



TEERTHANKER MAHAVEER UNIVERSITY

(Established under Govt. of U. P. Act No. 30, 2008)
Delhi Road, Moradabad (U.P.)

PhD PROGRAMME

SYLLABUS FOR DISCIPLINE-SPECIFIC COURSE OPTOMETRY

Course Code: PDS240111	OPTOMETRY	L	T	P	C
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Objective:	This course aims to advance expertise in vision science, ocular health, and clinical practices. It develops research skills, fosters innovation, and promotes interdisciplinary collaboration. Graduates are prepared for leadership roles, integrating emerging technologies, addressing public health challenges, and contributing to academic and clinical advancements in optometry through ethical, impactful research and professional excellence.				
Course Outcomes:					
CO-1	Understanding the Comprehensive Vision Therapy Strategies				
CO-2	Applying the Ergonomic Principles in the Management of Occupational Ocular Hazards				
CO-3	Analyzing the Fitting Techniques Advanced Contact Lens				
CO-4	Analyzing the Pathophysiology of Ocular Diseases				
CO-5	Evaluating the Low-Vision Rehabilitation Strategies				
Course Content:					
Unit-1	Ocular Diseases and Diagnostics: Anterior Segment Diseases: Corneal, conjunctival, and anterior uveitis. Posterior Segment Diseases: Retinal disorders, optic neuropathies. Ocular Imaging: Fundus photography, AS-OCT, specular microscopy, HRT, GDx, ERG, and VEP. Surgical Treatments: Cataract, glaucoma, retinal surgeries.				
Unit-2	Low Vision Care and Rehabilitation: Causes of Low Vision: Cataract, glaucoma, ARMD, diabetic retinopathy, corneal disorders. Low Vision Devices: Magnifiers, telescopes, electronic vision aids. Rehabilitation: Vocational training, eccentric viewing techniques, psychosocial assessment, and counseling. Pediatric and Geriatric Low Vision Management.				
Unit-3	Pediatric Optometry and Binocular Vision: Visual Development in Infants: Refractive, oculomotor, and spatial vision development. Binocular Vision Disorders: Strabismus, amblyopia, convergence insufficiency. Clinical Examination: Cycloplegic refraction, accommodation, vergence, and stereopsis tests. Management: Vision therapy, orthoptics, and amblyopia management.				

<p>Unit-4</p>	<p>Contact Lenses: Advanced Fitting and Management: Specialty Lenses: Scleral, mini-scleral, hybrid, Rose-K, and orthokeratology. Complications: Diagnosing and managing contact lens-induced complications. Fitting Techniques: Post-keratoplasty, post-LASIK, and pediatric fittings. Cosmetic and Prosthetic Contact Lenses.</p>
<p>Unit-5</p>	<p>Vision Therapy and Rehabilitation: Vision Therapy Techniques: Treatment for accommodative and vergence dysfunctions. Neurological Conditions: Management of TBI, stroke-related visual dysfunctions. Behavioral Optometry: Visual perceptual training, spatial awareness. Rehabilitation Techniques: Strategies for enhancing binocular function and reducing visual stress.</p>
<p>Textbooks</p>	<ol style="list-style-type: none"> 1. Borish's Clinical Refraction by William J. Benjamin 2. Low Vision Rehabilitation: A Practical Guide for Occupational Therapists"by Mitchell Scheiman, Maxine Scheiman, and Steven Whittaker 3. Ocular Disease: Mechanisms and Management by Bruce E. Onofrey, Leonard A. Levin, and Henry J. Kaiser 4. Pediatric Optometry by Michael C. Brodsky 5. Contact Lens Complications by Nathan Efron 6. Neuro-optometry: An Introduction to Theory and Practice by Frederick W. Fraunfelder and James E. Corbett 7. Binocular Vision and Ocular Motility: Theory and Management of Strabismus by Gunter K. von Noorden and Emilio C. Campos 8. Visual Development, Diagnosis, and Treatment of the Pediatric Patient by Robert H. Duckman 9. The Optometrist's Guide to Clinical Ethics by A. Paul Miller and Lee A. Flemming
<p>Reference Books/ Additional Electronic Reference Material:</p>	<ol style="list-style-type: none"> 1. https://www.aao.org/eye-health/glasses-contacts/contact-lens-102 2. https://www.aao.org/museum-eye-openers/binocular-vision 3. https://www.aoa.org/healthy-eyes/eye-and-vision-conditions?sso=y