



BRAINWARE UNIVERSITY
School of Medical & Allied Health Sciences
Department of Allied Health Sciences
Master of Optometry 2026
(As per NCAHP Guideline)
Semester-I

Sl. No.	Course Code	Course Name	L	T	P/C	Evaluation Scheme		Total Marks	Credits	Course Type
						CIA	TEE			
1	MOP1001	Applied Ocular Biology	3	0	0	30	70	100	3	Core Course
2	MOP1002	Advanced Ocular Diagnostics & Management	3	0	0	30	70	100	3	Core Course
3	MOP1003	Research Methodology and Biostatistics	2	0	0	30	70	100	2	Core Course
4	MOP1004	Intellectual Property Rights [#]	2	0	0	100	—	100	2	Skill Course
5	MOP1801	Research Project-I [#]	3	0	0	50	—	50	3	Core Course
6	MOP1701	Digital Pedagogy and Learning Management [#]	1	0	1	100	—	100	1.5	Skill Course
7	MOP1901	General Clinics-I	0	0	8	30	70	100	4	Clinical Course
8	MOP1902	Specialty Optometry Clinics-I	0	0	8	30	70	100	4	Clinical Course
9	MOP1903	Community Outreach-I	0	0	4	30	70	100	2	Community Outreach Course
TOTAL			14	0	21	430	420	850	24.5	

#Non-University Exams : All courses are Mandatory (Credit will be considered in SGPA/CGPA calculation)



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Course Code: MOP1001

Course Name: Applied Ocular Biology

Weekly Contact Hours: 3L

Credit(s): 3

Total Allotted Hours: 45L

Course Objective: This course is designed to give the learners an overview about the basic science of the eye and clinical relevance. Applications of concepts in the basic biomedical sciences such as Anatomy, Physiology, Biochemistry, Microbiology, Genetics, Immunology, and Pathology will be discussed in the context of General physiology as well as ocular and clinical conditions.

Pre-requisite(s): Knowledge of Ocular Anatomy and Physiology, Biochemistry, Microbiology, Genetics, Immunology and Pathology.

Course Outcomes (COs): At the end of course, students are able to:

CO 1: Understand and correlate the ocular anatomy and physiology of the visual system to vision care, while developing management plans for various ocular diseases considering these anatomical and physiological aspects.

CO 2: Summarize and correlate molecular genetics with ophthalmology, and also develop management strategies for genetic eye diseases.

CO 3: By understanding and analyzing information on microbial ocular infections and pathology, able to plan effectively the management of eye diseases, which aids in identifying and relating the knowledge efficiently.

CO 4: Summarize, and correlate advanced knowledge of ocular biochemistry, and immunology to identify metabolic and autoimmune diseases affecting the eye and also develop a plan for managing the conditions.

CO5: Summarize, correlate and apply the advanced knowledge of pharmacology to manage the metabolic diseases and immune responses affecting the eye.

Module I: Anatomy, Physiology, and Clinical Aspects of the Visual System and Visual Function: **[15H(L)]**

Anatomy of Eye and Orbit: Osteology of orbit, Orbital contents –Extra Ocular Muscles- Blood vessels of the orbit – Cranial Nerves associated with eye and orbit –Ocular Adnexa – Muscle of eye lids and adjacent face - Anatomy of the visual pathway.

Physiology of Vision and the Visual System: Light detection and Dark adaptation – Visual acuity and contrast Sensitivity – Clinical Visual Electrophysiology – Color vision – Monocular versus Binocular vision, Ocular movement: Physiology – Psychophysical basis for clinical tests.



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Module II: Molecular and Clinical Genetics in Ophthalmology: **[5H(L)]**

Genetics: Chromosome and Cell division –Molecular genetics– Clinical Genetics –Population genetics–Gene cell differentiations and Cell based therapy: Molecular genetics and ophthalmology.

Module III: Ocular Microbial Infections and Pathology: **[10H(L)]**

Microbial Infections of the Eye: Introduction: Microbes in the environment - Host defense at the ocular surface: Physical barriers – Adaptive immunity to microbial infection – Ocular infections worldwide: viral, Bacterial, fungal, protozoan infections of the eye – Ocular infections in developing countries.

Pathology: Introduction – Cell and Tissue damage, Mechanism of cell death – Inflammation –Neoplasia – Hamartomas – Choristomas – Teratoma –Tumors.

Module IV: Biochemistry and Immunology of the Eye **[10H(L)]**

Biochemistry: Biochemistry of the ocular surface, tear film, lacrimal gland sections, mucus layer, the conjunctiva, the lids, cornea and sclera, uveal tract- Inborn errors of metabolism and the eye, Metabolic diseases.

Immunology: Innate and Acquired immunity – Initial response of the host to injury – Acute and Chronic Inflammation – Development of adaptive immunity and immunological memory – Organization of immune system – Antigen recognition – T cell activation – The eye and the immune system.

Module V: General and Ocular Pharmacology **[5H(L)]**

General and Ocular Pharmacology: Introduction - Pharmacokinetics– Pharmacodynamics –Mechanism of ocular drug absorptions – Routes of administration – Delivery methods - Drug Vehicles - Advanced ocular delivery systems – Ocular toxicity from systemic administrations of drug.

Course Outcomes (COs) and Modules Mapping:

SI	Course Outcome (COs)	Mapped Module(s)	Learning levels (as per Bloom's Taxonomy from K1 to K6)
1	CO1	Module I, Module II	K2, K4, K6



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2	CO2	Module II, Module III	K2, K4, K6
3	CO3	Module III	K2, K4, K5
4	CO4	Module IV	K2, K4, K6
5	CO5	Module V	K2, K3, K4

Text book(s):

1. J. V. Forrester, A. D. Dick, P. G. Mcmenamin, Fiona Roberts, Eric Pearlman, The Eye: Basic Science in Practice, 4/e., Elsevier. 2016

Reference book(s):

1. Bye L, Modi N, Stanford M. Basic sciences for ophthalmology. OUP Oxford; 2013 May 23.
2. Perkins ES, Hill DW, editors. Scientific foundations of ophthalmology. Butterworth-Heinemann; 2013 Oct 22.



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Course Code: MOP1002

Course Name: Advanced Ocular Diagnostics & Management

Weekly Contact Hours: 3L

Credit(s): 3

Total Allotted Hours: 45L

Course Objective: This course is designed to provide exposure to diagnostics to ocular conditions and management options for ocular diseases.

Pre-requisite(s): Knowledge of Ocular Diseases and Optometric Instrumentation

Course Outcomes (COs): At the end of course, students are able to:

CO1: Evaluate and interpret ocular imaging's across various ocular diseases, and integrate knowledge to develop effective management strategies.

CO2: Interpret and correlate ocular diagnostic findings in various ocular diseases, to develop effective management strategies.

CO3: Evaluate and interpret findings from Advance anterior segment diagnostics and apply this knowledge to develop clinical management strategies.

CO4: Evaluate and relate findings from Advance posterior segment diagnostics and apply this knowledge to develop clinical management strategies.

CO5: Analyze and relate knowledge of pharmacological, laser, and surgical treatments for ocular diseases, and develop comprehensive management plans with an emphasis on optometric care while recalling fundamental treatment principles.

Module I: Advanced Ocular Imaging:

[6H(L)]

Ocular photography: External, Anterior (Slit lamp and Gonio photography), Posterior (Fundus Photography, Fundus Autofluorescence, Fundus Fluorescein Angiography, Indocyanine Green Angiography)

Module II: Advanced Ocular diagnostics:

[4H(L)]

Ultrasonography: (Ultrasound biomicroscopy, A-scan ultrasonography, B-scan ultrasonography, Pachymetry) Ocular Surface: (Meibography, Keratography, Corneal Biomechanics)

Module III: Advanced Anterior Segment Diagnostics:

[10H(L)]

Anterior Segment Diagnostics: Confocal Microscopy, Specular microscopy, Corneal Topography, Corneal Tomography, Anterior Segment Optical Coherence Tomography, Pentacam, Aberrometry



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Module IV: Advanced Posterior Segment Diagnostics:

[10H(L)]

Posterior Segment Diagnostics: Posterior Segment Optical Coherence Tomography (Spectral Domain OCT, Swept Source OCT, OCT Angiography), Ocular Electrodiagnostics (ERG, MfERG, VEP, EOG), Dark Adaptometry

Module V: Clinical management of ocular conditions:

[15H(L)]

Overview of drugs used in treatment of ocular disease, Overview of laser and surgical interventions for ocular disease, Vertical Integration of all treatment options of ocular disease with special emphasis on optometric management.

Course Outcomes (COs) and Modules Mapping:

Sl	Course Outcome (COs)	Mapped Module(s)	Learning levels (as per Bloom's Taxonomy from K1 to K6)
1	CO1	Module I	K2, K5, K6
2	CO2	Module II	K2, K4, K6
3	CO3	Module III	K3, K5, K6
4	CO4	Module IV	K3, K5, K6
5	CO5	Module V	K2, K4, K6

Text book(s):

1. Galloway NR, Amoaku WM, Galloway PH, Browning AC, Galloway NR. Common eye diseases and their management. Springer; 1999 Mar.
2. Agarwal A, Boyd S, Drews RC. Diagnostic and Imaging Techniques in Ophthalmology. JP Medical Ltd; 2011 Mar 31.

Reference book(s):

1. Goldman D, Waheed NK, Duker JS. Atlas of Retinal OCT: Optical Coherence: Optical Coherence Tomography. Elsevier Health Sciences; 2017 Nov 4.
2. Nowinska A, Koprowski R. Novel Diagnostic Methods in Ophthalmology. BoD—Books on Demand; 2019 Sep 4.

Course Code: MOP1003

Course Name: Research Methodology and Biostatistics

Weekly Contact Hours: 2L

Credit(s): 2

Total Allotted Hours: 30L



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Course Objective The objective of this module is to empower students understand the basic principles of research and methods applied to draw inferences from the research findings.

Pre-requisite(s): Knowledge of Bio-statistics, Epidemiology and research methodology

Course Outcomes (COs): At the end of course, students are able to:

CO1: Understand and apply basic research concepts by selecting appropriate study designs based on specific research questions, while analyzing the fundamentals of various research methodologies.

CO2: Understand and apply sampling methods, hypothesis testing procedures, and statistical significance to create robust statistical analyses, and also evaluate the use of these techniques using statistical tools to reach the outcome.

CO3: Understand, and apply appropriate parametric and non-parametric statistical tests, regression techniques, and multivariate analysis methods to evaluate research data and interpret complex relationships within datasets.

CO4: Understand the principles of qualitative research and questionnaire development, analyze qualitative data using appropriate techniques, and interpret research findings to draw meaningful conclusions.

Module I: Fundamentals of Research:

[7H(L)]

Introduction to research methods, research strategies, Clinical study designs, sampling methods and sample size, tests for significance, association and causation. Ethics in research, Critical review of literature and consolidation, writing a research question, Planning and implementing a research project, Data handling.

Module II: Fundamentals of Statistical Analysis:

[8H(L)]

Sampling and sample size, Sampling distributions: t, chi-square, F distributions; Hypothesis testing: null and alternative hypotheses, decision criteria, critical values, type I and type II errors, Meaning of statistical significance; Power of a test; One sample hypothesis testing: Normally distributed data: z, t and chi-square tests; Binomial proportion testing. Tests for normality, comparison of 2 means, comparison of proportions - demonstration with statistical tools.

Module III: Non-Parametric Tests

[8H(L)]

Two sample hypothesis testing; Nonparametric methods: signed rank test, rank sum test; Kruskal-Wallis test; Analysis of variance. Comparison of multiple groups, ANOVA, multivariate modelling, Correlation - demonstration with statistical tools, non-parametric tests, Mann-Whitney test, Kruskal Wallis, Friedman, Wilcoxon signed rank test - demonstration with statistical tools

Module IV: Confounding

[7H(L)]



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Confounding and Bias, Regression – simple linear, logistic regression, multiple regression – demonstration with statistical tools.
Qualitative research and questionnaire development.

Course Outcomes (COs) and Modules Mapping:

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1	CO1	Module I	K2, K3, K4
2	CO2	Module II	K2, K3, K5
3	CO3	Module III, IV	K2, K3, K5
4	CO4	Module IV	K2, K4, K5

Text book(s):

1. Kothari CR. Research methodology: Methods and techniques. New Age International; 2004.
2. W. W. Daniel, C. L. Cross. Biostatistics: A Foundation for Analysis in the Health Science, 10/e., Wiley, 2013

Reference book(s):

1. B. Rosner. Fundamentals of Biostatistics, 7/e, Duxbury Resource Center, 2010.
2. R. F. Woolson, W. R. Clarke. Statistical Methods for the Analysis of Biomedical Data 2/e., John Wiley, New Jersey 2011.



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Course Code: MOP1004

Course Name: Intellectual Property Rights

Weekly Contact Hours: 2L

Credit(s): 2

Total Allotted Hours: 30L

Course Objective The course is designed to introduce fundamental aspects of Intellectual Property Rights to learners who are going to play a major role in development and management of innovative projects. The course is designed for increasing awareness among a multidisciplinary audience.

Pre-requisite(s): Medical Law and Ethics.

Course Outcomes (COs): At the end of course, students are able to:

CO1: Understand the principles of copyrights and geographical indications, analyze their scope and applications, and evaluate their significance in protecting intellectual property.

CO2: Describe the principles and provisions of patents, analyze their applications and scope, and evaluate the significance and protection of industrial designs within intellectual property rights.

CO3: Understand various aspects of trademarks and apply the principles of enforcement of intellectual property rights to protect and manage intellectual property effectively.

Module I: Copyright and Geographical Indications:

[10H(L)]

Copyright: What is copyright? What is covered by copyright? How long does copyright last? Why protects copyright? RELATED RIGHTS: What are related rights? , Distinction between related rights and copyright? , Rights covered by copyright?

Geographical indications: What is a geographical indication? How is a geographical indication protected? Why protect geographical indications?

Module II: Patents and Industrial Designs:

[10H(L)]

Patents: Patent and kind of inventions protected by a patent, Patent document, how to protect your inventions? Granting of patent, Rights of a patent, how extensive is patent protection? , Drafting and Filing of a patent.

Industrial designs: What is an industrial design? How can industrial designs be protected? What kind of protection is provided by industrial designs? How long does the protection last? Why protect industrial designs?

Module III: Trademarks and Enforcement of Intellectual Property Rights:

[10H(L)]



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Trademarks: What is a trademark? Rights of trademark ? , What kind of signs can be used as trademarks? , How is a trademark protected? , How is a trademark registered? , How long is a registered trademark protected for? Trade secrets and know-how agreements.

Enforcement of intellectual property rights: Infringement of intellectual property rights, Enforcement Measures

Course Outcomes (COs) and Modules Mapping:

Sl	Course Outcome (COs)	Mapped Module(s)	Learning levels (as per Bloom's Taxonomy from K1 to K6)
1	CO1	Module I	K2, K4, K5
2	CO2	Module II	K2, K4, K5
3	CO3	Module III	K2, K3, K5

Text book(s):

1. T. M. Murray, M. J. Mehlman. Encyclopedia of Ethical, Legal and Policy Issues in Biotechnology, Vol 2, John Wiley & Sons, 2010.
2. P. N. Cheremisinoff, R. P. Ouellette, R. M. Bartholomew, Biotechnology Applications and Research, Technomic Publishing Co., Inc. 1985.

Reference book(s):

1. D. Balasubramaniam, C. F. A. Bryce, K. Dharmalingam, J. Green, K. Jayaraman, Concepts in Biotechnology, 3/e University Press. 2004.
2. B. David, T. R. Jewell, R. G. Buiser, Biotechnology: Demystifying the Concepts1/e., Wesley Longman, USA, 2000.
3. Parulekar, S. D'Souza, Indian Patents Law – Legal & Business Implications, Macmillan India Ltd. 2006.
4. L. Wadehra. Law Relating to Patents, Trademarks, Copyright, Designs & Geographical Indications, Universal law Publishing Pvt. Ltd., 2000.
5. P. Narayanan, Law of Copyright and Industrial Designs, 4/e., Eastern law House, Delhi. 2010.

Course Code: MOP1801

Course Name: Research Project - I

Weekly Contact Hours: - 3L

Credit(s): 3

Total Allotted Hours: - 45L



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Course Objective: This course aims to enable the learner to appreciate the theoretical concepts learnt on the basics of research and apply it to initiate research and propose an action plan. It would also prepare the learner to seek permissions from the relevant research bodies.

Pre-requisite(s): Nil

Course Outcomes (COs): At the end of course, students are able to:

CO 1: Apply appropriate literature-search and research appraisal strategies to retrieve, organize, and analyze relevant evidence related to an optometric research problem. Evaluate the methodological quality, findings, limitations, and consistency of published studies to identify research gaps and support evidence-based research decisions.

CO 2: Use appropriate frameworks and principles to formulate research questions, objectives, hypotheses, variables, and operational definitions, and analyze research requirements to select suitable quantitative or qualitative research designs for optometric problems. Evaluate the appropriateness, strengths, limitations, feasibility, and scientific validity of selected research designs to justify their use in addressing specific optometric research questions.

CO 3: Understand and Apply appropriate principles of sampling, sample-size estimation, randomization, outcome measurement, data collection, and statistical planning in an optometric research study. Analyze and evaluate the suitability, reliability, validity, feasibility, and statistical appropriateness of selected research methods and procedures to support scientifically sound and evidence-based research conclusions.

Course Description: During the course the learner is expected to decide on a research topic after discussion with the respective guides, perform a thorough literature review, attend periodic journal clubs, interact with peers, faculty and guide, prepare a review of literature through presentation, formulate the methodology after discussion with the guide and plan and present for approval from the Institutional Review Board and ethics Committee. Also go through the basics of research methodology and statistical tests.

Module I: Literature Review and Identification of Research Problems

[15H(L)]

Foundations of Optometric Research- Role of research in evidence-based optometric practice, Clinical, epidemiological, diagnostic and interventional research in optometry, Translating clinical observations into research problems, Identification of current and emerging research areas in optometry.

Identification and Refinement of a Research Topic- Selection of a clinically relevant research topic, Problem identification from clinical practice, Background and rationale of a research problem, Identification of knowledge gaps, Scope and feasibility of a research topic.

Literature Search and Retrieval- Developing keywords and search terms, Boolean operators and search strategies, Use of PubMed/MEDLINE, Scopus, Web of Science and Google Scholar, Primary versus secondary literature Selection of relevant and current literature, Citation tracking and reference management.



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Critical Review of Literature-Reading and interpretation of research articles, Identification of study design, population, intervention/exposure and outcomes, Critical appraisal of methodology, Interpretation of findings and limitations, Comparing and synthesizing findings from different Studies, Identification of research gaps.

Application-Based Activities- Develop a literature-search strategy for a selected optometry problem, Retrieve and classify 10–15 relevant research articles, prepare a literature matrix, conduct a journal club on a contemporary optometry research article, identify a research gap from published literature.

Module II: Research Design

[15H(L)]

Formulation of the Research Question: Research questions and objectives, Primary and secondary objectives, Null and alternative hypotheses, PICO/PICOS framework, Variables and operational definitions.

Selection of Research Design: Quantitative and qualitative research, Cross-sectional studies, Case-control studies, Cohort studies, Experimental studies, Randomized controlled trials, Diagnostic accuracy studies, Comparative clinical studies.

Module III: Methodology and Statistical Planning

[15H(L)]

Sampling and Study Planning: Target and study population, Inclusion and exclusion criteria, Probability and non-probability sampling, Sample-size estimation, Statistical power, Randomization, Allocation concealment, Blinding and masking.

Outcome Measures and Data Collection: Selection of primary and secondary outcome measures, Clinical and functional outcome measures, Objective versus subjective measures, Reliability and validity, Standardization of clinical procedures, Data collection forms and research databases, Pilot study and feasibility assessment.

Statistical Planning: Types of variables and measurement scales, Descriptive statistics, Normality assessment, Parametric and non-parametric tests, Selection of statistical tests according to research design and data type, Correlation and regression, p-value, confidence interval and effect size, Introduction to statistical software.

Course Outcomes (COs) and Modules Mapping:

Sl	Course Outcome (COs)	Mapped Module(s)	Learning levels (as per Bloom's Taxonomy from K1 to K6)
1	CO1	Module I	K3, K4, K5
2	CO2	Module II	K2, K3, K4, K5
3	CO3	Module III	K2, K3, K4, K5

Text book(s):

1. Kothari CR. Research methodology: Methods and techniques. New Age International; 2004.
2. W. W. Daniel, C. L. Cross. Biostatistics: A Foundation for Analysis in the Health Science, 10/e., Wiley, 2013

Reference book(s):



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1. B. Rosner. Fundamentals of Biostatistics, 7/e, Duxbury Resource Center, 2010.
2. R. F. Woolson, W. R. Clarke. Statistical Methods for the Analysis of Biomedical Data 2/e., John Wiley, New Jersey 2011.



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Course Code: MOP1701

Course Name: Digital Pedagogy and Learning Management

Weekly Contact Hours: 1L+1P

Credit(s): 1.5

Total Allotted Hours: 15L+15P

Course Objective: This course aims to train the learner to understand the means of ICT integration into teaching and learning and demonstrate the different forms of digital information in the appropriate context.

Pre-requisite(s): Nil

Course Outcomes (COs): At the end of course, students are able to:

CO1: Explain the foundational principles and characteristics of subject-centered, learner-centered, problem-based, and competency/outcome-based curricula, and apply these approaches to different educational contexts. Also analyze and evaluate the effectiveness of these curriculum models in designing educational programs that address diverse learning objectives and expected outcomes.

CO2: Describe the major theories of learning, including classical and operant conditioning, and apply the principles of adult learning and learning taxonomies. Also analyze and design SMART learning objectives aligned with program, course, and unit objectives to promote effective horizontal and vertical integration within educational frameworks.

CO3: Explain the characteristics of visual, auditory, reader, and kinesthetic learners, and apply learner-centric methods and active learning strategies in developing instructional activities. Also analyze and design lesson plans and learning materials using the systems approach to effectively accommodate diverse learning styles.

CO4: Describe the principles and potential applications of instructional multimedia, and apply appropriate multimedia tools and resources in educational settings. Also analyze and evaluate the effectiveness of instructional multimedia in enhancing teaching and learning outcomes.

Module I: Understanding Types of Educational Curriculum and Statistical Analysis:

[4H(L)]

Curriculum: Types of curricula- subject centered, learner centered curriculum, problem-based curriculum, competency/ outcome-based curriculum and its importance.

Learning and changing behaviour: Learning: nature, characteristics of learning -Theories of learning: classical and operant conditioning. System's Approach, Principles of adult learning, learning process. Learning taxonomy- Bloom's taxonomy for cognitive domain, Krathwohl's affective domain taxonomy, Dave's Taxonomy for skill domain. Learning objectives: Program objectives, course



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and unit objectives, framework the learning objectives, SMART objectives, horizontal and vertical integration of objectives.

Module II: Designing for Diverse Learners: Active Learning Methods

[5H(L)]

Types of learners: Visual, auditory, Readers and kinaesthetic learners. Designing of teaching learning activities- Use the system's approach for instructional design, Learner centric system, developing a lesson plan and material for using active learning methods for a course. Teaching learning methods such as: a. Didactic lectures, b. Small group teaching methods, c. Large group teaching methods, d. Case based and problem based learning, e. Simulations, f. Team based learning, g. Flipped classroom, h. Use of technology/multimedia in teaching, i. Bed side / chair side teaching, clinical rotations, j. Reflective practice, k. Inter-professional education, l. Skill development, m. Project based learning, n. Self-directed learning (SDL).

Module III: Advanced Assessment and ICT in Higher Education

[6H(L)]

Assessment in higher education: Principles of assessment, planning for assessment, summative and formative assessments, performance indicators, various assessment tools such as: a. Long answer questions, b. Short answer questions, c. Multiple choice questions, d. Objective Structured Clinical Examination (OSCE), e. Objective Structured practical Examination (OSPE), f. Direct Observation of Procedural Skills (DOPS), g. Mini-Clinical Evaluation Exercise (Mini -CEX), h. Long Case Examination, i. Portfolios, j. Assignments/written/ oral, k. Self-assessment and peer assessment. Assessment reports and feedback: types of feedbacks, importance, reflective practice Evidence based teaching. ICT: Definition, Meaning, Scope, Trends and significance in the context of Education, ICT for Effective Teaching and Learning, ICT in classroom, ICT for Professional Development. Role of AIR in Education, Gyanvani, Countrywide Classroom, EDUSAT: Implications, ETV, Network. Evaluation of multimedia learning materials.

PRACTICAL:

Module I:

[7H(P)]

Frame the learning objectives course/program, design an instructional module for given learning objective, deliver teaching session using active learning methods.

Module II:

[8H(P)]

Mentor the undergraduates to develop their knowledge and clinical skills, design a feedback questionnaire, collect and analyse the feedback for teaching conducted in classroom/clinics

Course Outcomes (COs) and Modules Mapping:

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1	CO1	Module I	K2, K3, K4, K5



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2	CO2	Module I	K2, K3, K4, K5
3	CO3	Module II	K2, K3, K4
4	CO4	Module III	K2, K3, K4, K5

Text book(s):

1. J. A. Dent, R. M. Harden, A Practical Guide for Medical Teachers, 3/e., Churchill Livingstone, 2009.
2. T. M. Srinivasan, Use of Computers and Multimedia in Education. Horton, 2002.

Reference book(s):

1. M. D. Williams, Integrating Technology into Teaching and Learning: Concepts and Applications, Prentice Hall, 2000.
2. S. K. Mangal, Advanced educational psychology PHI Learning private Ltd., 2006



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Course Code: MOP1901

Course Name: General Clinics-I

Weekly Contact Hours: 8P

Credit(s): 4

Total Allotted Hours: 120P

Course Objective: This course aims to expose the learner to different specialty out-patient departments and general clinics to provide comprehensive optometric care.

Pre-requisite(s): Knowledge of Ocular Diseases/conditions, basic Optometric Instrumentation/tools, Ocular pharmacology

Course Outcomes (COs): At the end of course, students are able to:

CO 1: Understand and evaluate general ocular conditions and corneal conditions, recognize ocular emergencies, and develop appropriate optometric management and referral strategies based on individual patient needs to optimize visual health.

CO 2: Recognize and evaluate glaucoma and uveal conditions, interpret relevant clinical findings and investigations, and develop appropriate optometric management and referral strategies to optimize visual health and quality of life.

CO 3: Interpret and correlate functional impairments related to paediatric and neuro-optometric conditions, and develop appropriate optometric management and referral strategies to optimize visual health and quality of life.

CO 4: Understand and interpret clinical findings associated with vitreoretinal conditions and develop appropriate optometric management and referral strategies to optimize visual health and quality of life.

CO5: Explain the key concepts and needs of community eye health, and apply appropriate vision screening and eye health promotion methods in community settings. Also analyze community eye health needs and evaluate the effectiveness of strategies for community engagement, referral, follow-up, and documentation.

Module I: General OPD/Emergency, Cornea OPD:

[24H(P)]

General OPD: History Taking, Visual Acuity, Refraction, Anterior and Posterior Segment Evaluation; Emergency: Ocular Emergencies and Triage, Ocular Trauma, Chemical Injuries and their optometric management, Red Eye; Cornea OPD: Corneal Staining and Sensitivity testing, Infectious and Non-infectious corneal conditions, Dystrophies and Degenerations, Corneal Investigations, Complications, Documentation and Management

Module II: Glaucoma OPD and Uvea OPD

[24H(P)]

Glaucoma OPD: Glaucoma Evaluation and Classification, Intraocular Pressure Assessment, Gonioscopy, Optic Nerve Head and Retinal Nerve Fibre Layer Evaluation, Visual Field Assessment, Glaucoma Investigations, Glaucoma Management and Follow-up; Uvea OPD: Uveitis Classification and Clinical Evaluation, Anterior Uveitis, Intermediate and Posterior Uveitis, Panuveitis, Investigations, Complications, Management and Referral.



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Department of Allied Health Sciences
Master of Optometry 2026
(As per NCAHP Guideline)
Semester-I

Module III: Neuro OPD and Paediatric OPD

[24H(P)]

Neuro OPD: Neuro-ophthalmic History and Clinical Evaluation, Pupillary Abnormalities, Optic Nerve Disorders, Visual Field Assessment, Ocular Motility and Cranial Nerve Disorders, Diplopia, Nystagmus, Neuro-ophthalmic Investigations, Management and Referral; Paediatric OPD: Paediatric History and Ocular Examination, Visual Assessment in Children, Refractive Errors, Amblyopia, Strabismus, Paediatric Ocular Disorders, Binocular Vision Assessment, Paediatric Investigations, Management and Referral.

Module IV: Vitroretina OPD

[24H(P)]

Vitreoretina OPD: Retinal and Vitreous Evaluation, Diabetic Retinopathy, Hypertensive Retinopathy, Retinal Vascular Disorders, Macular Disorders, Age-related Macular Degeneration, Retinal Detachment and Retinal Tears, Vitreous Disorders, Retinal Imaging and Investigations, Management and Referral.

Module V: Community OPD

[24H(P)]

Community OPD: Community Eye Health Assessment, Vision Screening, Identification of Ocular Morbidity, Screening for Refractive Errors and Common Eye Diseases, School Eye Health Programmes, Patient Counselling, Referral and Follow-up, Documentation and Reporting.

Course Outcomes (COs) and Modules Mapping:

Sl	Course Outcome (COs)	Mapped Module(s)	Learning levels (as per Bloom's Taxonomy from K1 to K6)
1	CO1	Module I	K2, K5, K6
2	CO2	Module II	K2, K4, K5, K6
3	CO3	Module III	K3, K4, K5, K6
4	CO4	Module IV	K2, K5, K6
5	CO5	Module V	K2, K3, K4, K5

Text book(s):

1. Rouse MW, Ettinger ER, editors. Clinical decision making in optometry. Butterworth-Heinemann; 1997.
2. Zwaan, J. (Ed.). (2014). Decision making in ophthalmology: an algorithmic approach. Jaypee Brothers Medical Publishers.

Reference book(s):

1. Jean E, Deborah MB. Acquired brain injury: An integrative neuro-rehabilitation.
2. Padula WV, Neuro-optometric rehabilitation. Optometric Extension Program; 1996.



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Course Code: MOP1902

Course Name: Specialty Optometry Clinics - I

Weekly Contact Hours: 8P

Credit(s): 4

Total Allotted Hours: 120P

Course Objective: This course aims to expose the learner to different optometry specialty clinics and diagnostic specialties to equip the learner correlate, assimilate the findings related to their research area of interest.

Pre-requisite(s): Knowledge of Ocular Anatomy and Physiology, Ocular Diseases, Microbiology, Contact Lens, Basic Binocular vision, Paediatric Optometry

Course Outcomes (COs): At the end of course, students are able to:

CO1: Interpret and correlate test results for non-strabismic binocular vision anomalies, strabismic disorders, and neuro-optometric conditions, and develop effective vision therapy procedures and management strategies tailored to these conditions.

CO2: Apply appropriate methods to assess functional vision and identify the visual needs of patients with low vision. Analyze assessment findings, evaluate the suitability of optical and electronic low vision devices and rehabilitation strategies, and develop individualized visual skills training, counselling, and follow-up plans.

CO 3: Learn appropriate techniques for fitting soft, rigid gas-permeable, and specialty contact lenses, including lenses for astigmatic corrections, and demonstrate effective patient aftercare. Also analyze and evaluate complex visual correction needs to develop appropriate lens management, patient counselling, and follow-up strategies.

CO4: Demonstrate appropriate methods to assess refractive errors and monitor myopia progression. Also analyze and evaluate refractive findings to develop and formulate appropriate refractive correction and myopia control strategies.

CO5: Assess occupational visual demands and ocular hazards in different workplace settings. Also analyze workplace-related visual and ergonomic risks, evaluate appropriate eye health and ergonomic interventions, and develop evidence-based workplace eye health and ergonomic strategies.

CO6: Interpret relevant diagnostic investigations for glaucoma, retinal, and corneal conditions. Also analyze and correlate diagnostic findings with clinical presentation, and evaluate the findings to support appropriate optometric management and referral.

Module I: Binocular Vision / Vision Therapy Clinic :

[20H(P)]

Tests related to non-strabismic binocular vision anomalies, vision therapy procedures and other management options suitable for non-strabismic binocular vision anomalies; Tests related to strabismic disorder, vision therapy procedures and other management



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options suitable for non-strabismic binocular vision anomalies; Tests related to Neuro-Optometric problems, Vision therapy and other optometric management options for heterophoria, Heterotropia, Non- strabismic binocular vision anomalies, neuro-optometric rehabilitations.

Module II: Low Vision Clinic:

[20H(P)]

Low Vision History Taking and Functional Assessment, Visual Acuity and Refraction, Contrast Sensitivity and Visual Field Assessment, Assessment of Functional Vision, Low Vision Device Evaluation and Prescription, Optical and Electronic Low Vision Aids, Eccentric Viewing and Visual Skills Training, Environmental Modification, Patient Counselling and Rehabilitation, Documentation, Follow-up and Referral.

Module III: Contact Lens Clinic:

[20H(P)]

Fit soft contact lenses, Manage the aftercare of patients wearing soft contact lenses. Fit rigid gas permeable contact lenses, Fit contact lenses to patients with astigmatism, Manage the aftercare of patients wearing rigid gas permeable contact lens. Fit contact lenses to patients with astigmatism, Techniques used in fitting contact lenses and to advise patients requiring complex visual correction.

Fit multifocal contact Lenses, Therapeutic contact lenses, fit special contact lenses e.g Rose K, Orthokeratology, Scleral contact lenses, Insert and remove contact lenses and instruct patients in these procedures, Dispensing, ordering & verification of spectacle.

Module IV: Refraction/ Myopia Control Clinic:

[20H(P)]

Refraction Clinic: Comprehensive Ocular and Refractive Assessment, Objective and Subjective Refraction, Binocular Vision Assessment, Accommodation Assessment, Presbyopia Management, Astigmatism and Anisometropia Management, Special Refraction Techniques, Prescription and Dispensing; Myopia Control Clinic: Myopia Assessment and Classification, Risk Factor Assessment, Myopia Progression Monitoring, Myopia Control Strategies, Optical and Pharmacological Interventions, Patient Counselling, Follow-up.

Module V: Occupational Optometry Clinic:

[20H(P)]

Occupational Eye Health and Workplace Assessment, Visual Demands and Occupational Vision, Ergonomic Assessment, Visual Fatigue and Computer Vision Syndrome, Occupational Ocular Hazards, Eye Safety and Personal Protective Equipment, Workplace Vision Screening, Occupational Refractive and Binocular Vision Assessment, Fitness-for-Work Assessment, Workplace Eye Health Promotion, Counselling.

Module VI: Diagnostic Postings:

[20H(P)]



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Glaucoma Diagnostics (UBM, ASOCT, Visual Fields, OCT), Retina Diagnostics (OCT, FFA, B Scan, Electro diagnostics), Cornea Diagnostics (ASOCT, Pentacam, Topography, Aberrometer)

Course Outcomes (COs) and Modules Mapping:

Sl	Course Outcome (COs)	Mapped Module(s)	Learning levels (as per Bloom's Taxonomy from K1 to K6)
1	CO1	Module I	K4, K5, K5
2	CO2	Module II	K3, K4, K5, K6
3	CO3	Module III	K3, K4, K5, K6
4	CO4	Module IV	K3, K4, K5, K6
5	CO5	Module V	K2, K4, K5 K6
6	CO6	Module VI	K3, K4, K5

Text book(s):

1. IACLE Modules- 1- 10
2. Contact Lens Practice- Nathan Efron. Elsevier Sciences. Third Edition
3. Strabismus simplified, Pradeep Sharma, Modern publisher, New Delhi, First edition, 1999
4. Clinical Management of Binocular Vision Heterophoric, Accommodative, and Eye Movement Disorders, Mitchell Scheiman; Bruce Wick, Lippincot Williams & Wilkins publishers, 2008.

Reference book(s):

1. Contact Lenses, Anthony J.Philips Stone, Butterworth-Heinemann, 5th edition,2006
2. Fitting guide for Rigid & soft contact lens: A practical Approach: Slatt & Stein
3. Theory and Practice of squint and orthoptics, AK Khurana, CBS publisher & distributor, 3rd edition.
4. Pickwell's Binocular Vision Anomalies: Investigation and Treatment, Butterworth-Heinemann Ltd; 4th edition (25 February 2002)



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Course Code: MOP1903

Course Name: Community Outreach-I

Weekly Contact Hours: 4P

Credit(s): 2

Total Allotted Hours: 60P

Course Objective: This course aims to expose the learners to the outreach activities whereby the learner would appreciate the needs of the society, be responsive to the needs and make the learner socially accountable.

Pre-requisite(s): Knowledge of Ocular Diseases/conditions, basic Optometric Instrumentation/tools, Ocular pharmacology

Course Outcomes (COs): At the end of course, students are able to:

CO1: Plan and implement a school eye-screening program by applying appropriate screening procedures. Also analyze findings to identify visual and ocular problems, and developing suitable referral and follow-up strategies.

CO2: Conduct community-based eye screening by applying appropriate screening procedures. Also analyze findings to identify common ocular conditions, and evaluating results to determine appropriate referral and further management.

CO3: Explain and apply appropriate eye health education and counselling strategies, and analyze individual needs to determine suitable referral and follow-up services for different population groups.

Module I: School Eye Screening

[30H(P)]

Planning and Organization of Screening, Visual Acuity and Refractive Error Screening, Colour Vision and Binocular Vision Assessment, Ocular Alignment and Motility Screening, Screening for Amblyopia and Common Paediatric Eye Conditions, Identification of High-risk Children, Referral, Parent and Teacher Counselling, Eye Health Education, Documentation and Follow-up.

Module II: Screening for Adults

[30H(P)]

Comprehensive adults eye screening camps, Cataract screening camps, Camps for elderly, Camps for differently able.

Course Outcomes (COs) and Modules Mapping:

Sl	Course Outcome (COs)	Mapped Module(s)	Learning levels (as per Bloom's Taxonomy from K1 to K6)
1	CO1	Module I	K3, K4, K6
2	CO2	Module II	K3, K4, K5
3	CO3	Module I, II	K2, K3, K4