completed by the examination department one week before the commencement of examination with due confidentiality .

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Annual Examinations:

Eligibility to appear in Annual Examination

A candidate will be eligible to appear in Annual examination if he or she has satisfactory completed the prescribed course and fulfilled the prescribed attendance.

a) The Annual examinations shall be held at the end of each Academic year as notified in the academic calendar. There shall be a supplementary examination after three months of declaration of result of annual examination
b) The duration of each theory paper will be 3 hours.
c) The question papers shall be set by either an external or an internal examiner duly appointed by the Board of Studies and approved by the Vice Chancellor.
d) The papers set by the examiners shall be moderated by a panel of moderators constituted by the Board of Studies at the time of approving the panel of examiners.
e) The minimum pass marks shall be 50 % in each theory and viva-voce .

Span Period

A student must complete all the requirements of the course within a period of four years from his/ her admission; otherwise the admission of the candidate will be cancelled and the candidate has to apply afresh for the course.

Schedule of examination:

The university will conduct one (Annual) examinations in a year .

The number of examiners for practical and viva voce shall be two, comprising of one internal and one external examiner appointed by the university.

A candidate shall not be admitted to the practical examination for the first time unless he/she produces the class record book certified by the head of the department.

A failed candidate needs to reappear in that paper he or she has not cleared.

Classification of successful candidate:

For each Annual Examination a successful candidate is one who has achieved 50% marks in each Theory and practical separately and has achieved 50% of the total Marks

Grading System

The grade awarded to a student in any particular course will be based on his/her performance in Sessional and final examinations combined together. The letter grades and their equivalent numerical points are listed below:

% Of Marks Scored	Grade	Description of Performance
80% or more	A+	Outstanding
75% or more but less than 80%	A	Excellent
70% or more but less than 75%	B+	Very Good
60% or more but less than 70%	B	Good
50% or more but less than 60%	C	Average
less than 50%	F	Fail
Absent/ Detained	I	Incomplete

Credit Hours:

One credit hour is equal to 25 hours of teaching.

Course description:

I Year (July- June)

Main subjects:

MOPT101	Epidemiology & Community eye care
MOPT102	Research Methodology & Biostatistics
MOPT103	Ocular Diseases and Diagnostics I
MOPT104	Advanced Contact lens I
MOPT105	Low Vision care and Geriatric optometry
MOPT106	Clinics(General)
MOPT107	Clinics Specialty
MOPT108	Research Project

Second Year (July- June)

MOPT201	Advanced contact lens II
MOPT202	Low vision care and rehabilitation
MOPT203	Vision Therapy
MOPT204	Applied Optics (dispensing)
MOPT205	Ocular Diseases and Diagnostics I1
MOPT206	Paediatric Optometry & Binocular vision
MOPT207	Clinics (General)
MOPT208	Clinics (Specialty)
MOPT209	Research Project

Distribution of Marks and Hours of Study

1st Academic Year

(July - june)

Paper Code	Subject	Teaching Hours	Max. Marks Theory + Practical		Total Credits	
			IA*	AE*		
MOPT 101	Epidemiology and community eye care (Theory)	75	25	75	100	3
MOPT 102	Research Methodology & Biostatistics (Theory)	75	25	75	100	3
MOPT 103	Ocular Diseases and Diagnostics 1 (Theory)	75	25	75	100	3
MOPT 104	Advance Contact lens1(Theory)	75	25	75	100	3
MOPT 105	Low Vision & Geriatric Optometry (Theory)	75	25	75	100	3
MOPT106	Clinics - General(Practicle)	200	25	75	100	8
MOPT107	Clinics - Specialty(Practicle)	200	25	75	100	8
MOPT108	Research Project	200	25	75	100	8
Total		975	200	600	800	39

IA =Internal Assessment
AE =Annual Exam

*IA- Internal assessment, AE –Annual Examination
*Passing marks in main subjects=50%
Total Marks-Theory in each Theory subject –100 (25 IA+ 75 marks AE)
Total Marks Practical in each subject-100(25 IA+ 100 marks AE)

Total Theory Marks=500
Total Practical Marks=300
Total=800

Second Academic Year (July- December)

Paper Code	Paper Name	Theory hours	Maximum Marks (Theory +Practicle)				Max.Marks Theory + Practical	Total Credits
			IA*	AE*				
MOPT201	Advanced contact lens-11(Theory)	75	25	75			100	3
MOPT202	Low vision care and rehabilitation(Theory)	75	25	75			100	3
MOPT 203	Vision Therapy(Theory)	75	25	75			100	3
MOPT 204	Applied Optics (Dispensing)(Theory)	75	25	75			100	3
MOPT 205	Ocular Diseases and Diagnostics 11(Theory)	75	25	75			100	3
MOPT206	Paediatric Optometry & Binocular Vision(Theory)	75	25	75			100	3
MOPT 207	Clinics (General)(Practicle)	200	25	75			100	8
MOPT208	Clinics (Speciality)(Practcle)	200	25	75			100	8

MOPT209	Research Project	200	25	75			100	8
Total		1050	225	675			900	42

IA =Internal Assessment
AE =Annual Exam
*IA- Internal assessment, AE –Annual Examination
*Passing marks in main subjects=50%
Total Marks-Theory in each Theory subject –100 (25 IA+ 75 marks AE)
Total Marks Practical in each subject-100(25 IA+ 100 marks AE)

Total Theory Marks=600
Total Practical Marks=300
Total=900

FIRST YEAR

MOPT-101

EPIDEMIOLOGY AND COMMUNITY EYE CARE

MM=100(75+25), Total credits: 3

COURSE OBJECTIVES: This course deals with the basics of ocular epidemiology, concepts of preventive measures and exposure to community optometry. At the end of this course a student should have:-

1. Thorough understanding of epidemiological concepts.
2. Thorough understanding of conducting screening for specific eye conditions and its implications.

COURSE PLAN (Total: 75 hours)

1. Prevalence, incidence and distribution of visual impairment
2. Basics of Epidemiology study methods, types of study designs, Screening for visual disorders
3. Childhood blindness
4. Refractive errors and presbyopia
5. Age related cataract
6. Low Vision
7. Diabetic retinopathy
8. Glaucoma
9. Age related Macular Degeneration
10. Vitamin A deficiency
11. Corneal and external diseases
12. Prevention strategies
13. Concept of Health and Disease
14. Principles of Epidemiology and Epidemiological Methods
15. Screening for Eye Disease – Refractive errors, Low Vision, Cataract, Diabetic retinopathy, Glaucoma, Amblyopia, Squint.
16. Blindness and its control
17. Health Information and Basic Medical Statistics
18. Communication for Health Education
19. Health Planning and Management
20. Health care of community
21. Vision2020

MOPT-102

Research Methodology & Biostatistics

MM=100(75+25), Total credits: 3

COURSE OBJECTIVES: This course will provide 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. At the end of the course the student will have**:-**

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

COURSE PLAN: (Total: 75 hours)

1. Need for Research in optometry
2. Introduction to research methods, conducting a literature review, research design, sampling methods, data collection and data collection tools, data analysis- Quantitative and Qualitatively, public health research, issues in research. .Writing skills for students
3. Introduction and method of collecting and presenting of statistical data
4. Calculation and interpretation of various measures like mean, median, standard deviations, Skewness and Kurtosis
5. Probability distribution
6. Correlation and regression
7. Significance tests and confidence intervals
8. Parametric tests –
    - Test for single proportion
    - Test for Equality of proportions
    - Test for single mean
    - Test for equality of means
9. ANOVA:-
    - One way
    - Two way
10. Non parametric tests –
    - Chi-square tests

- Fisher's exact test
- Mc Nemar test
- Mann-whitney U-test
- Median test
- Sign test
- Wilcoxon test

MOPT-103 OCULAR DISEASES AND DIAGNOSTICS - I

MM=100(75+25), Total credits: 3

COURSE OBJECTIVES: at the end of the course the student will have:-

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

COURSE PLAN (Total: 75Hours)

1. Refresher of anterior segment ocular diseases, diagnosis and therapeutics
2. Refresher of glaucoma diagnosis and therapeutics

3. Surgical treatment of anterior segment diseases
4. Anterior segment Diagnostics
    - Specular Microscopy
    - Topography
    - Corneal Hysteresis
    - Orbscan, Pentacam
    - Pachymetry
    - Abberometry
    - AS OCT
    - HRT
    - GDx
    - ONH evaluation
    - Gonioscopy
    - Fluorosceinangiograohy
    - Refractive surgery
    - Cataract evaluation

MOPT -104

ADVANCED CONTACT LENSES – I

MM=100(75+25), Total credits: 3

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.

The student will have:-

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
    - 3.1 Keratoconus
    - 3.2 Rose'K lenses
    - 3.3 Mini scleral lenses

COURSE PLAN: (Total: 75 hours)

1. Anatomy and Physiology of the Cornea and related Structures
2. Contact Lens Materials

3. Microbiology, Lens Care and Maintenance
4. Tears and contact lenses
5. Optics and Lens Design
6. Clinical Instrumentation in contact lens practice
7. Rigid Gas Permeable corneal lens fitting
8. Soft contact lens fitting
9. Toric Contact lens fitting
10. Lens care regimen
11. Contact lens standards
12. Lens checking : Soft and Rigid
13. Contact lens complications
14. Special types of Contact lenses – diagnosis, surgery, protective, therapeutic, sports, partially sighted

MOPT-105

LOW VISION CARE AND GERIATRIC OPTOMETRY

MM=100(75+25), Total credits: 3

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. At the end of the course the student will have:-

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

COURSE PLAN (Total: 75 hours)

1. The Epidemiology of Vision Impairment

Vision Impairment in the paediatric population

Ocular Diseases:

- Age – Related Cataract,
- Glaucoma
- ARMD
- Diabetic retinopathy
- Corneal Disorders
- Ocular Trauma
- Sensory Neuro-ophthalmology and Vision Impairment
- Refractive Disorders

2. Visual Disorders –
    - Low Vision and Psychophysics
    - Visual Functioning in Paediatric Populations with Low Vision
    - Perceptual correlates of Optical Disorders
    - Functional aspects of Neural Visual Disorders of the eye and Brain
    - Visual Disorders and Performance of specific Tasks requiring vision
3. Visual Disorders – The Psychosocial Perspective
    - Developmental perspectives – Youth
    - Vision Impairment and Cognition
    - Spatial orientation and Mobility of people with vision impairments
    - Social skills Issues in vision impairment
    - Communication and language: Issues and concerns
    - Developmental perspectives on Aging and vision loss
    - Vision and cognitive Functioning in old age
4. Interactions of Vision Impairment with other Disabilities and sensory Impairments.
    - Children with Multiple Impairments
    - Dual Vision and Hearing Impairment
    - Diabetes Mellitus and Vision Impairment
    - Vision Problems associated with Multiple Sclerosis
    - Vision Impairment related to Acquired Brain Injury
    - Vision and Dementia
    - Low Vision and HIV infection
5. The Environment and Vision Impairment: Towards Universal Design
    - Indian Disabilities act
    - Children's Environments
    - Environments of Older people

- Outdoor environments
- Lighting to enhance visual capabilities
- Signage and way finding
- Accessible Environments through Technology

6. Vision Rehabilitation:

- In Western Countries
- In Asia
- Personnel preparation in Vision Rehabilitation

7.Psychological and social factors in visual Adaptation and Rehabilitation

- The Role of psychosocial factors in adaptation to vision impairment and rehabilitation in paediatric age
- The Role of psychosocial Factors in adaptation to vision Impairment and rehabilitation
- Social support and adjustment to vision impairment across the life span
- The person – Environment perspective of vision impairment
- Associated Depression, Disability and rehabilitation
- Methodological strategies and issues in social research on vision Impairment and rehabilitation
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MOPT-106

CLINICS-GENERAL

MM=100(75+25), Total credits: 8

(Total – 200hours)

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

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

MOPT-107

CLINIC-SPECIALITY

MM=100(75+25), Total credits: 8

(Total – 200hours)

OBJECTIVES: The objective of clinics in this year 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 year. 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 year. The logbook has to be maintained and case sheets of each subject in the year with complete management and follow up are mandatory for submission at the end of the year. The log book needs to be signed by the supervisor during every visit.

MOPT-108

RESEARCH PROJECT:

MM=100(75+25), Total credits: 8

(Total: 200 hours)

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

SECOND YEAR

MOPT-201

ADVANCED CONTACT LENSES – II

MM=100(75+25), Total credits: 3

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. At the end of the course the student will have:-

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 paediatric contact lenses

COURSE PLAN: (Total: 75 hours)

1. Extended and Continuous wear Lenses
2. Scleral Contact lenses
3. Bifocal and Multifocal contact lenses
4. Orthokeratology
5. Keratoconus
6. Post keratoplasty contact lens fitting
7. Post refractive surgery contact lens fitting
8. Pediatric contact lens fitting

9. Cosmetic and prosthetic contact lens fitting
10. Contact lens for abnormal ocular conditions
11. Contact lens and Myopia control
12. Legal issues and contact lenses
13. Contact lens manufacturing
14. Modifications procedures

MOPT-202

LOW VISION CARE AND REHABILITATION

MM=100(75+25), Total credits: 3

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. At the end of the course the student will have:-

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

COURSE PLAN: (Total – 75 hours)

1. Habilitation of Children and Youth with vision Impairment
2. Rehabilitation of working –age Adults with Vision Impairment
3. Rehabilitation of older Adults with Vision Impairment
4. Functional consequences of vision Impairment
5. Vision evaluation of Infants
6. Educational assessment of visual function in Infants and Children
7. Functional Evaluation of the Adult
8. Functional orientation and Mobility
9. Functional Assessment of Low Vision for Activities of Daily living
10. Psychosocial assessment of adults with vision impairment
11. Assistive Devices and Technology for Low Vision
12. Assistive Devices and Technology for Blind
13. Vision and Reading - Normal Vs Low Vision
14. Clinical Implications of color vision Deficiencies

MOPT-203

MOPT-203 VISION THERAPY

MM=100(75+25), Total credits: 3

COURSE OBJECTIVES: The course is designed to help expand the student's knowledge base in all aspects of behavioural vision care. At the end of the course the student will have:-

1. The unique qualities, scientific, and clinical principles of each clinical condition as given below
2. The epidemiological and demographic characteristics
3. How to assess each clinical condition, including specific test protocols and their interpretation.
4. The differential diagnosis for each clinical condition.
5. 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.)

COURSE PLAN: (Total - 75hours)

1. Clinical Conditions
    A. Strabismus and Amblyopia

    Amblyopia
    - Anisometropic / Isometropic Refractive Amblyopia
    - Strabismic Amblyopia
    - Hysterical Amblyopia
    - Form Deprivation Amblyopia
    - Differential diagnoses in childhood visual acuity loss

    Strabismus
    - Esotropia-Infantile, Accommodative, Acquired, Microtropia, Sensory, Convergence Excess, Divergence Insufficiency, Non-accommodative, Sensory Adaptations
    - 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.)
- Differential diagnoses in strabismus
- Special clinical considerations
  - Anomalous Correspondence
  - Eccentric Fixation, Suppression, Motor Ranges, Stereopsis,
  - Intractable diplopia

Perception and Information Processing

- Neurological / Psychological
- Visual perceptual midline
- Parvo cellular / Magno cellular function
- Perceptual Style (central, peripheral)
- Impact of colored filters
- Attention

Intersensory and Sensorimotor Integration

- Visual-auditory
- Visual-vestibular
- Visual-oral
- Visual-motor
- Visual-tactual

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

B. Refractive conditions and visual skills

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

C. 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

2. Vision Therapy Concepts to Consider

A. Peripheral awareness:

- focal / ambient roles
- Significant findings which are good or poor prognostic indicators of vision therapy and lens application
- Development, rehabilitation, prevention, enhancement
- Behavioural 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, computer work, nutrition, etc., impact vision?
- Perceptual Style, e.g., spatial/temporal, central/peripheral

MOPT-204 Advance Applied Optics (Dispensing):

MM=100(75+25), Total credits: 3

Course plan: (Total: 75 hours)

Spectacle prescription & interpretation,tranpositin,Add and near power relation,prescription for various requirements .e.g intermediate uses/computer use

Facial measurements-IPD,Frames size,bridge size,Facial Wrap,Pantoscopic tilt

Deciding most suitable type of single vision and bifocal lens

Lens selection of progressive addition lenses as per patient needs

Frame selection and recommendation as per patient needs and facial type,communication & counseling of patient regarding frame selection

Dispensing,ordering & verification of spectacle

Latest Technology in Ophthalmic lenses and frames.

MOPT-205 OCULAR DISEASES AND DIAGNOSTICS – II

MM=100(75+25), Total credits: 3

COURSE OBJECTIVES: At the end of the course the student will have:-

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

COURSE PLAN: (**Total: 75 Hours)**

1. Refresher of posterior segment ocular diseases, diagnosis and therapeutics
2. Surgical treatment of posterior segment diseases
    - Posterior segment Diagnostics
    - ERG
    - EOG
    - VEP
    - OCT
    - Fundus photography
    - Neuro optometric diseases and disorders

MOPT-206

PEDIATRIC OPTOMETRY AND BINOCULAR VISION

MM=100(75+25), Total credits: 3

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. At the end of the course the student will have:-

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

COURSE PLAN: **(Total: 75hours)**

1. Refresher of physiology of vision and ocular movements
2. Refractive Development:
    - Early Refractive Development

- Visually Guided control of Refractive State: Animal Studies
- Infant Accommodation and Convergence

3. Oculomotor Function:
    - Conjugate Eye Movements of Infants
    - Development of the vestibuloocular and optokinetic reflexes
4. 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. Binocular Vision:
    - Development of 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
6. Retinal and cortical Development
7. Abnormal Visual Development
8. What next in Infant Research
9. Clinical Applications:
    - Assessment of Child Vision and Refractive Error
    - Refractive Routines in the Examination of Children
    - Cycloplegic refraction
    - Colour Vision Assessment in Children
    - Dispensing for the Child patient
    - Paediatric Contact Lens Practice
    - Dyslexia and Optometry Management
    - Electrodiagnostic Needs of Multiple Handicapped Children
    - Management Guidelines – Ametropia, Constant Strabismus
    - Management Guidelines – Amblyopia
    - Accommodation and Vergence anomalies
    - Nystagmus
    - Common genetic problems in Paediatric optometry
    - Paediatric Ocular Diseases
    - Ocular Trauma in Children
    - Myopia control
    - Clinical uses of prism

MOPT-207 CLINIC- GENERAL

MM=100(75+25), Total credits: 8

(Total: 200hours)

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

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

MOPT-208

CLINIC- SPECIALITY

MM=100(75+25), Total credits: 8

(Total: 200 hours)

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

The focus will be on the specialized subjects in this year.

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

MOPT-209

RESEARCH PROJECT

MM=100(75+25), Total credits: 8

(Total: 200 hours)

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)