Master of Optometry

Syllabus - First Semester

BINOCULAR VISION & PEDIATRIC OPTOMETRY-I

Course Code: OPT4102 **Credits Units: 04**

Course Objective: This course gives both in-depth theoretical knowledge and clinical exposure in Binocular Vision, Orthoptics & Pediatric vision care. The outcomes of this course are: Thorough understanding of the visual development issues, evaluation of pediatric subjects, non-surgical management of the pediatric binocular and refractive problems, amblyopia and Strabismus

Course Contents:
BINOCULAR VISION

Module-I:
Refractive Development
Retinal and cortical Development:

Module-II:
Revision: Applied anatomy and physiology of exraocular muscle
Oculomotor Function:

Module-III:
Binocular Vision: and related aspects
Development of binocular vision
Physiology of binocular vision
Development of ocular deviation and its adaptation

Module-IV:
Amblyopia and occlusion
Management guidelines of Amblyopia

Module-V:
Abnormal retinal correspondence
Anomalies of accommodation and its management
Anomalies of convergence and its management
Nystagmus

PEDIATRIC OPTOMETRY
Module-I:

Assessment of Child Vision and Refractive Error
Refractive Routines in the Examination of Children
Cycloplegic Refraction

Module-II: Color Vision Assessment in Children

Module-III: Dispensing for the Child patient

Module-IV:
Common genetic problems in Pediatric optometry
Pediatric Ocular Diseases
Ocular Trauma in Children
Module-V: Myopia control

Module-VI: Clinical uses of prism

Examination Scheme:

Components	**A**	**CT**	**P**	**HA**	**EE**
Weightage (%)	5	10	10	5	70

A: Attendance, CT: Class Test, HA: Home Assignment, P: Presentation, EE: End Semester Exam

Recommended Text books

- Pediatric optometry ,Jerom rosner ,Butterworth heinmann
- Binocular vision and ocular motility , guntoor von noordan
- Clinical orthoptics ,Fiona rowe
- Strasbimus simplified ,pradeep sharma
- Assessing Children's Vision, Susan J Leat, Rosalyn H Shute, Carol A Westal
- Paediatric Optometry, William Harvey/ Bernard Gilmartin
- Pediatric Optometry, Jerome Rosner

LOW VISION REHABILITATION AND GERIATRIC OPTOMETRY

Course code: OPT4109 **Credit Units: 04**

Course Objectives: 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, and rehabilitational measures through didactic lectures and clinical postings.

Course Contents:

Module-I: Introduction to Low Vision
Definition of low vision
The impact of low vision
Prevalence of low vision
Different levels of low vision services
Psychosocial implication of low vision services

Module-II: Causes and symptoms of low vision
Common causes of low vision
Low vision symptoms and conditions
Functional implication of diseases causing visual impairment

Module-III: Clinical assessment of low vision patient
Purpose of low vision assessment
Steps of low vision assessment

Module-IV: Magnification
Different types of magnification
Different methods and formulae for calculating magnification
How to determine resolution ability
Predict distance required to meet resolution goal
Measure lens power
Measure equivalent viewing distance
Calculate equivalent viewing distance for different devices

Module-V: Optical Low Vision devices
What are optical devices?
Definition of various low vision devices
Different type of optical low vision devices and their uses

Examination Scheme:

Components	**A**	**CT**	**P**	**HA**	**EE**
Weightage (%)	5	10	10	5	70

A: Attendance, CT: Class Test, HA: Home Assignment, P: Presentation, EE: End Semester Exam

Recommended Text books:

- Management & Practice of Low Visual Acuity - A T Dowie
- Low Vision Principles & Practice - C Dickinson
- Optometric Management of Visual Handicap - H Farrall
- Eye Essentials - Low Vision Assessment - J Macnaughton
- Low Vision Manual - Jackson and Wolffsohn
- The Art and Practice of Low Vision (2nd Edition) - P. D. Freeman and R. T. Jose
- Essentials of Low Vision Practice, Richard L. Brilliant OD

CLINIC-I (GENERAL)

Course Code: OPT4105 **Credit Units: 3**

Course Contents:

This course includes minimum of 90 hours of supervised clinical training. The clinics involve primary care clinics and community work.

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

A logbook is maintained and 15 case sheets with complete management and follow up are mandatory for submission. The log book needs to be signed by the supervisor.

Examination Scheme:

Components	**Attd.**	**Log Book**	**Case Sheets**	**Viva-EE**	**EE-Practical**
Weightage (%)	5	10	15	20	50

RESEARCH METHODOLOGY & BIOSTATISTICS-I

Course Code: OPT4106 **Credit Units: 03**

Research Methodology

Course Objective: This course is a brief overview about research design that is intended to cover the basics of designing and implementing a scientific study. It will provide the students the basic knowledge in Bio-statistics. At the completion of the course, the students will have the knowledge of data collection, statistical application and finally ready for research project. This will enable the student to gain understanding of different research methodologies and appropriate research design to be able to conduct research projects.

Course Contents:

Module-I:

Introduction to research methods, Variables in research, Reliability and validity in research, Formulation of research problems and writing research questions, Hypothesis, Null and Research Hypothesis, Type I and Type II errors in hypothesis testing

Module-II:

Introduction of epidemiology, Descriptive epidemiology, Experimental and non experimental research designs, Screening, Sampling methods, Biological variability, normal distribution

Module-III:

Bias and Confounding, Association and causation, Odds ratio and relative risk, sensitivity and specificity Data collection methods- Observation method, Interview method, Questionnaires and schedules Construction,

Module-IV:

Critical analysis of research papers, Conducting a literature review, Writing Research proposals, Development of conceptual framework in research

Module-V: Introduction to Biostatistics

Introduction to Statistics, Classification of data, Source of data, Method of scaling - nominal, ordinal, ratio and interval scale, measuring reliability and validity of scales, Measures of Central tendency, Measures of Dispersion, Skewness and kurtosis, Sampling, Sample size determination

Examination Scheme:

Components	**CP**	**V**	**A**	**ME**	**EE**
Weightage (%)	5	5	5	15	70

(CP – Class Performance; V-Viva; A- Attendance; ME- Mid-Term Exam, EE – End semester Exam)

Text & References:

Text books:

- Research Methodology: A Step By Step Guide For Beginners: Ranjit Kumar
- Research Methodology: Methods and Techniques : By C. R. Kothari

Syllabus - Second Semester

RESEARCH METHODOLOGY & BIOSTATISTICS-II

Course Code: OPT4212 **Credit Units: 03**

Course Objective:
Introduction to Biostatistics and Implementing Statistical Tests and Procedures. This course is intended to provide a better understanding of data analysis and statistical issues in design of experiments, as well as the techniques and terminology commonly used to elicit and communicate evidence concerning scientific hypotheses. Students will learn to properly interpret the strength of statistical arguments made by researchers, and how to weigh statistical and clinical evidence in assessing a scientific hypothesis. Emphasis will be placed on conceptual understanding of issue. This is intended for students interested in learning how to conduct data analysis and how to interpret the output of statistical software. The implementation of these techniques through Excel and JMP will be illustrated by real datasets taken from clinical and public health studies. Students will learn where to find the relevant information from the statistical output tables generated by the software. Emphasis will be placed on application of statistical methods to real datasets.

Course Contents:
Module-I:
Introduction to SPSS

Module-II:
Concept of probability and Probability distributions – Binomial Probability distribution, Poisson Probability distribution and Normal Probability distribution

Module-III:
Data entry. Data coding and cleaning, tests for Normality, chi square test two sample tests (t test, man whitney test and wilcoxon signed rank test)

Module-IV:
Three or more sample testing (One way AND Repeated measures ANOVA, Kruskal Wallis test and Friedman test

Module-V:
Correlation-Karl Person, Spearman's Rank correlation methods, Regression Analysis, Scientific writing (Writing research papers and thesis), Ethical Issues in Research, Principles and Concepts in research ethics – confidentiality and privacy, informed consent

Examination Scheme:

Components	A	HA (log book)	CT-I	CT-II	EE-Practical/ Viva
Weightage (%)	5	10	10	5	70

A: Attendance, CT: Class Test, HA: Home Assignment, EE: End Semester Exam

Text & References:
Text books:

- B.K. Mahajan. Methods in Biostatistics, Jaypee Brothers
- P.S.S. Sundar Rao. An Introduction to Biostatistics: A manual for students in Health Sciences, J.Richard Prentice Hall, 1996.

Reference Books:

- Daniel, Wayne.W. Bio-Statistics: A foundation for Analysis in the Health Sciences, John Wiley and Sons Pub, 1991.
- K. Vishwas Rao. Bio-Statistics: A Manual of statistical methods for use in the Health, Nutrition and Anthropology, Jaypee Brothers Medical Pub, 1996.
- Verma B.L., Shukla G.D. Bio-Statistics perspective in Health care research and practice, C.B.S. Pub, 1993.
- Krishnaiah, P.K. Rao, C.R. (ed), Handbook of Statistics, Elsevier Science Pub, 1988.

BINOCULAR VISION-II & VISION THERAPY

Course Code: OPT4203 **Credit Units: 04**

Course Objective:
This course provides the student with the ability to diagnose as well as to initiate treatment for patients who present with non-strabismic binocular dysfunctions, accommodative anomalies, and non-pathologic oculomotor dysfunction. From a diagnostic perspective, it will integrate the clinical information gained in with the theoretical and practical information covered in other courses discussing binocular vision. Treatment options discussed will include the judicious application of lenses and prisms, as well as an introduction to optometric vision therapy. The course then takes a more clinical turn, as it provides the student with an organized approach to the clinical evaluation and management of a patient with strabismus and/or amblyopia. Discussions focus on natural history, etiology, signs and symptoms, related characteristics, significance and practical management of amblyopia, esotropia, exotropia, and noncomitant strabismus. There is special emphasis on the clinical decisions and procedures needed to recognize functional versus pathological etiologies with a laboratory component, setting the stage for discussion and hands-on experience with relevant diagnostic and treatment procedures.

Course Contents:

Module-I: Strabismus
Diagnosis of strabismic anomalies
Clinical model of visual processing
Diagnostic Evaluation of strasbimus
Diagnostic assessment and prognosis

Module-II: Management Strategy and treatment options
Lens Therapy
Prism Therapy
Occlusion Therapy
Active Vision Therapy
Pharmacological Therapy
Surgical Therapy

Module-III: Management of sensory anomalies
Treatment of suppression
Treatment of functional amblyopia
Treatment of anomalous correspondence

Module-IV: Strabismus management strategies
Management of Exotropias
Management of Esotropias
Management of vertical strabismus

Module-V: Nystagmus

Module-VI: Vision Therapy and Vision therapy techniques

Module-VII: Dyslexia and Optometry Management

Examination Scheme:

Components	A	CT	P	HA	EE
Weightage (%)	5	10	10	5	70

A: Attendance, CT: Class Test, HA: Home Assignment, P: Presentation, EE: End Semester Exam

Recommended Text & Reference books

- Pediatric Optometry ,Jerom Rosner ,Butterworth Heinmann
- Binocular Vision And Ocular Motility , Guntoor Von Noordan
- Clinical Orthoptics, Fiona Rowe
- Strasbimus Simplified, Pradeep Sharma
- Assessing Children's Vision, Susan J Leat, Rosalyn H Shute, Carol A Westal
- Paediatric Optometry, William Harvey/ Bernard Gilmartin
- Clinical management of strasbismus, Elizabeth E Caloroso,btterworth

ADVANCED CONTACT LENS -I

Course Code: OPT4204 **Credit Units: 4**

Course Objective: Contact lenses are an essential part of optometric practice; not only for practice success, but also in the management of certain ocular conditions that require visual or therapeutic rehabilitation. This course introduces all aspects of contacts lens practice to the optometry student. It begins with soft and rigid gas permeable contact lenses, and continues through toric, multifocal and specialty lenses in the next semester. This semester gives overview of contact lens related complications and their management which is discussed in detail in the next semester, A hands-on practical provides experience with the various lens types, and online materials encourage independent learning.

Course Contents:

Module-I: Introduction to Contact Lenses

History of Contact Lenses ,Contact Lens Materials and Manufacturing ,Optics of Contact Lenses, Soft & Rigid Gas Permeable Contact Lens Design ,Contact Lens Fabrication, Contact Lens Verification

Module-II: Contact Lens Fitting

Examining the Prospective Contact Lens Patient, Selecting Lens Type, Wear Mode and Replacement Rate

Fitting Spherical GP Contact Lenses, Fitting Spherical Soft Contact Lenses, Correcting Astigmatism with Contact Lenses

Module-III: Contact Lens Fitting

Fitting SiHyCLs, The Dispensing Visit and After-Care, Contact Lenses for Sports, Presbyopic Contact Lens Options

Module-IV: Care and Maintenance

Contact Lens Contamination ,CL Care and CL Care Products ,Rigid CL Care ,Hydrogel and Silicone Hydrogel CL Care

Module-V: Complications

Defending the Ocular Surface in Contact Lens Wear

Rigid Contact Lens Complications

Soft Contact Lens Complications

Dry Eye and Contact Lenses

Examination Scheme:

Components	A	CT	P	HA	EE
Weightage (%)	5	10	5	10	70

A: Attendance, CT: Class Test, HA: Home Assignment, P: Presentation, EE: End Semester Exam

Recommended Text & Reference books:

- IACLE modules A,B,C,D,E
- Text book Of Contact Lenses 5th edition by Sinha Rajesh ,jaypee publication 2017
- Contact lens Primer
- Essentials of Contact lens practice

- Silicone hydrogels: the rebirth of continuous wear contact lense, Deborah F. Sweeney, Butterworth Heinemann
- Clinical manual of Contact Lenses, Edward S. Bennett and Vinita Allee Henry, Lippincott Williams and Wilkins, 2008
- Medical Contact Lens Practice, Elisabeth A. W. Millis
- Contact Lenses, Anthony J. Phillips and Lynne Speedwell
- The CLAO Guide to Basic Science and Clinical Practice: Volumes 1, 2, 3, Contact Lens Association of Ophthalmologists

CLINICS-II (SPECIALITY)

Course Code: OPT4205 **Credit Units: 3**

The objective of clinics in this semester is to be able to examine the eye and understand the classified eye procedures with clinical management with special reference to low vision, binocular vision, pediatric care and contact lens.

An approximate of guided 150 hours needs to be completed in this semester. The students will be by rotation go to community clinics, Campus clinics, associated hospital partners and optical / optometric clinics.

The logbook has to be maintained and 30 case sheets of SELECTED speciality 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.

Examination Scheme:

Components	**A**	**Log Book**	**Case Sheets**	**Viva-EE**	**EE-Practical**
Weightage (%)	5	10	15	20	50

A: Attendance, EE: End Semester Exam

PROJECT (Research)

Course Code: OPT4232 **Credit Units: 02**

Research Project Data update

Examination Scheme:

Components	Results & Analysis	Data Collection	Conclusion & Discussion	Total
Weightage (%)	40	40	20	100

Syllabus - Third Semester

TEACHING METHODOLOGY

Course Code: OPT4307 **Credit Units: 3**

Course Contents:

Module-I:
Introduction, Understanding how adults learn, How to enhance student learning

Module-II:
Teaching strategies to enhance Learning, How to structure your course, leaning activities

Module-III:
Effective learning and Teaching activities in eye Care,
Methods of teaching, presentation, demonstration, case studies, Role plays, group discussion

Module-IV:
Student Assessment and evaluation techniques, formative and summative assessment, marking and providing feedback

Examination Scheme:

Components	A	Assignment-1	Assignment-2	Assignment-3	Project	Total
Weightage (%)	5	20	20	20	35	100

A: Attendance

Text book/ Reference Book
As recommended by the faculty

ADVANCED CONTACT LENS-II

Course Code: OPT4303 **Credit Units: 4**

Course Objective: This course gives both in-depth theoretical knowledge and clinical exposure in Contact lens at advanced level and in therapeutic conditions. It prepares student to develop competency in handling all types of specialty lenses. This course also deals with all complications related to contact lenses and its management.

Course Contents:
Module-I: Children and Contact Lenses

Module-II: Fitting Scleral and Mini-Scleral Contact Lenses, Fitting an Ocular Prosthesis

Module-III: Myopia Control and Orthokeratology

Module-IV: Special Topics
Contact Lenses for Keratoconus ,Special Applications of Contact Lenses, Advanced Techniques and Instrumentation ,The Working Environment and Contact Lenses

Module-V: Business Aspects of Contact Lens Practice
Contact lenses (CLs) in practice, Financial factors in a CL practice, Managing &marketing techniques for a CL practice, Employee management, Record Keeping
Professionalism & standards of care

Examination Scheme:

Components	A	CT	P	HA	EE
Weightage (%)	5	10	10	5	70

A: Attendance, CT: Class Test, HA: Home Assignment, P: Presentation, EE: End Semester Exam

Recommended Text & Reference books:

- IACLE modules B,C,D,E
- Text book Of Contact Lenses 5th edition by Sinha Rajesh ,jaypee publication 2017
- Contact lens Primer
- Essentials of Contact lens practice
- Silicone hydrogels: the rebirth of continuous wear contact lense, Deborah F. Sweeney, Butterworth Heinemann
- Clinical manual of Contact Lenses, Edward S. Bennett and Vinita AlleeHenry,Lippincott Williams and Wilkins, 2008
- Medical Contact Lens Practice, Elisabeth A. W. Millis
- Contact Lenses, Anthony J. Phillips and Lynne Speedwell
- The CLAO Guide to Basic Science and Clinical Practice: Volumes 1, 2, 3, Contact Lens Association of Ophthalmologists

OCULAR DISEASE AND DIAGNOSTICS-II

Course Code: OPT4308 **Credit Units: 04**

Course Objective: In this course latest articles published in optometry and vision science journals will be discussed. Periodic Journal club presentation would be conducted. This will enable the student to develop skill on critical appraisal of publications and also help to keep abreast of latest developments in the field of optometry and vision science. The course would also provide insight on understanding and/or incorporation of scientific evidence in clinical practice.

This course examines selected areas of recent research in optometry. Current advances in methodology, specifics of research design, and impact of research findings will be emphasized. Selected topics are based on participating faculty expertise will be assigned to the students.

Students will be assigned topics of presentation during the semester and they will have to present base literature review and latest advancements.

Text & Reference books /journals:
Clinical and experimental optometry, Edited By: H. Barry Collin
Optometry & vision science ,journal of American academy of optometry
Optometry journal of American optometric association
Ophthalmic and Physiological Optics Journal of the College of Optometrists, UK
Contact lens & anterior eye : the journal of the British Contact Lens Association
British Contact Lens Association

CLINICAL DECISION MAKING IN OPTOMETRIC CARE-I

Course Objective: Upon completing this course, the student will achieve a moderately-high level of competence with respect to a modest list of patient presentations commonly encountered by primary care optometrists. By the course's end, the student will be able to conduct a comprehensive, primary-care optometric examination, reach a diagnosis, and outline a management plan for the vast majority of patients seen during the year. The course will cover the general areas of ocular disease, refraction, functional vision analysis, and patient communication.

Course Contents: In this course, the student will begin with refreshing their basic knowledge on common eye disease of the anterior segment. The course would further orient towards clinical decision making skills, interpretation and improving their clinical skill set, clinical management of optometry. They will learn and develop skills on evidence/intuitive based management for the commonly seen eye diseases and learn appropriate referral & co management guidelines for secondary or tertiary ophthalmic care

The mode of delivery would be through cases scenarios discussion, problem based learning and seminar/workshops and Presentations. Records need to be maintained in the following pathologies.

The following common conditions will be covered in this semester:

Module-I: Lid and Adnexa:
Eyelid cysts
GPC
Hodeleum
Chemosis

Xanthelasma
Ectropion VKC Entropion

Module-II: Cornea :corneal dystrophy Corneal edema corneal infiltrates
corneal opacities Fuchs endothelial dystrophy fungal keratitis
Hypopyon
Keratoconus follicular conjunctivitis Irirtis
pterigium PMD Pingecula ptosis
Rhematoid and eye Acne and eye Scleritis Episcleritis
Stevenson johnson syndrome Synechia
Terriens marginal degeneration

Module-III: Dry eye and its interpretation and managementWorkshop

Module-IV: Diseases of sclera and conjunctiva
Abrasion
Allegic eye disease Aniridia
Atopic Keratoconjunctivitis Bacterial Conjunctivitis Blephritis
Chalazion
Epiphora
Scleritis Episcleritis
ophthalmia neonatrum Trachoma
Trichiasis

Module-V: Lens and its abnormalities –
Cataract Ectopia Lentis
IOL, power calculations – post-refractive surgery , analysis of surgically induced astigmatism , complications of cataract surgery

Module-VI: Diseases of Uvea /
Endophthtalmitis
Anterior uveitis

Examination Scheme:

Components	A	Presentation	Presentation-EE	Case Records	EE-Viva	EE-Viva
Weightage (%)	5	20	20	5	30	20

A: Attendance, EE: End Semester Exam

Text books:

- Kanski, Clinical Ophthalmology: A Systematic Approach – May 2011 Edition, Jack J. Kanski MD MS FRCS FRCOphth, Brad Bowling FRCSEd(Ophth),Elsweare heath science division
- Optometric Management Of Visual Handicap, Helen Farral,Blackwell Scientific Publications, 1991
- Ocular Differential Diagnosis, Roy
- Clinical Decision Making In Optometry, Ellen Richter Ettinger OD MS FAAO
- Anterior segment disease and Management by Andrian Bruce

Syllabus - Fourth Semester

CLINICAL OPTOMETRY (GENERAL)

Course Code: OPT4401 **Credit Units: 05**

Objective: It is expected that upon completion the student will be able to carry out the standard clinical procedures safely and efficiently
Upon completion of the course the student must be able to
Take down a comprehensive history
Do a complete and proper refraction
Do a torch light examination
Do a binocular vision assessment
Use a slit lamp to do a complete anterior segment examination and posterior segment as required
Must be able to take the decision to dilate the eye as per need
Must be able to give a preliminary diagnosis

Each student must be able to complete 20 such examinations under supervision and maintain verified case records for the same.

Tutorial (Presentations) – Each student must also make 1 presentation on instruments and present it atthe study center.

Case Presentation:
Each student must do two case discussions during the semester and of the patients. Thus each student presents 2 case discussions at a time and presents it at the study centre.

The hard copy of the presentations will have to be submitted for the term end exam.

Examination Scheme:

Components	Attd.	Case Records	Assignments	Clinical Supervisors Evaluation	Case Discussion	Practical + Viva
Weightage (%)	5	10	10	15	10	50

CLINICS-I -ADVANCE CLINICAL RETINA, GLAUCOMA

Course Code: OPT4407 **Credit Units: 10**

Course Contents:

MODULE-I: Retinal evaluation, diagnostics & optometric management

MODULE-II: Glaucoma investigation diagnostics and optometric management

MODULE-III: Low vision Evaluation, deciding diagnosis & management plan

MODULE-IV: Visual Rehabilitation for visually impaired person

Examination Scheme:

Components	**A**	**Case Records**	**Clinical Supervisors Evaluation**	**EE Practical + Viva**
Weightage (%)	5	10	15	70

A: Attendance, EE: End Semester Exam

CLINICS-II: ADVANCE PEDIATRIC, BINOCULAR VISION & VISION THERAPY

Course Code: OPT4408 **Credit Units: 10**

Course Contents:

MODULE- I- To assess and manage patients with anomalies of binocular vision

MODULE II- To Assess binocular status using objective and subjective tests.

MODULE III- To Understanding of the management of a patient with an anomaly of binocular vision.

MODULE IV- To Investigate and manage adult patients presenting with heterophoria.

MODULE V- To Manage an adult patient with heterotropia

MODULEVI- To Manage children at risk of developing an anomaly of binocular vision.

MODULEVII- To Manage children presenting with an anomaly of binocular vision.

MODULE VIII- To Manage a patient presenting with an incomitant deviation.

Examination Scheme:

Components	**A**	**Case Records**	**Clinical Supervisors Evaluation**	**EE Practical + Viva**
Weightage (%)	5	10	15	70

A: Attendance, EE: End Semester Exam

ADVANCE APPLIED OPTICS AND ADVANCE CORNEA & CONTACT LENS

Course Code: OPT4409 & OPT4410 **Credit Units: 10 & 10**

Course Contents:

MODULE I- Insert and remove contact lenses and instruct patients in these procedures.

MODULE II- Fit soft contact lenses.

MODULE III- Manage the aftercare of patients wearing soft contact lenses

MODULE IV- Advise on contact lens materials and care regimes

MODULE V- Manage the aftercare of patients wearing rigid gas permeable contact lens.

MODULE VI- Fit rigid gas permeable contact lenses.

MODULE VII- Fit contact lenses to patients with astigmatism.

MODULE VIII- Techniques used in fitting contact lenses and to advise patients requiring complex visualcorrection.

MODULE IX- Fit multifocal, contact Lenses

MODULE X- Fit special contact lenses e.g Rose K , Orthokeratology, Scleral

MODULE XI- Dispensing, ordering &verification of spectacle

Examination Scheme:

Components	**A**	**Case Records**	**Clinical Supervisors Evaluation**	**EE Practical + Viva**
Weightage (%)	5	10	15	70

A: Attendance, EE: End Semester Exam

CLINICAL INTERNSHIP-DISSERTATION

Course Code: OPT4437 **Credit Units: 10**

Course Contents:

MODULE-I: Thesis Proposal Development is an independent tutorial conducted by the student's advisor, and involves a comprehensive literature survey of the chosen research area. Through regular meetings, the student and advisor discuss this literature in detail, and the student writes a paper, reviewed by the advisor, summarizing the literature. This paper should help in the development of the thesis proposal and thesis.

MODULE-II: Thesis Proposal At the end of the Semester 2. each student must submit to the university with the signed approval of the advisor, a thesis proposal defining the thesis project, the methods and design of the experiments needed for completion, the progress to date, and plans for completion.

MODULE-III: Thesis Preparation

This is involving preparation of the thesis. The thesis must include a cover and title page, abstract, table of contents, Introduction of the thesis topic with a comprehensive review of the literature, appropriately organized methods, results, and discussion sections for the experiments performed, and a final conclusions section summarizing the outcome of the project. The student should submit a draft of the thesis to the advisor by the end of the third semester. Plans should be in place for the thesis examination to be held in the final exam.

MODULE-IV: Thesis submission

Project Work and Practical Training

A Full time student admitted to M.Optom course will have to be involved in teaching under-graduate students for lectures, demonstrations and hands-on practical sessions.

All students will have to choose ONE speciality subject at start of first year M.Optom and inform the University through School of Optometry in writing within 3 months of being admitted for the first Semester M.Optom

As a part of clinical training during the first year M.Optom every student will document minimum number of cases specified in clinically examined by them. These clinical cases will have to be submitted before end of 4thsemester

Every student will have to do a dissertation thesis during the second year M.Optom for this. Every student should submit a protocol which will have to be approved and accepted by post graduate teaching faculty at School of Optometry within second semester of starting first year.

Two copies of the dissertation thesis will have to be submitted before 15thMay in second year.
Some post graduate students may have to work with ophthalmic and optical industry in their projects of practitioner education, research and other related activities which will be given as assignments by the School of Optometry, Amity medical school.

Examination Scheme:

Components	A	Clinical Supervisors Evaluation	EE Practical + Viva
Weightage (%)	5	25	70

A: Attendance, EE: End Semester Exam

Examination & Rules of passing for first and Second Year M.Optom

Format for term end examination Theory papers
Each theory examination will be of 100 marks and 3 Hours duration, 70% marks will be taken as external marks.
Each theory examination paper will have total three Sections

Examination Pattern:
Each semester examination will consists of both internal assessment and term end examination in the subjects prescribed in syllabus for each semester. The Faculty will conduct the internal assessments as per schedule prepared by school of optometry.

Amity University, Gurgaon will conduct university every term end examination
Eligibility for a student to appear in term for semester-term end Examination

Minimum 50% marks in internal assessment i.e. minimum 15marks in theory internal and minimum 25 marks in practical/Viva/Oral

Minimum 75% attendance for all course , If of these eligibility conditions have not been satisfied, thestudent will not be allowed to appear for semester term end examinations

Duration of examination at end for each semester term for each written/practical/clinical examination will be such as may be notified from time to time on recommendation of the Amity University, Gurgaon authorities.

Results and passing for each semester Examination:
A student will be declared to have passed in particular theory subjects provided he/she has secured not less than 50% marks out of 100(15 marks out of 30 in internal assessment and 35 marks out of 70 in term end examination) in each theory subject for every semester.

A student will be declared to have passed in a particular subject provided he/she has secured not less than 50 marks out of 100 [25 marks out of 50 in internal Assessment and 25 marks out of 50 in terms end examination] in each practical subject for every semester.

A student will be declared to have "PASSED" the complete semester Examination provided he/she has secured 50% marks individually in all theory and practical subjects of that semester.

If a student fails or does not appear for semester examination for semester I& III he/she will still be allowed to attend the theory classes and practical sessions for the semester II & IV Respectively ,which falls in same academic year.

A student who has not appeared or has failed in the semester examination for semester I& III will have to appear for the internal and external exams for only that subject along with semester exam for the current semester i.e. .II and IV respectively.

Only when the student is declared pass all subject of semester I and semester II examinations will be admitted to the second year of the course.

A student who has not appeared or has failed in the semester examination for semester I & II will not be admitted to the second year of the course. He/ She will have to get readmitted in the first year and pay the fees as prescribed by the university.

Allowed to keep term: If the student secures minimum 50% marks in at least three subjects offirst year M.Optom, he/she will be allowed to keep term for second year. However he/she will have to pass in all the subjects of first year M.Optom in order to become eligible to apply/appear for second year final M.Optom University Examinations.

Repeat term: If the student fails in four or all five subjects of first year, he/she will be asked to pay the tuition fees proportionate to the number of subjects failed and the university examination fees and then appear for the midterm external examinations in those subjects in which he/she failed earlier. But they are not required to appear for internal examinations and neither repeat project.

Second Year M.Optom Passing: The internal examination and external examination marks will be added as the final marks of that subject for each year. Only when the student secures minimum 50% marks [Internal+External=combined] in all subjects of both the years and has completed the M.Optom. Course and will be eligible for post graduate degree of Master of Clinical optometry [M.Optom]

Repeat Dissertation: If the M.Optom student has failed in subject of the second year M.Optom the student will be required to either repeat the same dissertation project OR Choose different dissertation project and appear for the year end examination only.
He/she cannot take midterm examination for this subject in month of February every year.

If any student fails three times successively in the same subject at the university examinations for either first or second year M.Optom, He/She will not be allowed to continue the M.Optom course and his admission stands cancelled.

Award of the Degree:
A student who has secured 50% marks in every subject of final second year M.Optom Examination will be Eligible for conferment of Master of clinical Optometry [M.Optom] Post Graduate Degree by Amity university, Gurgaon

Award of Gold Medal:
Gold Medal will be awarded to the student who secures maximum marks in first and second ,Third& Fourth semester M.Optom added together, The candidate should have cleared each and every subject in every term in the first attempt.

Guidelines for Master research project work:
Basic reading material: Introductory reading material on research methodology, how to do a literature search and statistical methods should be provided at the beginning of the semester.

The students should read the material thoroughly and can mail their queries to their guides. a. Assignment 1: Exercises should be also given based on the reading material

The student should learn to do a through pubmed search in their area of research interest.. Read the recent research articles initially. Find out the research gaps. Based on that set up your research

aim. Your research aim should not be a repetition of an already done research. Substantiate the necessity (Gap in current research) for the proposed study. (Assignment II: mailed to guide)

Discuss with your peers and clinicians regarding the Originality & objective of the study, feasibility of the study and other ethical issues involved: Very important

Institutional Review Board and Ethics committee approval
Consent form certified
As they begin the research, it would be wise to also meet the statistician

Sample size estimation
Microsoft excel or access proforma design

Prepare a rough draft of the protocol (Assignment III)
Emphasize on the methodology
The final protocol should be ready by end of second semester

Update your research activities at least once in a month to your guide (Data collection proforma as excel sheet).

Data entry should be done in Excel appropriately. Consult with your local statistician for any queries and also discuss with your guide. (Assignment IV)

End of your data collections takes to Analysis: Kindly discuss with your guide and a statistician (Assignment V: on the basics of statistics pertaining to your research interest)*

In the thesis introduction, literature and methodology should be ready before the end of fourth semester.

Submission of the final thesis to the guide should be done before one month of the deadline given. So that your guide will have enough time to review and make corrections