

DIPLOMA IN OPTOMETRY (PT)

DOP 101 General Anatomy, Physiology and Pathology

Education Aims

This module introduces students to the basic concepts of human anatomy and physiology, and correlating structures and functions.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Understand the form and organisation of anatomical parts and the function of anatomical parts.
- Demonstrate knowledge of the structure or anatomy of body parts and organs and also to determine what they are able to do and how they can function.
- Understand characteristics of life are traits all organisms share.
- Demonstrate knowledge of the body is composed of parts with different levels of organisation.
- Understand the body systems are dependent on each other to survive and operate the human body.

Syllabus

This module provides an introduction to the basic concepts of human anatomy and physiology with a focus on the body as a whole and the different systems contribute to this body. Specific areas explored include support and movement, communication, control, integration, maintenance and continuity of the human body.

DOP 102 Biochemistry

Education Aims

This module provides students with an overview of biosynthetic and degradative pathways of biomolecules, and integration of these pathways in living organisms. It is a study of protein structure and their physical properties, how these properties relate to catalysis, regulation of catalysis and metabolic chemistry with respect to their relationship to physiological conditions.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Establish a foundation in the descriptions, chemistries and physical properties of proteins and enzymes.
- Understand the mechanisms of regulation of metabolic processes.
- Demonstrate knowledge on the interdependent relationship between enzyme catalysis, metabolism, regulation and their importance to the physiological condition of an organism.

Syllabus

This module provides an introduction to the basic concepts of biochemistry with a focus on the action in the eye. Specific areas explored include general biochemistry, metabolism, vitamins and minerals, biochemistry of the anterior and posterior of the eye.

DOP 103 Ocular Anatomy

Education Aims

This module gives students a general understanding of the anatomical features of the eye and its surrounding structures.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Understand the normal structure and function of the anatomical components of the eye and the visual system.
- Demonstrate knowledge on the development of the eye and the visual system.
- Understand the normal structure and function of the eye, ocular adnexa and the visual system.

Syllabus

This module provides an introduction to ocular anatomy with a focus on the ocular orbits and relative structures. Specific areas explored include embryology of the eye, ocular adnexa, anterior and posterior segments, visual pathway, the blood and nerve supplies to the ocular system.

DOP 104 Ophthalmic Optics

Education Aims

This module introduces students to the basic concepts of Ophthalmic Optics and the clinical aspects of ophthalmic lenses, frames measurement and fitting of lenses into spectacle frames.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Understand the properties of single vision spherical, cylindrical and toric lenses.
- Understand the optics of prisms and lens combinations.
- Demonstrate knowledge of properties of ophthalmic lens materials.
- Apply absorptive lenses
- Calculate the magnification effects of thin lenses.
- Apply the dispensing techniques.

Syllabus

This module covers the optical characteristics and design of ophthalmic lenses, frames measurement and fitting of lenses into frames. Specific areas explored include physical and optical properties of ophthalmic lenses, ophthalmic prism and its effect, dispensing procedure and techniques in fitting lenses into spectacle frame.

DOP 105 General Optics

Education Aims

This module introduces students to the basic concepts of physical and geometrical optics, photometry and laser, the general principle of lens optics.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Understand the physical and geometrical properties of light
- Understand the principle of refraction on single surface or plane surface
- Apply the principle of optics to solve problems related to the eye and optical instruments/ lenses

Syllabus

This module provides knowledge of the fundamentals of physical and geometrical optics and how they apply to the human eyes. Specific areas explored include thin lens, thick lens, mirrors, prisms, aberration and polarization, wave optics and laser.

DOP 106 General and Ocular Microbiology

Education Aims

This module provides students with the knowledge of basic microbiology and the infection process, with emphasis on the ocular aspect.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Understand the history of microbiology
- Operate the basic microscope for observing microorganism
- Understand the classification of microorganism
- Understand the basic Bacteriology, Virology, Myology, Parasitology, Antigens and Antibodies, and autoimmunity system.

Syllabus

This module provides knowledge of the fundamentals of Microbiology and how they apply to the human body and eyes. Specific areas explored include Bacteriology, Virology, Mycology, Parasitology, Antigens and antibodies, Complement system, Non-specific and specific immunity, Hypersensitivity response and Autoimmunity system.

DOP 107 Ocular Physiology

Education Aims

This module gives students a general understanding of the principles and importance of physiology of the different structures of the eye.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Understand the anatomical components and its physiology of the eye and its ocular adnexa.
- Understand the sensory and motor processes of vision.

Syllabus

This module provides knowledge of the fundamentals of Ocular Physiology of the human eyes. Specific areas explored include Cornea, Uveal Tissues, Pupil, Lens, Aqueous Humour, Vitreous Humour, Retina, Optic Nerves, ocular circulation, protection mechanism of the eye, sensory and motor system.

DOP 108 Physiology and Visual Optics

Education Aims

This module gives students a general understanding of the principles and importance of physiology of the different structures of the eye.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Understand the anatomical components and its physiology of the eye and its ocular adnexa.
- Understand the sensory and motor processes of vision.

Syllabus

This module provides knowledge of the fundamentals of Ocular Physiology of the human eyes. Specific areas explored include Cornea, Uveal Tissues, Pupil, Lens, Aqueous Humour, Vitreous Humour, Retina, Optic Nerves, ocular circulation, protection mechanism of the eye, sensory and motor system.

DOP 109 Fundamentals of Contact Lens

Education Aims

This module introduces the basics of contact lenses. The topics include the history of contact lenses, and the manufacture, verification and care and maintenance of all types of contact lens materials.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Understand the basic knowledge of contact lens
- Apply the basic principle of contact lens fitting
- Demonstrate the basics of contact lens examination

Syllabus

This module provides knowledge of the fundamentals of Contact Lens. Specific areas explored include corneal physiology, contact lens materials, optics of contact lens, manufacturing process of contact lens, basic fitting and care of contact lens.

DOP 110 Introduction of Academic Writing

Education Aims

This module introduces students to academic writing skills, which will enable them to adopt a writing style required at the tertiary level. It also facilitates students' understanding of qualitative and quantitative research techniques, and provides a foundation in literature critique.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Develop the skills required for academic writing
- Understand the knowledge of qualitative and quantitative research techniques
- Develop a foundation in literature critique

Syllabus

This module provides knowledge of the fundamentals of academic writing. Specific areas explored include plagiarism, citation and referencing, conduct a literature search and doing a literature review, critique a research articles and fomulate a research problem.

DOP 201 Clinical Optometry – General Examination 1

Education Aims

This module introduces the knowledge and skills required to select, perform, and interpret individual clinical optometric tests, and to combine these tests into a routine eye examination.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Apply the theory of measuring vision
- Demonstrate the operation of Slit-lamp Biomicroscope to assess the anterior eye conditions
- Demonstrate the operation of Direct Ophthalmoscope to assess the posterior eye conditions
- Assess the refractive error by both Objective and Subjective Refraction

Syllabus

This module provides knowledge of the fundamentals of general examination techniques in Clinical Optometry. Specific areas explored include Vision and Visual Acuity measurement, retinoscopy, subjective refraction, slit-lamp biomicroscopy and Ophthalmoscopy.

DOP 202 Ocular Pharmacology

Education Aims

This module covers the general principles of pharmacology with emphasis on ocular aspects.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Understand the factors affecting drug absorption
- Understand the pharmacology of common ocular diagnostics drugs
- Understand the ocular effects of systemic drugs
- Discuss and manage patients when diagnostic drugs are indicated

Syllabus

This module provides knowledge of the fundamentals of Ocular Pharmacology. Specific areas explored include cycloplegics, mydriatics, miotics, local anaesthetics, staining agents and antimicrobial agents used in contact lens solution.

DOP 203 Clinical Optometry - Instrumentation

Education Aims

This module covers the basic clinical optometric instrumentation used in examining the eyes.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Understand the principle of optics in Ophthalmic instrumentation
- Demonstrate understanding in investigative techniques
- Operative the instruments in examination of the visual system.

Syllabus

This module provides knowledge of the fundamentals principle of the Ophthalmic Instruments and undertakes examinations of patients using investigative techniques. Specific areas explored include Colour vision investigation, Keratometry, Retinoscopy, Automatic objective refraction, Slit lamp examination of the external and internal eye, Tonometry (contact and non-contact), Direct ophthalmoscopy, Monocular indirect ophthalmoscopy, Binocular indirect ophthalmoscopy, Gonioscopy, Lacrimal system evaluation, Fundus biomicroscopy and Quantitative perimetry.

DOP 204 Contact Lens Fitting

Education Aims

This module aims to provide students with the knowledge and clinical skills necessary for competent contact lens practice. Students will be taught topics such as contact lens optics, design of soft and rigid gas permeable lenses and fitting and management of contact lens practice.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Apply techniques in contact lens examination.
- Apply fitting principles for soft and rigid gas permeable contact lenses.
- Demonstrate understanding in preparation and process of contact lens order.
- Demonstrate contact lens maintenance.

Syllabus

This module provides knowledge and skills in the contact lens fitting. Specific areas explored include pre-fit examination, GP and Soft contact lens fitting criteria, Specialty contact lenses fitting, order of contact lens and contact lens maintenance.

DOP 205 Ocular Pathology

Education Aims

This module covers topics on detection, diagnosis, referral and management of ocular abnormalities. It aims to provide students with the knowledge of epidemiology, history and symptoms of various ocular anomalies. It also aims to provide students with the knowledge and clinical skills necessary for examination of eye diseases and management options.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Observe and inspect signs of ocular diseases.
- Apply technique and skill in making differential diagnosis.
- Demonstrate understanding in Pathophysiology of ocular anomalies.
- Recognise signs and symptoms of related systemic conditions.

Syllabus

This module provides knowledge of Ocular Pathology. Specific areas explored include diseases of lid, orbit, lacrimal apparatus, conjunctiva, cornea, sclera, uveal tract, crystalline lens, retina and optic nerve.

DOP 206 Clinical Optometry – General Examination 2

Education Aims

This module teaches knowledge and skills required to select, perform, and interpret individual clinical optometric tests, and to combine these tests into a routine eye examination. These skills act as a foundation for further study in the third year.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Perform routine eye examination
- Select and apply the clinical techniques in visual system examination
- Interpret the results of the clinical optometric tests

Syllabus

This module provides knowledge and skills in clinical optometric tests. Special areas explored include preliminary tests, refraction, functional tests and ocular health assessment.

DOP 207 Assessment and Management of Binocular Vision

Education Aims

This module teaches the basics of binocular vision and anomalies which include their assessment, diagnosis and management.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Perform routine eye examination
- Select and apply the clinical techniques in visual system examination
- Interpret the results of the clinical optometric tests

Syllabus

This module provides knowledge in assessing and managing Binocular Vision. Special areas explored include nature of binocular vision, BV routine examination, heterophoria, strabismus, incomitant deviation and nystagmus.

DOP 208 Contact Lens Care and Complications

Education Aims

This module aims to provide students with the knowledge and clinical skills necessary for competent contact lens practice. Students will be taught topics such as contact lens care of soft and rigid gas permeable lenses, identification of complications and management of problems.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Demonstrate understanding of proper care of contact lenses.
- Perform various steps in contact lens delivery.
- Apply skills in doing follow-up examination.
- Demonstrate understanding in contact lens related complications and management.

Syllabus

This module provides knowledge of contact lens care and complications. Special areas explored include delivery of contact lens, follow up examination, contact lens complications and management.

DOP 209 Clinical Methodology and Statistics

Education Aims

This module covers basic statistics, probability and statistical inference, and their applications in research. It aims to provide students with the knowledge and concepts in design of research and biostatistics and their applications.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Understand concepts in planning clinical research.
- Understand the principles in applying statistical analysis.
- Demonstrate understanding of generalisation results to real life condition.

Syllabus

This module provides knowledge of clinical methodology and statistics. Special areas explored include epidemiological data, classification and presentation of data, descriptive and sampling statistics, research design and applications.

DOP 301 Business Management for Optometry Practice

Education Aims

This module covers the basic concepts in marketing, operations management and finance in an optometry retail outlet.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Understand the business options available to an optometrist.
- Understand how an optometry practice is organised and administered.
- Demonstrate understanding in personnel management in an optometric practice.
- Apply the management of ophthalmic materials in an optometry practice.
- Market a practice and analyze its economic performance.
- Demonstrate understanding in fundamentals of personal and business income tax and reporting.

Syllabus

This module provides knowledge of basic business management for optometric practices. Special areas explored include business operation management: business organization; marketing, office policies and procedures, staff management, law, taxation and insurance, and customer service management.

DOP 302 Ophthalmic Dispensing

Education Aims

This module covers the basic techniques of spectacles dispensing and the concepts of frame selection, dispensing of optical aids and lens edging.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Demonstrate understanding of different materials and manufacturing process in frame production.
- Apply skills in frame adjustment.
- Perform technique in lens edging.
- Use of instruments in lens edging and verification.

Syllabus

This module provides knowledge of basic ophthalmic dispensing. Special areas explored include optics of ophthalmic lens, materials of spectacle frames, glazing of lens, adjustment of spectacle frames, standard and quality control of final spectacle products.

DOP 303 Clinical Practice 1

Education Aims

This module gives students a practice environment to perform optometric tasks related to general eye examination.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Practice full eye examination.
- Manage patients in routine eye examination
- Diagnose the underline visual problems
- Running of general eye care practice.
- Dispense visual correction.

Syllabus

This module provides knowledge and skills in clinical practice. Special areas explored include hand-on clinical experience in patient consultation; select and perform clinical tests, diagnose the underline visual problems and management.

DOP 304 Contact Lens Clinical Practice 1

Education Aims

This module enables students to gain clinical experience in consultation and management of contact lens fitting.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Practice contact lens examination.
- Manage patients in contact lens fitting
- Diagnose the underline contact lens related complications
- Perform follow-up examination
- Manage contact lens complications

Syllabus

This module provides students with a practice environment to perform optometric tasks related to contact lens examination. Special areas explored include hand-on clinical experience in contact lens patient consultation, select and perform contact lens fitting, diagnose and manage contact lens complications.

DOP 305 Clinical Practice 2

Education Aims

This module provides more clinical training in patient examination, case analysis, care prescription, treatment, dispensing and professional communication.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Practice occupational optometry testing.
- Practice paediatric optometry testing.
- Perform geriatric optometry testing.
- Perform low vision patient testing.
- Running of specialised eye care practice.
- Dispense of eyewear or device.

Syllabus

This module provides students with a practice environment to perform optometric tasks in different conditions and requirements. Special areas explored include hand-on occupational, pediatric, geriatric and low vision optometry testing.

DOP 306 Contact Lens Clinical Practice 2

Education Aims

This module provides an in-depth clinical experience in the diagnosis of contact lens complications and the development of patient management skills.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Practice specialised contact lens examination.
- Fit contact lenses for patients with specific need: Pediatric, geriatric and cosmetic problems.
- Run Follow-up examination.
- Manage contact lens related complications.

Syllabus

This module provides students with a practice environment to perform optometric tasks in different conditions and requirements of contact lens practice. Special areas explored include hand-on specialty lens like keratoconus, bifocal contact lens, and cosmetic contact lenses.

DOP 307 Community Health Optometry

Education Aims

This module covers the basic concepts in community health and learns the roles of an optometrist in primary healthcare and vision screening.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Understand the role of optometrist in healthcare system.
- Plan and implement eye screening.
- Manage visual related problems and vision rehabilitation.

Syllabus

This module provides an introduction to the basic concepts of public health with a focus on the primary eye care. Specific areas explored include principle of primary eye care, planning of the eye screening, the role of optometrist, prevention of blindness and vision rehabilitation.

DOP 308 Basic Psychology and Communication

Education Aims

This module provides students with the communication skills necessary for optometric work.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Demonstrate understanding in proper communication skills for eye examination.
- Perform essential writing skills for reports and essays.

Syllabus

This module provides an introduction to the basic concepts of psychology and communication. Specific areas explored include listening skills, questioning technique, understand body language, essay writing, comprehension and report writing.

DOP 309 Research Project

Education Aims

This module aims to provide students with an understanding of the scientific approach to clinical and laboratory-based research. It introduces students to the writing of a literature review. It also enables students to develop advanced skills in independent and critical analysis of data, organisation of data, and presentation of information.

Expected Learning Outcome

On completion of this topic, students should be able to:

- Demonstrate understanding of concepts of research.
- Design a research project
- Write a literature review.

Syllabus

This module provides an introduction to the basic concepts of scientific research. Specific areas explored include literature review, critical analysis of data and presentation of information. Students are to work independently with professionals and academic supervisors to complete their research project.