

DIPLOMA IN OPTOMETRY

You are born with great empathy for people and have a strong desire to improve the lives of others. Find fulfilment as a healthcare professional by joining the School of Health Sciences where you can learn to be the protector of our nation's sight.

If you are concerned with eye health and would like to tackle the issue of eye care in Singapore, look no further than our Diploma in Optometry (OPT). You could be on your way to become an optometric practitioner to help diagnose eye disorders and prescribe optical treatments. OPT trains you for this important role. In addition, our broad-based curriculum enables you to explore opportunities in fields other than health services. You also get to learn firsthand from industry experts through off-campus classes and internships, right from the first year.

Practice-oriented Learning

In our diploma, you don't necessarily learn everything from textbooks. You get to learn from professionals too – you will be trained by practicing optometrists to examine eyes, test sight and diagnose visual problems. You will learn to prescribe and dispense spectacles and contact lenses, as well as recommend eye treatments. By working alongside qualified optometrists to diagnose and manage patients at our Optometry Centre, you will be constantly gaining valuable real-world knowledge. Plus, you get to go on a 16-week internship with an optical retail practice, ophthalmology clinic or eye care product company.

Broad-based Curriculum

Our curriculum covers topics such as biostatistics & research methods, communication in practice, patient management and optometric retail management. It will equip you with the skills you need to better manage patients or even run a retail business.

Off-campus Classes & Industry Workshops

You will get to attend off-campus classes conducted by our industry partners such as Essilor Singapore and Menicon. Multinational corporations in the eye care industry will also offer you specialised product training and expose you to the latest in eye care products and technology.

Careers

As an Optometry graduate, you can land rewarding roles in optometry retail and private practices which draws an attractive salary. Alternatively, you could also work at ophthalmology clinics, eye care product companies, research centres and hospitals.

YEAR 1 COURSE MODULES

LEVEL 1.1

General Anatomy & Physiology

This module provides students with foundational knowledge of the anatomy and physiology of the major human body systems. Students will learn the biochemistry processes in normal human physiology. The interrelationships of the body systems and how they maintain homeostasis are examined.

Geometrical & Physical Optics

This module provides students with the knowledge of the behaviour of light and its interaction with matters. It also covers the optics of lenses, lens systems and aberrations, as well as photometry and laser.

Introduction to Data Analytics with Excel

This module aims to provide students with a basic understanding of data analytics concepts and applications. Students will learn fundamental data analytics concepts, how to analyse data using Microsoft Excel and present information to provide insights for an informed decision making.

Ocular Anatomy & Physiology

This module covers, in detail, the anatomy of the eye and its orbit. The anatomical relationships of the orbital contents including the extra-ocular muscles, orbital nerves, orbital blood vessels and ocular adnexa are described. Physiology and biochemistry of the principal constituents of the eye, including the cornea, crystalline lens, aqueous

humour, vitreous humour, retina, ciliary apparatus and tear film are also covered.

LEVEL 1.2

General Pathology & Diseases

This module equips students with knowledge of basic pathology which includes cell and tissue damage, genetic diseases, vascular disorders, tumours, inflammations, and infections with emphasis on microbiology. Students will learn common systemic diseases such as diabetes, hypertension, and hyperlipidaemia which can cause complications in the eye.

Ocular Health Assessment & Disease Management 1

This module covers clinical optometric techniques such as slit-lamp bio-microscopy and keratometry in examining the anterior segment of the eyes. Students will learn to detect and manage anterior eye diseases based on assessment and interpretation with these techniques.

Ophthalmic Optics & Dispensing

This module equips students with knowledge of the types, materials, physical and optical properties of single vision lenses and spectacle frames available in the industry. Students will also be taught basic skills such as hand neutralisation, pupillary distance measurement, focimetry and related measurements in fitting lenses into frames. Principles and processes of lens coating and basic single vision ophthalmic lens glazing will also be covered.

Refraction

This module focuses on clinical techniques of objective and subjective refraction using trial lenses on trial frame as well as with the phoropter. It also includes the clinical assessment of vision and visual acuity.

YEAR 1 COURSE CURRICULUM

Module Name	Credit Units
Level 1.1 (20 hours per week)	
English Language Express*	NA
General Anatomy & Physiology	5
Geometrical & Physical Optics	5
Innovation Made Possible^	3
Introduction to Digital Analytics with Excel	2
Ocular Anatomy & Physiology	5
Level 1.2 (23 hours per week)	
Communication Essentials^	3
General Pathology & Diseases	4
Health & Wellness^	1
Ocular Health Assessment & Disease Management 1	5
Ophthalmic Optics & Dispensing	4
Refraction	6

Notes:

^ For more details on Interdisciplinary Studies (IS) electives, please log on to www.np.edu.sg/is

* This module is only offered to students who are weaker in the English Language.

IS Modules

The School of Interdisciplinary Studies (IS) delivers a broad-based curriculum, which nurtures a new generation of professionals with multidisciplinary skills and an innovative and entrepreneurial spirit to meet the challenges of a knowledge economy. IS offers both prescribed modules and electives to challenge boundaries. Prescribed modules develop students' competencies in core areas such as Communication, Innovation and Enterprise, Culture and Communication, and Personal Mastery and Development, while elective modules provide insights into Arts and Humanities, Business, Design, and Science and Technology.

YEAR 2 COURSE MODULES

LEVEL 2.1

Contact Lens & Fitting 1

This module covers the designs, materials, care and maintenance of soft contact lenses that are available in the market. Students will learn the techniques of verification, insertion, removal, and fit assessment of soft contact lenses. This module will also cover the detection, prevention and management of soft contact lens related complications.

Ocular Health Assessment & Disease Management 2

This module covers the clinical optometric techniques direct and indirect ophthalmoscopy and emphasizes the detection and management of posterior eye diseases, as well as ocular tumours and systemic diseases of the eye. In addition, students will be equipped with knowledge of ocular trauma, enabling them to differentiate between ocular emergencies and non-emergencies for referrals.

Ophthalmic Dispensing & Prescribing

This module equips students with the knowledge of prescribing and dispensing ophthalmic eyewear. Students will learn about different types of progressive and bifocal lens designs, and advanced refraction procedures to prescribe appropriate ophthalmic eyewear. Students will also learn about the applications and principles of various specialty ophthalmic lenses and frame designs. The techniques of glazing and fitting of ophthalmic lenses, proper ophthalmic dispensing procedures and troubleshooting will be covered in this module.

Visual Perception & Instrumentation

This module studies the eye and the visual pathway as a system to perceive vision and includes the topics of visual resolution, spatial, motion, depth, and colour perception, contrast sensitivity, visual fields, and entoptic phenomena. It also covers the principles of psychophysical methods in studying the visual system. Students will learn to use various instruments to assess and interpret colour vision, visual fields, and contrast sensitivity.

LEVEL 2.2

Binocular & Paediatric Vision

This module teaches the fundamental concepts of vision development and binocular vision. It covers the assessment, diagnosis and management of paediatric eye conditions and binocular vision anomalies.

Biostatistics & Research Methods

This module starts with basic statistics and progress to include probability and statistical inference. Students will also learn the basic processes and principles applied in research, as well as how to conduct literature reviews.

Communication in Optometric Practice

This module equips students with effective communication skills that include listening and responding, non-verbal communication, rapport building with patients, patient education, as well as interdisciplinary interactions and communications. Students can practice their interpersonal, collaborative, and professional communication skills during attachments and internship.

Contact Lens & Fitting 2

This module covers the designs, materials and care and maintenance for rigid gas permeable (RGP) contact lenses that are available in the market. Students will learn the techniques of verification, insertion, removal, and fit assessment of RGP contact lenses, and the detection, prevention, and management of RGP contact lens related complications. The effects of optical differences between contact lenses and spectacles will also be covered.

General Clinical Practice 1

Students will experience hands-on clinical practice in patient examination, case analysis, prescribing and dispensing optical aids.

YEAR 2 COURSE CURRICULUM

Module Name	Credit Units
Level 2.1 (23 hours per week)	
Contact Lens & Fitting 1	6
Ocular Health Assessment & Disease Management 2	5
Ophthalmic Dispensing & Prescribing	5
Visual Perception & Instrumentation	5
World Issues: A Singapore Perspective [^]	2
Level 2.2 (21 hours per week)	
Binocular & Paediatric Vision	5
Biostatistics & Research Methods	4
Communication in Optometric Practice	2
Contact Lens & Fitting 2	4
General Clinical Practice 1	6

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YEAR 3 COURSE MODULES

LEVEL 3.1

Contact Lens Clinical Practice 1

This module provides hands-on clinical practice for prescribing contact lens, including preliminary assessment, contact lens fitting, contact lens delivery and aftercare.

General Clinical Practice 2

Students will experience hands-on clinical practice in patient examination, case analysis, prescribing treatment and dispensing. The module also covers topics related to various refractive surgeries.

4-Month Internship

Students will intern at establishments with optometric practice, where they get experience in dealing with patients requiring eye examinations and attending to the optometry needs of these patients in a realistic working environment. Students will learn about the operations of an optical shop, a hospital organisation, as well as interact with their supervisor and colleagues.

LEVEL 3.2

Contact Lens Clinical Practice 2

This module continues to provide students with hands-on clinical practice on the fitting of contact lens and contact lens patient management with the introduction of topics like keratoconus, orthokeratology and post-refractive surgery.

General Clinical Practice 3

This module continues the training of students in the clinical practice of patient examination, case analysis and management. This module will also cover topics on ultrasonography, optical coherence tomography, visual impairment, and the prescribing and management of challenging cases. Students will be introduced to low vision to understand the requirements of referral for low vision assessment and rehabilitation.

Healthcare Career & Professional Preparation (Optometry)

The module is delivered over three years and prepares students for the optometry course with the end in mind, through guided reflection of their personal characteristics, and producing an overall game plan for their future education and career goals. It also aims to deepen students' commitment to the optometry and optical industry. Students will be equipped with skills necessary to seek and secure work.

Ophthalmic Pharmacology

Students will learn the fundamental principles of pharmacology and how these are relevant in the prevention and treatment of eye conditions and diseases.

Optometric Practice Management & Ethics

This module covers the basic concepts in operations, inventory control, marketing, people and service management, and finance in an optometry retail outlet. Students will learn about sales and marketing, how to develop a business plan, as well as basic accounting. This module also covers the legal and ethical responsibilities of optometrists as well as other eye care professionals during practice.

YEAR 3 COURSE CURRICULUM

Module Name	Credit Units
Level 3.1 (28 hours per week)	
Contact Lens Clinical Practice 1	6
General Clinical Practice 2	6
4-month Internship (16 weeks)	16
Level 3.2 (22 hours per week)	
Contact Lens Clinical Practice 2	5
General Clinical Practice 3	6
Healthcare Career & Professional Preparation (Optometry)	3
Ophthalmic Pharmacology	2
Optometric Practice Management & Ethics	2
Project ID: Connecting the Dots [^]	4

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