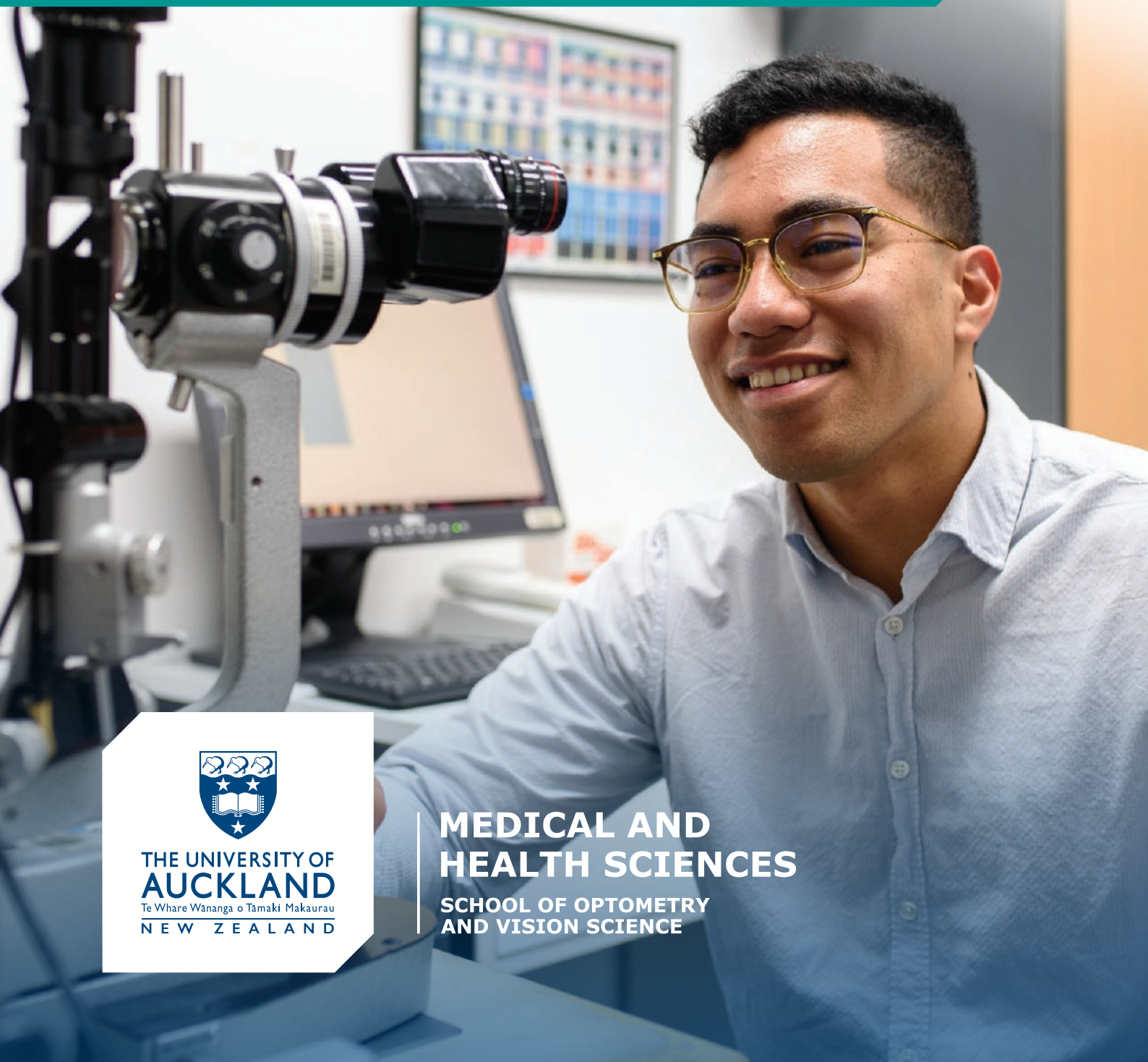
Optometry and Vision Science

Handbook 2019



THE UNIVERSITY OF AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

MEDICAL AND HEALTH SCIENCES

SCHOOL OF OPTOMETRY AND VISION SCIENCE

A warm welcome to the School of Optometry and Vision Science

As the only Optometry School in New Zealand, we are unique in offering a Bachelor's degree that allows our graduates to practise optometry in NZ and Australia. We offer a blend of innovative teaching, in the context of cutting-edge clinical practice, supported by internationally recognised translational research.

While the study of optometry has a professional focus, we also provide you with a strong foundation in basic and health science. These skills will enable you to keep up with the expanding role of optometry in providing lifelong eye health and vision care to the community. A particular strength of our programme is its emphasis on inter-professional engagement using our links with allied clinical disciplines such as pharmacy and ophthalmology. Our students undertake extensive "work-integrated" learning in private practice, hospital clinics and through our student-led vision screening programme in Greater Auckland schools. The School of Optometry and Vision Science occupies modern space (overlooking the Auckland Domain) incorporating its own Eye Clinic, teaching laboratories (including a virtual reality simulation suite) and state-of-the-art research facilities.

Whether you are a student starting out in our BOptom programme or are entering one of our postgraduate programmes, I wish you every success in your endeavours. My staff and I assure you that we will provide you with the support you need to achieve your goals.

Ngā mihi

PROFESSOR STEVEN DAKIN
Head, School of Optometry and Vision Science
Faculty of Medical and Health Sciences
The University of Auckland

ACHIEVE THE AMAZING

Contents

"Māori and Pacific populations have a higher risk of many ocular diseases, including keratoconus or diabetic retinopathy, which can result in serious visual impairment and disability"

"Optometry is an incredibly challenging yet very rewarding degree to be studying. It is a dynamic and growing profession, which is quite exciting. With our ageing population, everyone is bound to need the help of an optometrist at some point in their lives! It is definitely a relevant area to be in, especially in New Zealand.

Despite optometry being a fast-growing specialised area, Māori and Pacific peoples are vastly under-represented in the profession. It is my hope that we see more Maori and Pacific representation come through the programme. Māori and Pacific populations have a higher risk of many ocular diseases, including keratoconus or diabetic retinopathy, which can result in serious visual impairment and disability. Targeted care for at-risk populations is important and it is definitely something I hope we can all collaborate on and continue to improve into the future. I hope that I can help level health disparities that exist in New Zealand and I believe I can make a difference by becoming an optometrist."

Amosa Lene
Student: Bachelor of Optometry

Optometry as a career

As a primary health care professional, an optometrist is specifically educated and clinically trained to examine the eyes and the integrity of the visual pathways, to diagnose vision problems or impairments, and to prescribe and provide treatment. After thorough examination, often using advanced instruments, the optometrist must make appropriate diagnoses and decide how various defects should be remedied, managed and treated. Optometrists work with other health professionals including general medical practitioners and ophthalmologists to ensure the best eye and vision health outcomes.

With the current emphasis on good health and disease prevention, and the increased demands for vision care made by an ageing population, there is a continuing need for highly qualified optometrists, particularly away from major population centres. Optometrists must be able to communicate easily and effectively, particularly when providing special services to children, the elderly, and the partially sighted. Students considering optometry as a career should possess a genuine desire to help people.

Optometry offers the opportunity to join a profession that is both personally challenging and financially rewarding. The majority of optometrists enter private practice. This offers favourable working conditions, regular hours without excessive emergency calls, the freedom to choose where to live and practise and the opportunity to concentrate on clinical areas of particular interest. Optometrists may also practise in hospitals and clinics, or pursue careers in research and in the industry. Opportunities also exist for those wishing to undertake postgraduate education, research and teaching, not only in New Zealand but also at overseas universities.

Completion of the University of Auckland BOptom programme enables graduates to apply for registration to practise as an optometrist in New Zealand, Australia and Malaysia. In the United Kingdom, additional examinations must be completed before full registration can be gained. If you wish to practise in other countries, including Canada and the USA, you need to enquire with each country's Optometry Registration Board about their specific registration requirements.

New Zealand Graduates

The qualification required for registration in New Zealand as an Optometrist is the Bachelor of Optometry (BOptom) degree from Auckland. From the time that students pass the final examinations in the BOptom programme until they have their degree conferred, students must hold a Provisional Registration certificate before they may engage in optometric practice. To apply for provisional registration, the NZ Optometrists and Dispensing Opticians Registration Board requires an official academic transcript from the University. This must be applied for online through Student Services Online (SSO).

Overseas Graduates

Optometrists who have completed their Optometry degree overseas should contact the New Zealand Optometrists and Dispensing Opticians Registration Board, to enquire about eligibility of their qualification as being suitable for registration in New Zealand. Currently it is possible for optometrists with certain overseas degrees in optometry to sit the competency examinations conducted by the Optometry Council of Australia and New Zealand. Those completing this examination are eligible to apply for registration to practise in New Zealand. Alternatively, overseas optometrists may complete the five-year BOptom degree at Auckland. If entry into the Auckland BOptom programme is granted, credit may be given for previous study.

www.odob.health.nz

www.ocanz.org

New Zealand Postgraduate Diplomas, Masters or PhD qualifications in Optometry or in Vision Science are not accepted for registration as an Optometrist in New Zealand.

Māori and Pacific students and optometry

As primary-care health professionals, Optometrists have the opportunity to develop close links and improve vision-based health outcomes with their communities. However, in the most recent Health Workforce Survey, the proportion of practicing optometrists who identified as Māori (2%) and Pacific optometrists (1.5%) was well below their representation in the New Zealand population.

Vision 2020 is the Faculty of Medical and Health Sciences' commitment to increasing the number of Māori and Pacific health professionals to 10% of the health workforce by the year 2020. Vision 2020 has three components, the Māori and Pacific Admission Scheme (MAPAS), Hikitia te Ora - Certificate in Health Sciences, and Whakapiki Ake Project, a recruitment programme that actively engages with rangatahi Māori enrolled in secondary schools to promote health as a career. Vision 2020 is coordinated by Te Kupenga Hauora Māori.

Te Kupenga Hauora Māori (TKHM) promotes the aims of Vision 2020 and coordinates teaching in Māori health across the Faculty of Medical and Health Sciences and externally, spanning foundation, undergraduate and postgraduate education. There is also a focus on building capacity and developing appropriate teaching practices in Māori health throughout the Faculty of Medical and Health Sciences.

With an intake of only 60 students per year, the School of Optometry and Vision Science supports the principles of whakawhanaungatanga within the Bachelor of Optometry programme, encouraging a collaborative, relationship-based learning environment between students and staff.

Māori and Pacific Admission Scheme (MAPAS)

MAPAS is a programme that provides admission, academic and pastoral support for Māori and Pacific students who are studying within the Faculty of Medical and Health Sciences. The goal of MAPAS is to support the transition and retention of MAPAS students while on their cultural and academic journey, helping them to successfully complete and graduate from the Faculty of Medical and Health Sciences (FMHS).

Students applying for the MAPAS programme must have verified evidence of an indigenous New Zealand Māori or Pacific whakapapa/ancestry, be a citizen or permanent resident of New Zealand, and have applied for entry into a FMHS programme.

Details of the MAPAS programme can be found at: **www.fmhs.auckland.ac.nz/mapas**

He Rau Aroha Scholarships

The University offers two He Rau Aroha scholarships of $10,000 per annum each to Māori and Pacific Island students (NZ citizens or permanent residents) enrolled in the Bachelor of Optometry through the MAPAS programme. The awards are made based on academic merit, leadership qualities and financial needs, and are awarded for the duration of the programme. Further information regarding eligibility can be found on the MAPAS programme pages linked above.

"I have noticed there aren't many Māori optometrists and I hope to see an increase in the future as it would be great to have more Māori representation in the optometry community."

"Throughout my schooling I enjoyed problem solving and had a passion for helping others. This made optometry the perfect choice for me as I can do the things I love while giving back to my community.

"My mum and I both have myopia so I have had many encounters with optometrists and I always took an interest in the work they did. It is intriguing to think about how important our eyes are and how often they are taken for granted. I am excited to make a difference and use my knowledge to help others have the best vision possible.

"Optometry is a very exciting profession as it is always evolving and developing new technologies. I can't wait to be a part of it."

Aimee Lloyd-Parangi
Student: Bachelor of Optometry

"The speciality clinics allow us to see a wide range of patients, which is an invaluable learning experience."

"I first became interested in optometry at a young age when I got my first pair of glasses. It is amazing how something which seems so simple can make a difference in someone's life. As my interest in science grew, so did my interest in optometry.

"Optometrists have an important, positive impact on the lives of countless people, both in the area of glasses and contact lenses, as well as the treatment of eye diseases. This is now a significant aspect of optometry that involves detecting and managing eye diseases and prescribing medications.

"The eye clinic at the University provides the students with experience in many areas of optometry including paediatrics, colour vision, contact lenses, binocular vision and low vision, with teaching staff that has specialised in each of these areas. This experience prepares students for working following graduation and the speciality clinics allow us to see a wide range of patients, which is an invaluable learning experience.

"One great thing about studying optometry is the community—due to the relatively small number of students and staff, everyone gets to know each other.

"There are also many social events organised throughout the year, which are a lot of fun and a great break from studying."

Katarina Marcijasz
Student: Bachelor of Optometry

School of Optometry and Vision Science

The School of Optometry and Vision Science is responsible for conducting the five-year Bachelor of Optometry (BOptom) programme and postgraduate programmes leading to the degrees of:

- Master of Science (MSc)
- Master of Health Science (MHSc)
- Doctor of Philosophy (PhD)
- Postgraduate Diploma in Science (Optometry)

Staff also offer Continuing Education programmes.

Physical address

The School of Optometry and Vision Science is located in Building 503, Level 3

The University of Auckland
Grafton Campus
85 Park Road
Grafton
Auckland 1023

Postal address

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Faculty of Medical and Health Sciences
The University of Auckland
Private Bag 92019
Auckland 1142, New Zealand

Phone: +64 9 923 6483
Email: manager-optometry@auckland.ac.nz
Website: www.optometry.auckland.ac.nz

Facilities

In addition to excellent teaching and laboratory facilities, the Grafton Campus houses clinical teaching facilities. These provide an ideal environment for training students in the final two years of the Bachelor of Optometry degree. Students are given the opportunity of not only using the latest optometric equipment, but also gaining hands-on experience in the use of advanced imaging techniques that have become a standard part of patient examinations and report preparation.

The major role of the Optometry Clinic is to provide a wide range of patient experience as part of the teaching of senior undergraduate students. Students work under the supervision of registered optometrists and carry out a wide range of vision and eye care examinations. It is important for students to examine as wide a range of patients as possible to enable them to develop their clinical judgment and management skills. This may mean prescribing spectacles, contact lenses or low vision aids; managing eye diseases with both topical and oral medicines, treating eye disorders with exercises or giving advice on lighting and screen based equipment. Where necessary, patients are referred to medical practitioners.

The Optometry Clinic is a "teaching laboratory", and in addition to observing the ethical guidelines for clinical teaching, students must maintain a high standard of dress and behaviour.

Reflecting the importance of clinical training for Optometry students, the University of Auckland provides 16 examination and four specialist consulting rooms. Patients include staff and students of the University as well as members of the general public. Additional valuable experience is gained by attending the Eye Department at the Greenlane Clinical Centre of the Auckland District Health Board, Waitakere Hospital, and other ophthalmology practices. During their final year, students are expected to spend time in approved externship locations. These might include optometric practices, optometry schools, hospitals or other institutions in New Zealand and overseas.

Undergraduate programme: admission pathways

New Zealand and Australian Citizens and Permanent Residents

Entry to Part II of the programme is limited. Applications close on 1 October 2018 for 2019 places. Applicants are considered through one of two entry pathways: the undergraduate entry pathway or the graduate entry pathway.

www.fmhs.auckland.ac.nz/boptom

Undergraduate entry pathway

This pathway is open to applicants who are New Zealand citizens, or have permanent resident status, and who have completed the following six pre-requisite courses at the University of Auckland. These courses are usually taken within the BSc (Biomedical Science) programme:

BIOSCI 101
Essential Biology: From Genomes to Organisms
Semester Two

BIOSCI 107
Biology for Biomedical Science: Cellular Processes and Development
Semester One

BIOSCI 106
Foundations of Biochemistry
Semester Two

CHEM 110
Chemistry of the Living World
Semester One

PHYSICS 160
Physics for the Life Sciences
Semester Two

MEDSCI 142
Biology for Biomedical Science: Organ Systems
Semester Two

In addition to the six pre-requisite Year One courses, students must enrol in a 15-point General Education course.

The remaining 15 points required for full-time enrolment can be completed from any other course listed in the Bachelor of Science Schedule. POPLHLTH 111 is recommended.

It is currently possible to undertake an equivalent first year at Otago University by completing their Health Sciences First Year Programme. The required Otago papers are: BIOC 192, CELS 191, CHEM 191, POPH 192, HUBS 191, HUBS 192 and PHSI 191.

Other New Zealand universities do not currently offer equivalent courses at first year level.

Selection process

Applicants through this entry pathway will be ranked on their GPA/GPE equivalents across the six prerequisite courses. Interviews will be required and will be offered to those who meet the minimum requirements. These will be conducted in late November. Selection is based on both the GPA/GPE and the interview outcome.

It is usual for the University to receive application numbers considerably in excess of the number of places so selection is very competitive. The current Grade Point Average for successful applicants is at least 6.0. Therefore, students enrolling in the first year Biomedical Science programme will need to achieve high grades to be considered for entry to the BOptom.

Graduate entry pathway

This pathway is available for graduates with Bachelor's degrees. Please consult the Faculty of Medical and Health Sciences Student Centre for details of preferred degrees (usually science-based) and for advice if your degree is not recent.

Selection process

Interviews will be required and offered to those who meet the minimum requirement. These will be conducted in late November. Selection is based on both the GPA/GPE and the interview outcome.

Māori and Pacific Admission Scheme (MAPAS)

Applicants must complete the first year of the Bachelor of Science (Biomedical Science) degree at the University of Auckland or equivalent from the University of Otago, or have completed a Bachelor's degree and apply as a graduate.

An interview is required which will assess personal attributes considered to be important for a career in optometry.

- First year BSc (Biomedical Science) and Alternative Admission applicants applying to Optometry under MAPAS will be required to attend a MAPAS Optometry Interview in November.
- The MAPAS Optometry Interview will assess each candidate using six domains – academic, whānau/family, culture, problem solving, awareness and knowledge of MAPAS. This interview will be with a MAPAS academic representative.
- Following confirmation of their MAPAS eligibility, applicants' academic records will be subject to consideration by the Optometry Admissions Committee.

www.fmhs.auckland.ac.nz/mapas

Regional/Rural Admission Scheme

Students wishing to apply under the Regional/Rural Entry category must provide evidence of their regional/rural origin as specified at:

www.fmhs.auckland.ac.nz/rras

General admission enquiries

Email: fmhs@auckland.ac.nz

International students

The Bachelor of Optometry degree is available to overseas students who meet the criteria set by the University of Auckland. Applications are considered throughout the year up until the application deadline of 1 October, and offers of places can be through either the undergraduate or graduate entry pathways.

For more information students should contact:

Email: fmhs@auckland.ac.nz

Undergraduate programme information

Overview of Bachelor of Optometry degree

The Bachelor of Optometry programme is a set programme that consists of five years of undergraduate study at the University of Auckland.

The first year, Part I, comprises the six prerequisite courses from the BSc (Biomedical Science) first year and the 30 points of other courses detailed below. Details about the BSc (Biomedical Science) first year can be found at:

www.science.auckland.ac.nz/biomedsci-ug

Parts II and III of the programme contain a mixture of courses in applicable life sciences and vision science and the basic optometric sciences (the courses are listed below).

Parts IV and V of the programme are largely devoted to clinical practice, including comprehensive eye examinations, clinics in eye disease, contact lens fitting, problems of the partially sighted, colour vision assessment and binocular vision problems.

The BOptom degree may be awarded with Honours where a student's grades for Parts III, IV and V are sufficiently high. There are two classes of honours: First Class Honours and Second Class Honours. Second Class Honours are awarded in either First Division or Second Division.

Important BOptom regulations (from the University Calendar)

"The BOptom programme has a fixed schedule of courses. When you enrol for any Part of the Programme, you should enrol for all the courses listed under that Part, as shown below.

"Each Part must normally be completed before the next Part may be taken. However a student who has failed to pass one of those Parts in its entirety may be allowed, at the discretion of Senate or its representative, to enrol for the course or courses needed to complete that Part together with a course(s) towards the next Part.

"The BOptom degree must be pursued in consecutive semesters. Interrupted study may be resumed only with the approval of, and on conditions set by, Senate or its representative."

Points structure

The Bachelor of Optometry is a five year degree (600 points). The courses completed under BSc (Biomedical Science) prior to selection for Part II of the degree are transferred to the BOptom if you are selected. These form all of Part I if you have completed 120 points.

A student must pass a total of 600 points (including the required number of points in General Education Courses if applicable) over the entire BOptom programme to graduate with a BOptom degree.

Credit and concessions for students entering the BOptom

Please refer to the Credit regulations in the University of Auckland Calendar:

- If you are transferring from another NZ university.
- If you have undertaken previous study at Auckland and apply for credit at the time of enrolment.
- If you are an International Student, credit will be assessed and granted at time of admission.

Structure of the Bachelor of Optometry degree

The University of Auckland academic year consists of two semesters. Some courses are run over both semesters and are labelled A & B accordingly. To complete these double semester courses, students must enrol in both A & B courses.

BOptom Part I

On entering Part II of the degree, a student must have taken or have been credited 120 points of courses as follows:

BIOSCI 101 15 pts
Essential Biology: From Genomes to Organisms

BIOSCI 106 15 pts
Foundations of Biochemistry

BIOSCI 107 15 pts
Biology for Biomedical Science:
Cellular Processes and Development

CHEM 110 15 pts
Chemistry of the Living World

PHYSICS 160 15 pts
Physics for the Life Sciences

MEDSCI 142 15 pts
Biology for Biomedical Science: Organ Systems

plus

- 15 points from General Education courses listed in the Open or EMHSS Schedules.
- 15 points from POPHLTH 111 or from the BSc schedule compatible with the Biomedical Science programme.

BOptom Part II

A student must take all of the following courses:

OPTOM 216 A & B 30 pts
Introduction to Optometry
Semester One and Two

OPTOM 263 A & B 30 pts
Essential Optics
Semester One and Two

OPTOM 272 A & B 30 pts
Visual Science 1: Structure and Function of the Visual System
Semester One and Semester Two

MEDSCI 203 15 pts
Mechanisms of Disease
Semester One

plus

- one 15 point General Education Course (see note under Part I).

Please note: Students who have passed any of the above courses prior to the entry into BOptom, must cross credit, reassign or credit the course to BOptom. Students may be required to take an alternative course – please consult the Faculty Student Centre for details.

BOptom Part III

A student must take all of the following courses:

OPTOM 316 A & B 60 pts
Optometry
Semester One and Semester Two

OPTOM 345 A & B 15 pts
Principles of Ocular Pharmacology
Semester One and Semester Two

OPTOM 353 A & B 15 pts
Ocular Pathology
Semester One and Semester Two

OPTOM 375 A & B 15 pts
Visual Science 2
Semester One and Semester Two

MEDSCI 202 15 pts
Microbiology and Immunology
Semester One

BOptom Part IV

A student must take all of the following courses:

OPTOM 416 A & B 30 pts
Clinical Optometry
Semester One and Semester Two

OPTOM 430 A & B 15 pts
Contact Lens Practice
Semester One and Semester Two

OPTOM 442 A & B 15 pts
Optometry for Special Populations
Semester One and Semester Two

OPTOM 450 A & B 30 pts
Diseases of the Eye and Visual System: Diagnosis and Management
Semester One and Semester Two

OPTOM 473 A & B 30 pts
Research in Advanced Vision Science
Semester One and Semester Two

BOptom Part V

In 2019, a student must take all of the following courses: (these will change in 2020):

OPTOM 510 A & B 30 pts
Advanced Clinical Optometry 1
Semester One and Semester Two

OPTOM 520 A & B 30 pts
Advanced Clinical Optometry 2
Semester One and Semester Two

OPTOM 560 A & B 30 pts
Optometry in Practice
Semester One and Semester Two

OPTOM 570 A & B 30 pts
Research in Advanced Optometric Science
Semester One and Semester Two

Early detection of vision problems is important. Here, Robert conducts a visual acuity test on a child.

"The tangible difference we can make in the lives of our patients is what makes this profession both enriching and fulfilling"

"I have always had a keen interest in the health sciences. Upon finishing my first degree, I was looking for a path in life that would combine both my love for the health sciences and my desire for a more social working environment. Optometry was the perfect balance of science, health care and patient interaction that I was after.

"The University of Auckland provides world class facilities and training. The clinics are equipped with the newest technology available in an ever-expanding field. We are taught by industry-leading researchers who provide a wealth of information, experience and guidance. Throughout the course, we have the opportunity to work with a variety of patients and travel to remote regions—an added bonus for those with a sense of adventure.

"The best part of this course is the people you meet along the way. From my classmates, who have made attending class and clinic each day a pleasure, to the exceptional teaching staff who never cease to challenge us, every moment has been a joy. I would recommend optometry to anyone."

Robert Burnie
Student: Bachelor of Optometry

Undergraduate course prescriptions

The University of Auckland academic year consists of two semesters. Most courses are run over both semesters and are labelled A & B accordingly. To complete these double semester courses, students must enrol in both A & B courses.

Bachelor of Optometry Part II

OPTOM 216 A & B — 30 pts

Introduction to Optometry

Semester One and Semester Two

A clinically-focused course introducing students to optometric practice and addressing, at an introductory level, the ethical, cultural, theoretical and clinical aspects of the optometric examination. Topics covered include: preliminary tests from the eye examination, communication skills and clinical problem solving. The course will emphasise assessment, utilising advanced equipment and the production of clinically relevant outcomes and diagnosis-supportive hypotheses.

Course Coordinators: Dr Ehsan Vaghefi and Dr Phil Turnbull

OPTOM 263 A & B — 30 pts

Essential Optics

Semester One and Semester Two

An introduction to optics relevant to optometry and necessary to understand the optical performance of the eye, the design of ophthalmic lens applications, and the principles of operation of clinical instrumentation. Topics include; the basic principles of physical optics, the principles of image formation by lenses and lens systems mirrors and prisms, optics of the eye, ocular ametropia and aberrations.

Restriction: OPTOM 215, 262, 265
Course Coordinators: Dr Ehsan Vaghefi and Dr Jason Turuwhenua

OPTOM 272 A & B — 30 pts

Visual Science 1: Structure and Function of the Visual System

Semester One and Semester Two

Anatomy and physiology of the eye and visual pathway covering topics ranging from the composition and structure of the tear film through to neural processing in the visual cortex. Aspects of visual function including spatial and temporal vision, motion perception and colour vision. Investigation of visual perception using psychophysical and electrophysiological techniques.

Restriction: OPTOM 151, 170, 171
Course Coordinator: Dr Monica Acosta

MEDSCI 203 — 15 pts

Mechanisms of Disease

Semester One

Outlines the basic mechanisms, operating at the molecular, cellular and tissue levels, by which human disease develops. These include genetic factors, cell injury, inflammation, repair, circulatory disturbances, and neoplastic change. These mechanisms are illustrated by descriptions of the pathogenesis of specific diseases that are relevant to the New Zealand situation, or are the focus of current biomedical research.

Prerequisite: BIOSCI 107, MEDSCI 142
Course Coordinator: Dr Graeme Finlay

Bachelor of Optometry Part III

OPTOM 316 A & B — 60 pts

Optometry

Semester One and Semester Two

An integrative approach to the scope of optometric practice, addressing both the theoretical basis and clinical practice of the optometric examination, correction of refractive error and dispensing of optical appliances. Topics covered include: visual acuity, visual fields, colour vision, biomicroscopy, ophthalmoscopy, refractive examination, binocular examination, optical correction, lens materials and coatings, history taking, communication skills and clinical problem solving.

Restriction: OPTOM 211, 212, 265, 313, 314, 365, 366
Course Coordinator: Melinda Calderwood

OPTOM 345 A & B — 15 pts

Principles of Ocular Pharmacology: General Principles of Pharmacology

Semester One and Semester Two

Pharmacodynamics. Drug absorption, distribution and metabolism. Mechanism of drug action at receptors. Drugs and their application on ophthalmic practice. The autonomic nervous system: anatomy and physiology. Mechanisms of action of ocular pharmaceutical agents.

Principles of pharmacological treatment of ocular disease. Drug interactions. Legislation on use of ocular pharmaceutical agents by optometrists in New Zealand and internationally. Introduction to therapeutic agents in optometric practice. Scope of treatment. Shared care.

Prerequisite: OPTOM 272
Restriction: OPTOM 245
Course Coordinators: Dr John Phillips and Dr Bruce Russell

OPTOM 353 A & B — 15 pts

Ocular Pathology

Semester One and Semester Two

Pathophysiology of the eye. Histopathology of eye disease. Pathology of orbit, lacrimal system, conjunctiva, cornea, uvea, lens and retina. Developmental anomalies of the eye.

Restriction: OPTOM 251
Course Coordinator: Dr John Phillips

OPTOM 375 A & B — 15 pts

Visual Science 2

Semester One and Semester Two

To provide an understanding of visual information processing in the human brain. In particular the cortical processing of shape, motion and colour, and development of the visual cortex will be addressed. A problem-oriented approach will develop critical thinking and problem solving skills. Students will acquire the ability to seek, evaluate and retrieve scientific information on which to base their clinical practice.

Restriction: OPTOM 270
Course Coordinator: Dr Misha Vorobyev

MEDSCI 202 — 15 pts

Microbiology and Immunology

Semester One

An introduction to the nature and roles of bacteria, viruses, fungi and parasites as the causative agents of human disease. Topics include: the defence mechanisms of the body, the immune system including autoimmunity and allergy. Control of disease by antimicrobials. Sterilisation, disinfection, and sterile manufacturing practice.

Prerequisite: BIOSCI 107, MEDSCI 142
Restriction: OPTOM 241, PHARMACY 203
Course Coordinator:
Associate Professor Geoffrey Krissansen

Bachelor of Optometry Part IV

OPTOM 416 A & B — 30 pts

Clinical Optometry

Semester One and Semester Two

This course facilitates the transition from student to professional optometrist. Topics addressed include: structuring the routine optometric examination in a clinical setting, diagnosis and management of disorders of the visual system, case analysis, myopia control, visual ergonomics, vision screening, and visual standards. This course culminates in students examining and managing clients in the public University Clinics under supervision.

Restriction: OPTOM 312, 415
Course Coordinator: Bhav Solanki

OPTOM 430 A & B — 15 pts

Contact Lens Practice

Semester One and Semester Two

Examination procedures for contact lens practice. Principles of contact lens fitting. Optics of contact lenses. Complications of contact lenses. Materials used in contact lens manufacture. Designs of contact lenses. Scleral lens impressions. Recent advances in contact lenses. Practical sessions in contact lens fitting, verification techniques and patient care.

Restriction: OPTOM 330
Course Coordinator: Dr Wanda Lam

OPTOM 442 A & B — 30 pts

Optometry for Special Populations

Semester One and Semester Two

An advanced clinical course including consideration of clinical examination, diagnosis and management of visual disorders specific to children, adults with binocular vision abnormalities, or those with visual impairment with a focus on the older population. Topics include: developmental aspects of infant and children's vision and eye coordination, visual examination of infant and child patients, investigation and management of idiopathic and acquired binocular eye-movement disorders. This course also explores the diagnosis and management of ocular and vision problems in the elderly including electronic, optical and nonoptical low vision appliances.

Restriction: OPTOM 341, 440, 441
Course Coordinator: Dr Joanna Black

OPTOM 450 A & B — 30 pts

Diseases of the Eye and Visual System: Diagnosis and Management

Semester One and Semester Two

Signs, symptoms and diagnosis of diseases of the eye, ocular adnexa and visual system, including neurological dysfunction and signs of systemic disease. Management of diseases of eye, ocular adnexa and visual system, including the use of therapeutic agents. Indications, contraindications and side effects of therapeutic agents for the treatment of ocular disease.

Restriction: OPTOM 351, 352, 355
Course Coordinator: Dr Andrew Collins

"The world-renowned staff and researchers give us high quality teaching and skills that will last a lifetime."

"I had a strong interest in vision science following my degree in biomedical sciences. Optometry was the ideal choice for me where science intertwined with clinical practice. Working with people and directly applying skills in the clinic greatly appealed to me. I was able to maintain my research passion by completing two Summer Research Scholarship projects, which I highly recommend.

"It is exciting to be studying optometry now as it is flourishing alongside the current technological expansion. It's also becoming more and more medically-oriented, including diagnosing and managing various eye conditions and diseases. The world-renowned staff and researchers give us high quality teaching and skills that will last a lifetime.

"Upon graduation, I can choose to work in a corporate or private setting and to work in an optometric specialisation of my choice. My goal is to work in a rural area to help fill the shortages of eye primary health care providers. But I know that wherever I end up practising, I will be have a positive impact on people. For me, this is the most rewarding aspect of optometry."

Muthana Noori
Student: Bachelor of Optometry

Students in Part IV and V work in our modern, well-equipped clinic on campus, which incorporates a display of historical optometric equipment.

OPTOM 473 A & B — 15 pts

Research in Advanced Vision Science

Semester One and Semester Two

Study modules on a range of topics in optometry and vision science, with the focus being on developing research skills including an evidence-based approach to investigations. Study will include supervised investigations into an approved topic relating to optometry and vision science, including clinical and applied research.

Restriction: OPTOM 470, 475, 480, 570
Course Coordinator: Dr Monica Acosta

Bachelor of Optometry Part V

In 2019, students take the following courses. A new course structure will be confirmed for 2020.

OPTOM 510 A & B — 30 pts

Advanced Clinical Optometry 1

Semester One and Semester Two

Clinical work with responsibility, under supervision, for patients.

Restriction: OPTOM 410
Course Coordinator: John McLennan

OPTOM 520 A & B — 30 pts

Advanced Clinical Optometry 2

Semester One and Semester Two

Clinical work with greater emphasis on particular areas in optometry including: contact lenses, low vision, binocular vision, paediatric optometry and practice management.

Restriction: OPTOM 420
Course Coordinator: Dr Geraint Phillips

OPTOM 560 A & B — 30 pts

Optometry in Practice

Semester One and Semester Two

Supervised clinical work in locations external to the Medicine and Health Science Campus Optometry Clinic. These locations may include University satellite clinics, private optometry practices, hospital eye departments, overseas institutions, or experience in other approved locations. Lectures address: legislation relevant to health care including registration and competency, occupational safety and health, ethics, practice management, small business management.

Restriction: OPTOM 462
Course Coordinator: Dr Geraint Phillips

OPTOM 570A & B — 30 pts

Research in Advanced Optometric Science

Semester One and Semester Two

Study modules on a range of topics in optometry and vision science, with the focus being on developing an evidence-based approach on selected topics. Study will include supervised investigations into an approved topic relating to optometry and vision science, including clinical and applied research.

Prerequisite: Enrolment in Part IV of the Optometry Programme.
Restriction: OPTOM 470, 475, 480
Course Coordinator: Dr Monica Acosta

Important information for undergraduates

Additional costs (equipment, instruments, insurance and books)

The total cost of pursuing the undergraduate programme in Optometry will be more than the tuition and student service fees. Additional costs include the purchase of essential equipment, instruments and prescribed texts and for Part V students, potential costs associated with travelling to off-site placement and externship locations. Current estimates of these additional costs are as follows:

Optometry Part II	$1000
Optometry Part III	$3500
Optometry Part IV	$5000
Optometry Part V	$2000

For Parts IV and V, there is also Professional Indemnity (PI) insurance at a per annum cost of approximately $70 to $300 and Professional Association Fees of approximately $10.

In addition, students should budget for personal photocopying, stationery and other books. These costs can be from around $500 per year.

Clinical practice requirements

Students entering Parts IV and V of the BOptom will be issued with: Clinic Procedures Manual, Electronic Health Records System Manual and the Guide to Clinical Assessment manual. All students must agree to read these manuals before commencing duties in any optometry clinic.

Professional Indemnity (PI) insurance is viewed as the responsibility of students about to enter the optometry profession and is compulsory before students enter the clinic. Continuity of PI insurance is essential for responsible professionals. Accordingly, arrangements have been made to enable students to become members of the New Zealand Association of Optometrists Inc. (NZAO) and obtain PI insurance through this professional association.

The forms for Student membership of NZAO and Professional Indemnity (Malpractice) Insurance will be made available to students prior to their entering clinic.

Students undertaking an externship in another country must have appropriate Professional Indemnity Insurance arrangements in place well before leaving New Zealand.

Identity Check, Police Vetting, Vulnerable Children Act and Confidentiality Agreement

During Part III, well in advance of entering Part IV of the BOptom programme, it is necessary for students to obtain an identity check and Police Clearance. Students must also agree to maintain the confidentiality of patient information.

1. The identity check requires two kinds of identification. The primary ID document must be either a passport or an original birth certificate. Examples of the other form of ID include a driver's licence or an 18+ card. At least one of the forms of ID must include a photograph. If students have changed their name (e.g. by deed poll or marriage) evidence of this must be provided.
2. Faculty staff will obtain the police clearance check for students. Consent forms for these processes need to be completed by students and returned to the school.
3. A signed confidentiality agreement covering patient information is required to be submitted.
4. In addition to identity and police checks, the Vulnerable Children Act 2014 requires students who will work with children during their studies, to be interviewed. Questions relating to working with children are asked as part of the applicant interview and identity checking process. When students are invited to the interview process, they are asked to provide the names of referees. If students are offered a place in Optometry, the referees will be asked to complete an online form by early January.

Immunisation and transmission of infectious diseases

As an optometry student, and later as an optometrist, you will be exposed to infection, especially when you have close contact with patients. A compulsory immunisation programme is carried out prior to you entering the clinic in Part III.

As you will be undertaking hospital placements the University of Auckland requires all students to have maximum cover from disease, to protect yourself and patients with whom you may come into contact. All students must be adequately protected against measles, mumps, rubella, pertussis, varicella zoster and hepatitis B. You will also be required to ascertain your tuberculosis status. To ascertain immunity and infection status, blood tests will be carried out. The testing costs will be met by the faculty if they are conducted through the University Health Services. For those found to have negative immunity, vaccination will be required and you will need to arrange and pay this cost. Note that positive tuberculosis results may require further investigation.

All the test results (including post vaccination results) will be collated on the Immunisation Status Report Form and provided to you. You will then need to submit the completed form to the school.

It is also recommended that students should review immunisations against diphtheria, tetanus and poliomyelitis. It will be helpful to show evidence of the immunisations you have previously had from your doctor so the details can be ascertained and incorporated.

Students are strongly advised to obtain an annual influenza vaccine which is provided free for students in Part III or higher.

For assistance with any immunisation matters please contact:

Grafton Campus
University Health and Counselling Services
Phone: +64 9 923 7681

Please ascertain from your parents or doctor which immunisations you have had. This will help to determine which immunisations you will require now or in the future.

Fitness to practise

The Health Practitioners Competence Assurance Act (2003) places an obligation on the provider of the educational programme to notify the appropriate registration board of any student who is completing their course and who is deemed to be unable to perform the functions required for the practice of the relevant profession due to Fitness to Practice considerations.

The Faculty of Medical and Health Sciences has a Code of Fitness to Practise that applies to students in the health profession programmes including the Bachelor of Optometry. The goal of the policy and associated processes is to put in place remedial or support mechanisms that will enable the student to remain in the health profession programme wherever possible,

and where the proposed remedial action does not place the public, the student, or the University at risk either as a student or following graduation.

At the commencement of their studies within the professional programme, each student must declare their acceptance to study within the requirements of the Code of Fitness to Practise.

Assessment information

Academic progress

Before or at the commencement of the class concerned, students must be informed of the coursework allocations and other decisions on coursework requirements. This should include dates of:

- Tests
- Submission of assignments

Such advice will be included in the course information document. Any changes to this will be posted on the Learning Management System (Canvas) and advised by your lecturer in class. A record of these notices is available through Canvas, the computer supported learning environment of the University.

Forms of assessment

It is accepted that assessment is an integral part of any education or training programme. It assures the lecturers, students and the public that having gone through a programme of study and subsequently the examinations, the student has achieved the minimum standard of knowledge and skill set by the institution concerned. In the Bachelor of Optometry programme, assessment takes various forms including: final written examinations, written tests during semester, practical tests, oral examinations, oral presentations, written assignments, laboratory reports, clinical examinations etc.

The assessment methods attempt to reflect the variety of skills required of the student and to measure the level of skills attained.

The different assessment methods for courses in the Bachelor of Optometry programme can be generally categorised into those used in basic sciences, clinical sciences and clinical optometry. Whereas basic sciences and (to a lesser degree) clinical sciences require minimal people contact, clinical optometry is almost entirely people directed. The skills required in these different areas are not the same. Consequently, the assessment methods reflect this difference.

Excellent communication skills are vital to the successful completion of the BOptom degree. The grades assigned to written assignments, tests and examinations in all parts of the programme include an evaluation of the student's abilities in written English. The grades assigned in oral and clinical assessments and examinations include evaluation of the student's abilities to communicate with patients and an evaluation of how well communication skills are displayed.

Weighting

In some courses, several educational goals are desired. It is therefore likely that assessment may take several forms and appropriate weights will be assigned to each assessment method. If practical skills are the most desired outcome for that course, then the practical tests or examinations will be weighted substantially higher than the written tests or examinations.

Feedback

Formative feedback is usually available for work completed during semester, while end of semester or final examinations are usually summative only and no detailed feedback is provided. Please refer to information about examinations scripts.

The final grade

The final grade in each course will reflect the degree to which the student has achieved the most desired outcome of the course. If the most desired outcome of the course is the ability to do a refraction, then a student who is able to write about doing refraction, but is unable to do one, is likely to have a final grade below the passing mark. Where there are several components in an assessment which are considered essential outcomes of the course, then failure in any of the components will generate a failure grade for that course. In some courses these essential components are labelled "red-flags" but this is not universal. Excellent performance in other components will not offset a failed essential component.

In summary, crucial outcomes will be weighted more. Information provided at the beginning of the year in the course documents will indicate which outcomes cannot be failed. Failure in any of these desired outcomes will automatically generate a failing (D) grade. Marks from the various components of the assessment are not added together unless the essential components are passed.

Laboratories

Enrolment in laboratory streams on Student Services Online is for administrative purposes only and places in a particular laboratory stream cannot be guaranteed prior to the commencement of a course as we need to ensure all students have access to equipment and teaching staff during laboratory times. Tutorials, labs and clinic streams will be finalized by the Course Coordinator and confirmed on Canvas early each semester.

Attendance at practical classes, including clinics, is compulsory. Students' laboratory marks will be based on their assessments and attendance at the laboratory.

Examinations

All coursework marks will be made available via Canvas before the final examinations.

First semester final examinations will be held in the exam period at the end of semester one. Where a course is run over two semesters (a double semester course), final results will not generally be available until the end of the second semester. In double semester courses, results from semester one may be available as provisional exam results.

Referencing material

The School of Optometry and Vision Science uses the bibliography style as shown in the journal, *Clinical & Experimental Optometry*, which conforms to the Vancouver style. For example, in the reference list:

Pesudovs K. Corneal topography outcomes of cataract surgery. *Clin Exp Optom* 1996; 34: 45-56.

Calculators in examinations and tests

The School of Optometry and Vision Science has adopted the following policy on the use of specified calculators in tests and examinations. Students may use only CASIO FX 82 calculators (any version of FX-82) in tests and examinations. It is the student's responsibility to supply and maintain the operation and operating power of their own calculators.

A staff member may inspect all calculators at the start of each test and final examination. For final examinations, students may use their own calculators (CASIO FX 82 ONLY). Any other models will be confiscated for the duration of the test or final examination.

Books in examinations and tests

Unless the examination is an Open Book, or Restricted Book examination, a candidate must not bring to an examination any written or printed matter or any blank paper except by direction of the examiner. Candidates will be informed in the Course Information of specific books or materials allowed for particular examinations.

Special needs in examinations and assessment

If you believe you have special needs for your assessment, please see the FMHS Student Centre in the first instance for advice on the current University requirements for granting of Special Examination Conditions.

Deferred results

Results will be deferred where a weakness occurs in the clinical practice component in any of the following Part IV and V courses:

- OPTOM 416 A/B Clinical Optometry
- OPTOM 430 A/B Contact Lens Practice
- OPTOM 442 A/B Optometry for Special Populations
- OPTOM 510 A/B Advanced Clinical Optometry 1
- OPTOM 520 A/B Advanced Clinical Optometry 2
- OPTOM 560 A/B Optometry in Practice

In these circumstances, the candidate will be required to complete additional work to the satisfaction of the examiners. The work will be examined the following February. Students will need to enrol in a 10 point summer course, OPTOM416X or OPTOM510X and pay the fees for this course.

Recount of marks

By making an application within four weeks from the date of the mailing of a student's official result of the examinations, any student sitting an examination for a degree, diploma or certificate of proficiency, may have the marks awarded to his/her scripts recounted in any course in which he/she has failed.

The fee for a recount is listed in the Calendar under Fees Regulations.

A recount of marks covers a careful recheck of the marks recorded by the examiner and ensures that no answer or any portion of an answer submitted by a student has been overlooked. No information pertaining to the application will be placed before the examiner.

Availability of examination scripts

By making an application to the Examinations Office, during the three-month period from the date of the exam a student may apply for a photocopy of his or her final examination script(s) provided all the assessment processes have been completed and the fees paid. In the fourth month the original script can be requested.

Students are not permitted to seek a remarking of the script. If it has been fully marked, the examiner's judgement must stand. If a student seeks advice in respect of the script, that advice must not cover detailed discussion with the examiners of particular answers. Broad guidance may, however, be given on the general thrust of the script or on examination technique by the Head of School or by an examiner specified by the Head of School.

Extended teaching year

The structure of Parts III, IV and V of the Optometry programme supports extensive clinical practice and the integrated nature of study reflects the way primary health care operates. As such, the timetable allows for extended semesters and details of semester dates will be provided to students in a separate document. However, students should be aware of the additional commitments when planning their study. Clinical practice periods will necessitate hours different from standard teaching hours. Events that occur outside standard semester teaching include:

- Māori Health Intensive – last week of Intersemester Break (mid-July) for Part III students
- Additional clinical placements for Part IV students – last two weeks of Intersemester Break (early-mid July)
- Five week clinical intensive between Parts IV and V – two streams, one before Christmas and one commencing late January
- Saturday clinics by rotation for Part V students may be scheduled with advance notice

Awards of marks and grades

Requirements for Honours

There are ten pass and fail grades as set out below:

Grade	Point	Scale	Honours
A+	9	≥90	**First Class Honours** GPA 7 or above **Second Class Honours (First Division)** GPA 5.5 to 6.99 **Second Class Honours (Second Division)** GPA 4.0 to 5.49
A	8	85-89	
A-	7	80-84	
B+	6	75-79	
B	5	70-74	
B-	4	65-69	
C+	3	60-64	
C	2	55-59	
C-	1	50-54	
D+	0	≥45	
D	0	<45	

NB: Pass grades may have different numerical equivalents in the Optometry Clinical Year and in other University Departments.

Calculation of the Honours score is based on the following weighting:

a. Part V: 60%

b. Part IV: 30%

c. Part III: 10%

Honours may normally be awarded only if the requirements for this degree are completed within eight semesters of initial enrolment for the degree. In exceptional circumstances however, Senate or its representative may approve an extension of this period for not more than two further semesters.

Honours results are available via Student Services Online when processed.

Applications for aegrotat and compassionate consideration

An application may be made for aegrotat or compassionate consideration, by candidates who may have been prevented from being present at an examination, or who consider that their preparation for or performance in an examination has been seriously impaired by temporary illness or injury or exceptional circumstances beyond their control. This also applies to tests, but not assignments.

Final Examination forms are available online: **aegrotat.auckland.ac.nz/apply**

Written Test application forms can be obtained from the relevant campus Student Health and Counselling Services and Examinations Office (FMHS Student Centre).

The application form must be submitted to the University Health and Counselling Services within one week of the date that the examination affected took place, or if more than one examination has been affected, then within one week of the last of those examinations.

Following the decision of Senate on an application for Aegrotat or Compassionate Consideration, a student may apply for reconsideration of that decision no later than four weeks after the student is notified of Senate's decision.

Please refer to the University of Auckland Calendar for the official regulations.

Missed examinations

Students who discover that they have missed an examination through their own mistake cannot sit the examination at another time. The student must contact the Examinations Office immediately and complete an application for Special Pass Consideration. Please refer to the Examinations Regulations in the Calendar.

Undergraduate scholarships and prizes

New Zealand Association of Optometrists (NZAO) Awards

New Zealand Association of Optometrists Undergraduate Awards

From 1992 undergraduate scholarships known as the New Zealand Association of Optometrists Undergraduate Awards will be awarded annually to students enrolled for the Bachelor of Optometry Programme and ordinarily resident in New Zealand.

- One Award of $1,000 to be presented to the top student entering BOptom Part III with the highest aggregate mark in Part II whilst not repeating Part II.
- Two Awards of $1,000 – each one to be presented to a student entering BOptom Part IV. One Award will be made to the student gaining the highest aggregate mark in Part III whilst not repeating Part III, and one award will be made to the student showing most improvement during study for Part III whilst not repeating Part III.
- Three Awards of $1,000 – each one to be presented to a student entering BOptom Part V. Two Awards will be made to the students gaining the top two aggregate marks in Part IV whilst not repeating Part IV, and one award will be made to the student showing most improvement during study for Part IV whilst not repeating Part IV.
- One Award of $1,000 to be presented to a Māori/Pacific Island student entering BOptom Part II. In the event of more than one Māori/Pacific Island student entering BOptom Part II, the award will go to the eligible student gaining the highest GPA in the previous year.
- The Peg Wood Award of $500 – awarded to the student who obtains the highest combined grade in the course OPTOM 442 Optometry for Special Populations, of the Bachelor of Optometry Programme.

No applications for the above awards are necessary.

Other Awards

Dean's Medal

This award is made to a graduand who makes an outstanding contribution to the academic development of the faculty during their optometry studies.

Senior Scholar

These $500 awards are made by the University Council, on the recommendation of the Head of School of Optometry and Vision Science, to students who are eligible to graduate with an undergraduate degree and have achieved the top GPAs over their last 90 or more points of their degree. To be eligible recipients must have achieved a minimum GPA of 6.5 or at least an A-average across their courses in Part V.

Anna Pritchard Prize for Optical Dispensing

This award of $250 is made to the student who achieves the highest grade in Optical Dispensing.

Raymond Harry Hawkins Prize

This award is for the best project in Course OPTOM 472 to the value of $550.

Note: the project will be in course OPTOM472 for new students (as well as OPTOM570 for existing students in 2019).

New Zealand College of Optometrists (NZCO) Prize (Subject to approval)

This prize will be awarded annually to full-time students achieving the highest marks for their presentations in OPTOM 472. The prize will be of the value of $330 to each member of the winning group.

Undergraduate Scholarships

Summer Research

- **New Zealand Optometric Vision Research Foundation (NZOVRF) Scholarship**
  NZOVRF provides funds for local research and vision care projects. Each year the NZOVRF awards one summer studentship of $5,000. To be eligible students must be enrolled in a BSc, BSc (Hons), BTech, BOptom, or GradDipSci, studying approved Science disciplines. Selection will take into account the project, availability of an appropriate supervisor over the summer period and the student's academic record. Applications close early in September each year.
- **Paul Dunlop Scholarship**
  The New Zealand Association of Optometrists (NZAO) established a scholarship to recognise Paul Dunlop's dedication to the advancement of Optometry and Vision Science Education and Research. Applicants must be an NZAO student member undertaking a summer research project under supervision of the School of Optometry and Vision Science. Applications close at the end of August each year. Value is $5,000 stipend and $1,000 research expenses.
- **Faculty Summer scholarships**
  Each year the Faculty of Medical and Health Science funds several summer scholarships. Applications open in July and close mid-August. Applicants must be completing at least year 2 of an undergraduate degree, have a Grade Point Average at or above 6 and have received no more than 1 previous summer scholarship. Note: When funds allow the School of Optometry and Vision Science also offers one or two summer scholarships to suitable students who were not awarded another scholarship.

Postgraduate study

A variety of study options are available for new BOptom graduates, practising optometrists and vision scientists to gain postgraduate qualifications in Optometry and Vision Science.

The school encourages both new and less-recent graduates to consider postgraduate study as it provides an opportunity to gain advanced knowledge in a specialised field. The school's postgraduate programmes are designed to assist and enhance clinical, biomedical and vision science research.

There are a number of active research groups within the school undertaking leading-edge clinical, biomedical and vision research. In addition there are research study collaborations with a number of specialist groups:

- New Zealand National Eye Centre
- Department of Ophthalmology
- School of Medical Sciences
- School of Biological Sciences
- Department of Physiology
- Department of Exercise Sciences
- Auckland Bioengineering Institute
- Liggins Institute
- Department of Psychology

Postgraduate study in the school offers:

- Outstanding clinical, biomedical and psychophysical research facilities
- Leading researchers in various fields of clinical, and biomedical and vision research
- Access to collaborators, equipment and excellent facilities

If you are contemplating postgraduate study you should consult with the school's postgraduate advisors about the options available to you. They will work with you to design a programme suitable to your personal needs and situation. Note that study options can be undertaken full-time or part-time and some programmes allow primarily distance based study. This is an attractive option for practising optometrists.

Course prescriptions

The University of Auckland academic year consists of two semesters. Most courses are run over both semesters and are labelled A & B accordingly. To complete these double semester courses, students must enrol in both A & B courses.

OPTOM 751 A & B 30 pts

Special Study in Vision Science

The study of selected fields of vision science at an advanced level with detailed study of one particular field. The topic will be prescribed by the Head of School.

Course Coordinator: Dr Misha Vorobyev

OPTOM 752 A & B 30 pts

Special Study

Course Coordinator: Dr Monica Acosta

OPTOM 757 A & B 30 pts

Special Study in Optometry

The study of selected fields of optometry at an advanced level with detailed study of the particular field. The topic will be prescribed by the Head of School.

Course Coordinator: Associate Professsor Rob Jacobs

Postgraduate study does **not** lead to registration (permission to practise) as an optometrist in New Zealand.

OPTOM 759 A & B 30 pts

Special Study

OPTOM 791 A & B 90 pts

Advanced Clinical Optometric Specialisation

Advanced clinical optometry study in a chosen sub-specialist area of optometric practice. The area of special interest may include contact lenses, low vision, paediatric optometry, binocular vision, ocular disease management, or any other area approved by the Head of School.

Course Coordinator: Dr John Phillips

OPTOM 796 MSc A & B 120 pts

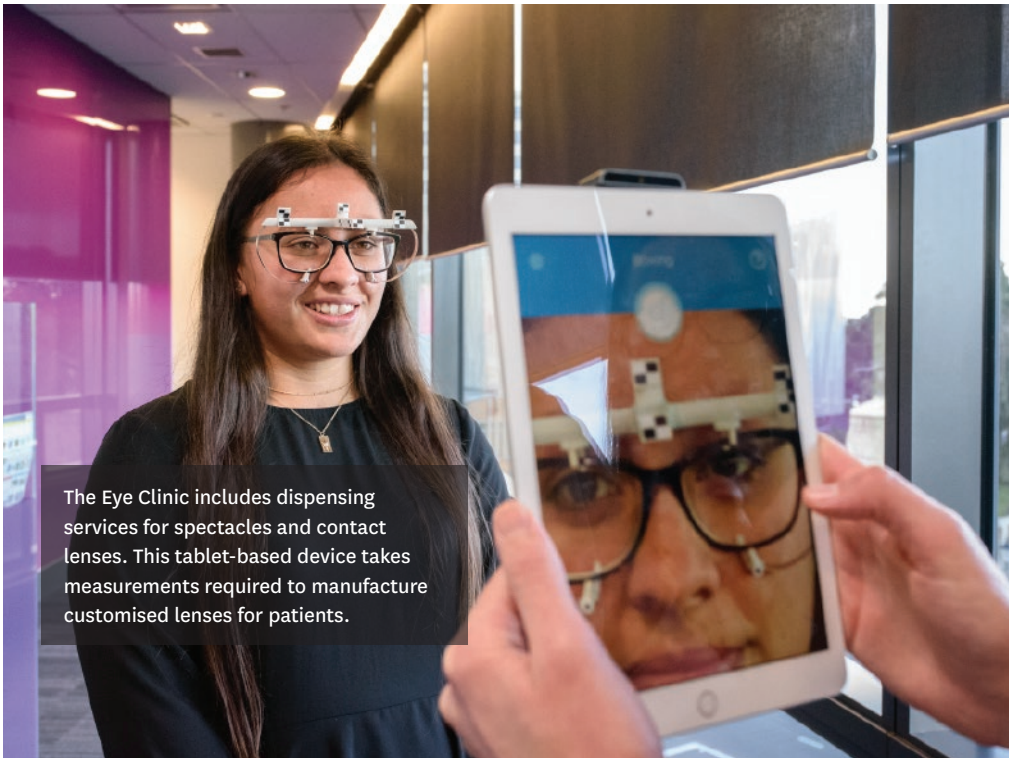
Thesis in Optometry

Postgraduate scholarship in optometry

HC Russell Memorial Postgraduate Scholarship

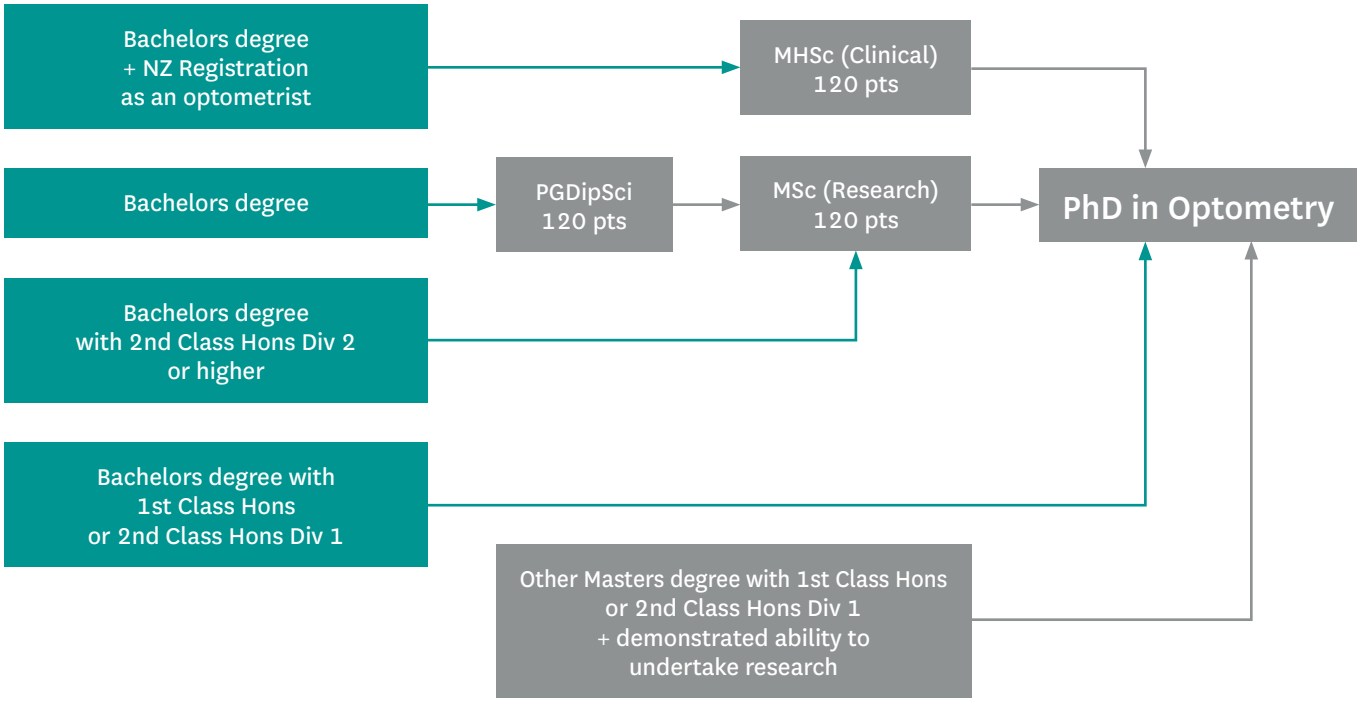
The New Zealand Association of Optometrists (previously the New Zealand Optometrical Association) established a scholarship in memory of Mr Harry C. Russell in recognition of his services to the advancement of optometric education in New Zealand.

The scholarship has a value of $4,500 for a Masters student and $10,000 for a Doctoral candidate who is pursuing full-time postgraduate studies in Optometry or Visual Science.



The Eye Clinic includes dispensing services for spectacles and contact lenses. This tablet-based device takes measurements required to manufacture customised lenses for patients.

Postgraduate programme pathways



Postgraduate Diploma in Science (PGDipSci)

This is a one-year postgraduate programme of study comprising a coherent set of courses. BSc graduates, or those who have attained an equivalent qualification approved by Senate, are able to apply. The Postgraduate Diploma in Science provides the opportunity to acquire a postgraduate qualification in a specific subject.

The Postgraduate Diploma in Science requires the student to pass at least 120 points. The personal programme of study of each student must have the approval of the Head of School.

A student who successfully completes the requirements for this diploma may apply for entry to the Degree of Master of Science – Optometry, providing the student meets the regulations current at that time. One thesis year will be required to complete the Degree of Master of Science – Optometry.

Postgraduate study does not qualify graduates to practise as optometrists in New Zealand.

Master of Health Science (MHSc)

This is a one year full-time/two years part-time (120 points) programme open to New Zealand registered optometrists who hold an annual practising certificate. The programme allows practising optometrists to undertake advanced study in a chosen sub-specialist area, eg, advanced contact lens fitting, paediatric optometry and binocular vision, low vision, therapeutic management of eye diseases and clinical application of myopia control.

Students are required to pass 120 points from OPTOM 757 – OPTOM 791. Applicants must be registered NZ optometrists.

Postgraduate study does not qualify graduates to practise as optometrists in New Zealand.

Master of Science (MSc)

This is a one year (120 points) or two year (240 points) programme of supervised research. Current areas of research available include clinical optometry, anatomy and physiology of the lens and retina, visual psychophysics and ocular imaging.

Students are required to pass 120 points: OPTOM 796 MSc thesis.

Postgraduate study does not qualify graduates to practise as optometrists in New Zealand.

Doctor of Philosophy (PhD)

The PhD degree is generally accepted as the appropriate qualification for a career in scientific research or in academia. It consists of advanced study and supervised research leading to the presentation of a thesis. This thesis must be an original contribution to knowledge and meet recognised international standards of scientific research. This course of study is usually undertaken early in one's research career, following the attainment of a degree with Honours, a Masters degree, or an equivalent preliminary qualification.

The PhD statute governs this programme.

Each year students are required to enrol in and pass 120 points: OPTOM 898 A & B Optometry PhD Thesis.

Postgraduate study does not qualify graduates to practise as optometrists in New Zealand.

Postgraduate Advisors

Dr Monica Acosta
(MSc/PhD)
Email: m.acosta@auckland.ac.nz

Dr John Phillips
(MHSc Clinical)
Email: j.phillips@auckland.ac.nz

Staff list

Academic staff and their research interests

Head of School
Professor
Steven Dakin

BSc (Hons), PhD

Email: s.dakin@auckland.ac.nz
Phone: +64 9 923 8898

Professor Dakin is Course Director for OPTOM 272 and 375, the two visual science courses.

He has four areas of research interest:

- Spatial vision: How the brain extracts information from natural images. This includes reading, face-processing, shape-recognition, and how these processes break down in peripheral vision.
- Visual processing in neuropsychiatric and neurodevelopment disorders: He has current projects looking at the vision of people with schizophrenia and autism spectrum disorders.
- Paediatrics: In particular automated methods for assessing the visual function of infants and the development of new treatments for amblyopia.
- Vision in ageing, including improving diagnosis of glaucoma and investigating the effects of spatial distortion associated with macular degeneration.

Associate Professor
Robert J Jacobs

MNZM, MSc, PhD, PGDipBus, CertOcPharm, TPA endorsed, LOSc, FAAO, FACO

Email: r.jacobs@auckland.ac.nz
Phone: +64 9 923 6019

Associate Professor Jacobs is involved in the clinical vision sciences and in specialist clinical areas including colour vision and low vision. He is a previous Head of School and is an honorary member of the New Zealand Association of Optometrists. Rob was awarded the NZ Order of Merit in 2017 for his services to optometry and education.

His research interests are in the clinical vision sciences relating fundamental measures of visual performance such as visual acuity and sensitivity to defocus, to measures which are relevant in clinical and practical situations. Visual defects such as defocus, colour vision anomalies, and age related visual changes are the subject of research projects. Assoc Prof Jacobs has acted as an advisor in the area of visual ergonomics including visual problems within the aviation industry and vision standards.

Associate Professor
Samuel Schwarzkopf

BSc (Hons), PhD

Email: s.schwarzkopf@auckland.ac.nz
Phone: +64 9 923 89734

The main goal of Associate Professor Schwarzkopf's research is to understand how we experience the world around us through our senses. Each person is unique and our perception varies quite dramatically both between and even within individuals. For instance, perceptual experience can vary between contexts (visual illusions), across different times, and also simply between locations in the environment. A major part of Dr Schwarzkopf's research investigates how this variability in perceptual experience arises in the human brain. He combines psychophysical experiments with functional neuroimaging and computational methods for measuring the fine-grained organisation of sensory brain areas. Furthermore, he also explores which non-perceptual factors govern people's perceptual judgements and decision-making.

In addition to leading to a better knowledge of how perceptual processing works in general, the principles discovered can also advance our understanding of how brains function in different populations or in different clinical conditions. Therefore, Dr Schwarzkopf's research also studies perception in different healthy populations, in disorders of the visual system (e.g. amblyopia), or in autism spectrum disorders and schizophrenia.

Clinic Director
Senior Lecturer
Geraint Phillips

BSc, MCOptom, DCLP, OD, CertOcPharm, TPA endorsed

Email: g.phillips@auckland.ac.nz
Phone: +64 9 923 6503

As Clinic Director, Dr Phillips is responsible for the smooth running of the University Optometry Clinic.

Dr Phillips teaches Diseases of the Eye within Part IV and ocular therapeutics within Part V of the Bachelor of Optometry programme. Dr Phillips is also Course Coordinator of two Part V courses involving Specialist Optometry and Optometry in Practice.

Academic Director
Senior Tutor
Andrew Collins

BOptom, MSc, PhD, CertOcPharm, TPA endorsed

Email: a.collins@auckland.ac.nz
Phone: +64 9 923 6484

As Academic Director, Dr Collins is responsible for the smooth delivery of the BOptom programme. Dr Collins teaches in the areas of clinical optometry, vision science, ocular disease and therapeutics. He is director of Optometry Council of Australia and New Zealand. Dr Collins' research interests are in the areas of environmental and genetic factors affecting myopia development, vision in animals, and vision in transportation. He has recently completed a PhD investigation into the effects of light on myopia development.

Senior Lecturer
Monica Acosta

BSc, MSc, PhD

Email: m.acosta@auckland.ac.nz
Phone: +64 9 923 6069

Dr Acosta is the Principal Investigator of the Cell and Molecular Biology of the Retina (CMBR) Laboratory. She studies the mechanisms of retinal damage in ocular and neurological diseases. Dr Acosta teaches biomedical topics, vision science, and evidence-based updates in retinal pathology. She is the BOptom Part II Coordinator, Postgraduate Advisor for the PhD and Research Masters programmes. Dr Acosta's research interest and expertise includes retinal degeneration in neurological diseases. She is a Principal Investigator in the Centre of Research Excellence (CoRE)- Brain Research NZ/ Rangahau Roro Aotearoa and an investigator in the Centre for Brain Research (CBR).

Senior Lecturer
Clairton de Souza

MD, PhD, CBO

Email: c.desouza@auckland.ac.nz
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Dr de Souza is also a Consultant Vitreoretinal Surgeon at Auckland District Health Board. He obtained his Medical degree and Ophthalmology Specialist qualifications in Brazil, a Master in Retina in Spain, and undertook Surgical/Medical Fellowships in Australia (Adelaide and Perth), New Zealand (Auckland) and England (London). He obtained his PhD degree at the University of Auckland in 2012. His main research interests are the cellular phenomena involved in retinal remodelling in human retinal detachment and other retinopathies.

Senior Lecturer
John R Phillips

BSc, BSc (Optom), MSc, PhD, MCOptom, CertOcPharm TPA endorsed

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Dr Phillips' research interests are in the areas of childhood myopia development and progression and also the physiological processes which control eye size and which normally ensure that as the eye grows it remains emmetropic (i.e., without a refractive error). Dr Phillips teaches ocular anatomy/physiology, pathology and optometry in the undergraduate Optometry programme.

Senior Lecturer
Misha Vorobyev

PhD

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Plants often use brightly coloured flowers to advertise a reward of nectar and pollen to insects and birds that pollinate them. Birds use colourful plumage to attract mates. Similarly, colourful patterns of fish skin are used to communicate with other fish. Animals also use coloured patterns to protect themselves—a coloured pattern may help conceal or disguise an animal, or advertise that it is toxic. The main theme of our research is the relationship between colour vision systems and colourful patterns of plants and animals. We use psychophysical methods to study colour vision of man and animals. To understand the ecological significance of diversity of colour vision systems we combine mathematical modelling with measuring spectra of biologically important objects – flowers, fruits, birds' plumage and fish skin. Dr. Vorobyev's studies, published since 1996 in 53 papers, have attracted over 1300 citations (245 citations in 2008; ISI h-index: 20; average citations per paper: 25).

Senior Lecturer
Ehsan Vaghefi

BSc, MSc, PhD

Email: e.vaghefi@auckland.ac.nz
Phone: +64 9 923 3174

Dr Vaghefi obtained his PhD from Auckland Bioengineering Institute, researching the nutritional supply system and the optical homeostasis of the ocular lens, with a long term goal of understanding the molecular and physiological basis of the onset and progression of cataracts. He currently holds a joint appointment as a lecturer in Physiological Optics (School of Optometry and Vision Sciences) and a research fellow (Molecular Vision Lab and Auckland Bioengineering Institute). His appointment is a strategic initiative to develop a joint research led teaching programme in Physiological Optics. He is utilizing his set of expertise in quantitative ocular imaging and computational modelling to create a digital tool to aid in the development of effective preventive therapies to combat cataracts, the leading cause of blindness worldwide.

Lecturer
Joanna Black

BSc, BOptom (Hons), PhD, CertOcPharm, TPA endorsed

Email: j.black@auckland.ac.nz
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Dr Black teaches in the areas of clinical optometry and binocular vision. She is involved in teaching the undergraduate binocular vision and ocular pathology courses as well as supervision within the optometry clinic. Her research interests include visual development and rehabilitation, including the diagnosis and treatment of amblyopia.

Lecturer
Hannah Kersten

BOptom (Hons), PhD, TPA endorsed

Dr Kersten obtained her BOptom (First Class Honours) from the University of Auckland in 2008, and worked in a large private optometric practice for two years. In 2011 she returned to Auckland to take up the role of junior Optic Nerve Research Fellow in the Department of Ophthalmology, working under the supervision of Professor Helen Danesh-Meyer. Following the completion of her doctoral studies Dr Kersten held a joint position as a lecturer in the School of Optometry and Vision Science and postdoctoral research fellow in Ophthalmology. Dr Kersten continues to work as a lecturer in Optometry, and has a private clinical role in glaucoma and neuro-ophthalmic disease. She is also an accredited glaucoma prescriber. Hannah's research interests include ocular imaging and structure function relationships in neurodegenerative disorders and glaucoma.

Lecturer
Philip Turnbull

BOptom (Hons), PhD, TPA endorsed

Email: p.turnbull@auckland.ac.nz
Phone: +64 9 373 7599 ext 85499

Dr Turnbull obtained his BOptom (Hons) from The University of Auckland in 2008, the first year in which the undergraduate course included therapeutic prescribing rights as part of the five year programme. After working in private practice, he returned to complete a PhD thesis in 2014 which investigated whether the convergently evolved eye of the squid can emmetropise. He teaches in the area of clinical optics, and is involved in fifth year clinical assessments. His research interests include the application and development of new technologies, such as high-speed eyetracking and virtual reality, and how they can be used to improve the clinical measurement of visual function.

Lecturer
Jason Turuwhenua

BSc, MSc, PhD

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Dr Turuwhenua is a Research Fellow who works between the Auckland Bioengineering Institute and the School of Optometry and Vision Science. Dr Turuwhenua is interested in how engineering methods might be applied to problems of interest in vision. To date this has involved work on corneal topography (videokeratography), simulating retinal images, as well as image processing. At present Dr Turuwhenua is working on developing 'the virtual eye', which is a physics based system for investigating eye disease.

Professional Teaching Fellows – Clinic Tutors

Kerry Atkinson BSc(Hons), FCOptom, DipCLP, CertOcPharm, TPA endorsed

Melinda Calderwood BOptom, PGDipSci, TPA endorsed

Jason Dhana MSc, BOptom(Hons), TPA endorsed

Dr Wanda Lam OD, BSc, TPA endorsed

John McLennan BSc, Dip Opt, Cert Oc Pharm.

Robert Ng BOptom (Hons), TPA endorsed

Michelle O'Hanlon BOptom(Hons), TPA endorsed

Jaymie Rogers BSc, BOptom(Hons), TPA endorsed

Bhavini Solanki BSc(Hons), MSc, TPA endorsed

Kathryn Sands BOptom, CertOcPharm, TPA endorsed

Lisa Silva BMedSci(Hons), BSc(Hons)Optometry, TPA endorsed

Zoe Smith BSc (Hons), MSc, MCoptom, TPA endorsed

Dr Marcy Tong OD, BSc, TPA endorsed

Postdoctoral Research Fellows

Lucy Goodman, PhD

Lisa Hamm MSc, PhD

Catherine Morgan, PhD

Keith R Pine BSc, MBA, PhD

Maybelle Lin BE (Hons), PhD

Professional Staff

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Kerryn Levy, PGDipBus(Mktg), MMgmt

Timetable Co-ordinator

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Dispensing Optician

Kristine Hammond RDONZ FBDO O/S
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Optical Assistant

To be advised

Dates to remember

Applications to the University of Auckland should be received no later than the published closing date. If there are places available, applications received after the closing date will be considered on the basis of academic merit.

Academic year 2019*	
Summer School – 2019	
Lectures begin	Monday 7 January
Auckland Anniversary Day	Monday 28 January
Waitangi Day holiday	Wednesday 6 February
Lectures end	Friday 15 February
Study break/exams	Study Break: Saturday 16 February Exams: Monday 18 – Wednesday 20 February
Summer School ends	Wednesday 20 February
Semester One – 2019	
Semester One begins	Monday 4 March
Mid-semester break	Monday 15 – Saturday 27 April
ANZAC Day	Thursday 25 April
Graduation	Monday 6, Wednesday 8, Friday 10 May
Queen's Birthday	Monday 3 June
Lectures end	Friday 7 June
Study break/exams	Study Break: Saturday 8 – Wednesday 12 June Exams: Thursday 13 June – Monday 1 July
Semester One ends	Monday 1 July
Inter-semester break	Tuesday 2 July – Saturday 20 July
Semester Two – 2019	
Semester Two begins	Monday 22 July
Mid-semester break	Monday 2 – Saturday 14 September
Graduation	Tuesday 24 September
Labour Day	Monday 28 October
Lectures end	Friday 25 October
Study break/exams	Study Break: Saturday 26 – Wednesday 30 October Exams: Thursday 31 October – Monday 18 November
Semester Two ends	Monday 18 November
Semester One – 2020	
Semester One begins	Monday 2 March

**Start/finish dates vary for some programmes.*

Orientation

Orientation takes place the week before lectures start each semester. Faculty Orientation Day is designed to help you feel more connected with your faculty of study, while allowing you to meet staff and students who you will come across during your time at the University. You will be buddied up with your UniGuide who will be there to answer any questions you may have about university life.

For more information see **www.auckland.ac.nz/orientation**

For information on International Orientation Week visit **www.auckland.ac.nz/international_orientation**


E P U R Z
H N R Z D
F N H V D
N D Z R U
V D E H P

THE UNIVERSITY OF AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

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