MANCHESTER 1824

The University of Manchester

undergraduate brochure 2012

optometry

life sciences

www.manchester.ac.uk/lifesciences

the facts

contents

- The only UK Optometry degree with patient contact from Year 1
- 50+ practising eye care professionals involved in teaching
- Clinical experience at the second largest eye hospital in the country
- The only university to offer the MOptom degree
- Best careers services in the UK
- 4 million books in one of the UK's best university libraries
- Guaranteed accommodation for all first years
- The UK's largest students' union

'Manchester is a place for individuals, brilliant kids who like to do their own thing… and if you are ready it will release you to do the same…'

The Virgin Guide to British Universities

With a distinguished history of academic achievement and an ambitious agenda for the future, The University of Manchester offers you a highly reputable learning experience, rooted in a rich educational heritage and boosted by cutting-edge research and innovation – all at the heart of one of the world's most vibrant cities.

the university

Part of the prestigious Russell Group of universities, Manchester has much to offer you. As well as the outstanding facilities, resources and opportunities found within an institution of this calibre, the University is highly respected amongst academic and business communities alike – a respect that is conferred upon its graduates.

Innovative

Our tradition of success in learning and research stretches back over 180 years, encompassing the birth of the modern computer, the splitting of the atom and the founding principles of present-day economics. All these and many more world-changing innovations have their roots here, at The University of Manchester.

Rated third in the UK in terms of 'research power' in the last Research Assessment Exercise, today we enjoy a global reputation for our pioneering research, which informs our problem-based approach to undergraduate learning.

Internationally renowned

Since 2005, the University has risen in the influential Academic Ranking of World Universities Survey conducted by Shanghai Jiao-Tong University, from 53rd to 44th in the world, and ninth in Europe – confirming us as a progressive and world-class teaching and research institution.

Our campus is home to more than 37,000 students from around 150 countries, creating a diverse and inclusive multicultural community.

Ambitious

Our mission is to become one of the top 25 universities in the world by 2015 and the preferred destination for the best teachers, researchers and students.

It's a goal that we're well on the way to achieving, backed by a multimillion-pound investment programme in facilities, staff and buildings. This includes a virtual learning environment that offers you flexible access to study resources 24/7, and the Alan Gilbert Learning Commons, a new £30 million resource centre for students opening in 2012.

Distinguished

More than 5,600 academic and research staff – many leaders in their fields, with international reputations – provide stimulating learning environments and excellent standards of teaching.

As a Manchester graduate, you will join a prestigious hall of fame, including 25 Nobel Prize winners among our current and former staff and students. We have more Nobel Prize winners on our current staff than any other UK university.

Sought after by employers

Employers actively target University of Manchester graduates, giving you excellent job prospects.

Our worldwide community of 240,000 graduates can be found in top positions in every imaginable field, including Sir Terry Leahy, chief executive of Tesco; former Secretary General of Amnesty International Irene Khan; writer/performer Meera Syal and author Louis de Bernieres.

Full of opportunity

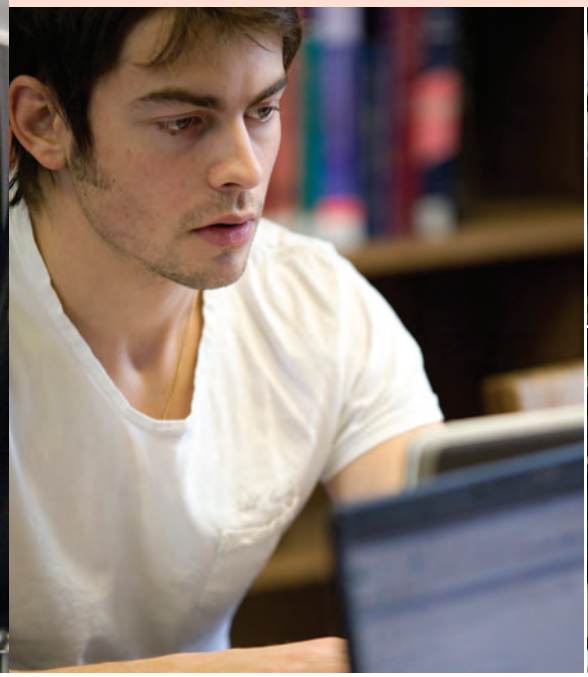
You can take advantage of countless exciting personal development opportunities at Manchester, including career development programmes run by a university careers service that has consistently been voted the best in the UK by graduate recruiters.

Choose The University of Manchester and you will join one of Britain's most forward-thinking universities, which builds on its success year on year – and invites you to do the same.

Find out more…

www.manchester.ac.uk/aboutus

optometry at manchester



At The University of Manchester, we continually update our optometry courses in line with the constantly evolving role of the optometrist – so where better to study the cutting edge of optometry than here?

Today, the optometrist's role goes beyond the correction of refractive errors, such as long- and short-sightedness, using spectacles and contact lenses. It also includes: detection and monitoring of eye disease; management of paediatric and geriatric eye disorders, binocular vision problems; care of patients with low vision; offering advice on colour vision; and assessing the role of vision at work and in sport.

Until recently, the optometrist's formal responsibility was to recognise and refer abnormality, stopping short of diagnosis and management. In the last few years, however, there has been a steady increase in optometrists being involved in the primary care of patients with diabetes and glaucoma. This has given rise to more emphasis on the study and management of these conditions.

There are other changes influencing and developing the role of optometrists, not least of which is the expansion of the commercial sector.

Why study at Manchester?

Taking into consideration all of the above and more, our course is constantly being reassessed to ensure that our graduates are prepared for the opportunities of the future. This includes covering areas such as business management, which gives you the knowledge you need to open your own practice.

The great breadth and depth of staff research interests in optometry ensures a very high standard of teaching, and this is further enhanced by the 50 optometrists, dispensing opticians, orthoptists and ophthalmologists from private and hospital practice who attend on a part-time basis. This large group of enthusiastic part-time clinical instructors specialises in many different aspects of optometry.

A major advantage of this form of instruction is that the part-time instructors all have extensive experience of ophthalmic practice outside of the academic environment. They can therefore offer you a perspective on optometric problems and their management, which complements that of the full time academic members of staff.

Manchester offers you…

- Emphasis on practical skills at one of the few universities in the UK that enables you to see patients from Year 1
- Clinical experience at one of Europe's leading eye hospitals: the Manchester Royal Eye Hospital
- Renowned researchers involved in your lectures and practical units, giving you excellent standards of teaching

Facilities and resources

Facilities in Manchester are excellent and will be further enhanced when the optometry clinics and labs move into a new facility at the heart of the biomedical section of the campus in 2011. The planned facilities incorporate the Vision Centre, a public access optometric clinic that provides eye care for 3,000 patients per year; they also include a dispensary, 15 optometric examination rooms, three tutorial rooms and dedicated laboratories for non-clinical practical sessions.

As an enhancement to the formal curriculum, there are opportunities to attend, free of charge, the fortnightly continuing education lectures for local optometrists that are organised by the Northern Optometric Society, and held on the university campus.

Staff also organise trips to visit leading contact lens manufacturers.

RIDHIMA TALWAR

"After completing an Honors BSc in Psychology from the University of Toronto (Canada), I decided to study Optometry as an international student at The University of Manchester, not only because it is ranked as one of the top schools in the UK, but also because of its excellent reputation in Canada. Optometry is a growing and respected field of healthcare that affects people's vision and lifestyle all over the world, and I am glad I chose Manchester to help me achieve my goals."

A warm welcome

Approximately 80 students are admitted each year to the BSc (Hons) Optometry degree course. This small, tightly knit group provides a very supportive, friendly atmosphere.

During your first day, you will meet your personal advisor, who will offer you help and guidance throughout your course. He or she will help you settle into life in Manchester and help you to get the most from the stimulating academic and social environment of a large and lively university. You will also meet regularly with your advisor for academic tutorials, where you will combine developing your transferable skills (eg group-working, presentations, oral and written communication) with applying your optometric knowledge.

The Optics Society

The Optics Society is run by a committee of second-year students and includes representatives from all years. The committee is very active, meeting every week and organising social events, including the formal 'Eyeball'. The calendar of socials and the Eyeball are fantastic opportunities for you to meet other people on the course and get helpful hints and advice.

The society also organises sports events on Wednesday afternoons, including badminton, football and netball, and the optometry staff members sometimes come along to take on the students!

The Optics Society also arranges for high street optical companies to come and talk about their summer placement schemes and the pre-registration year, with refreshments after each talk. This gives you the chance to obtain more information about the opportunities available and to find out what employers look for in an ideal candidate.

The Optics Society will be an important part of your student support network during your years at Manchester, organising mentoring sessions for first-year students to get advice on lecture material and pastoral issues from more experienced second-year students. Becoming part of the society, with a one-off payment of £35 in your first year, will mean that you will get subsidised entry to social events.

Compulsory payments

The General Optical Council student registration fee is currently £20 (renewable each year). At the beginning of the first year, we ask you to buy a white coat and a trial frame (up to £300), so you are equipped for your encounters with patients. By the end of your second year, you are expected to have purchased your own ophthalmoscope and retinoscope, which can cost between £800 and £1,000. The Optics Society invites the main manufacturers of these instruments to come and talk to you about their products and arranges for student discounts and freebies.

NICOLA ROPER

"Optometry is a fantastic multidisciplinary degree leading into a great profession; I am really happy I chose to study it. It can be hard work at times, but it is rewarding and, although it may take up more time than other degrees, I still find time to play sport six times a week."

course details

Optometry BSc 3yrs
UCAS Code B510

Typical offer
A-level: **AAB**
IB: **35**

For full entry requirements, see:
www.manchester.ac.uk/ugcourses

BSc (Hons) Optometry

This is a three-year, full time course with each year organised into two semesters. You will have around 18 hours of lectures and practicals timetabled each week, plus clinics and tutorials, and are expected to spend at least an equal amount of time in private study and reading.

Lecture units are accompanied by complementary e-learning units that support and enhance your learning, providing resources such as lecture notes, discussion boards and lecture podcasts. Practical experience is undertaken in our well-equipped laboratories and clinics and at the new Manchester Royal Eye Hospital.

Typical First Year Timetable

	Monday	Tuesday	Wednesday	Thursday	Friday
9am - 10am	Tutorial	Lecture	Lecture	Lecture	Lecture
10am - 11am	Clinic	Lecture	Lecture	Lecture	
11am - 12noon	Clinic	Lecture	Lecture	Lecture	Lecture
12noon - 1pm					
1pm - 2pm	Lecture	Tutorial			
2pm - 3pm		Lecture			Practical
3pm - 4pm		Practical		Clinic	Practical
4pm - 5pm		Practical		Clinic	

What you study

Year 1

You will be introduced to the scientific principles that underpin optometry, including the properties of light, the anatomy of the eye and the processing of vision in the brain. You will learn about ophthalmic appliances such as lenses, and instrumentation such as retinoscopes. The clinical element of the course will introduce you to general eye examination techniques, which you will initially carry out on fellow students. You will start to meet patients in semester two – an opportunity that is unique to the Manchester degree course.

Year 2

You will cover a broad range of new topics, including human disease processes, pharmacology, contact lens practice and binocular vision, and further develop your knowledge of ophthalmic appliances and optometric instrumentation. The clinical element of the course will develop your skills so that by the end of the year, under supervision, you will have the competence and confidence to examine members of the public.

You will have the opportunity to spend a week in the Manchester Royal Eye Hospital on a one-week, full-time secondment during the vacation between the second and third years of the course. This provides a wealth of clinical experience in hospital departments, which sets the theoretical teaching in ocular disease in a practical context, by providing the experience of examining the wide range of patients seen in hospital.

Year 3

An even greater emphasis is placed upon the clinical element of your course during your final year. You will have several clinics each week including contact lens, low vision, paediatric and orthoptic clinics – some of which take place at the Manchester Royal Eye Hospital. You will carry out a placement at a local high street opticians practice, and visit the refractive surgery facilities of a leading eye-care organisation. New topics are introduced in your final-year lectures, including a unit on the legal and professional skills required to open your own practice.

You will undertake an experimental project. This will give you the opportunity to research one aspect of optometry and usually involves collecting and analysing data and writing a dissertation about your chosen project title.

Our research interests embrace most aspects of visual science, from the interaction of contact lenses with the ocular surface, to the processing of retinal images in the brain, providing a wealth of topics from which you can choose.

Assessment

Course units that are completed within one semester will be assessed at the end of that semester, and this assessment may be performed by a combination of coursework, practical examination and written examination. Subjects that are taught throughout the year will be examined at the end of the second semester.

The final degree classification is based on the marks obtained during the first (10% weighting), second (30% weighting) and third (60% weighting) years of the course.

Communication skills

As an optometrist, you will deal with patients who are may be worried about their condition. It is therefore essential that you develop good communication skills. The extensive experience of working with patients, starting from the very first year of your studies, and the presentations and group work undertaken during your tutorials will help you build these skills.

SOPHIE GODLEY

"The parts of the course I like most are the practicals. They are great for getting to know others in your year, and the majority of the supervisors are practising opticians, so learning from them provides an invaluable insight into how it is done in practice. Having patients from the first year also vastly improves your clinical and communication skills, and the patients aren't as scary as you might think!"

Course units

Year 1

Tutorials

Allow you to develop skills associated with your degree course and personal development, by improving your oral and written communication and teamwork skills. You integrate information obtained both within and outside lectures through discussion and problem-solving to consolidate your overall understanding of your subject area.

Geometrical Optics

Provides you with a basic understanding of geometrical optics, which will act as a foundation for later course units. You will gain knowledge of the properties of mirrors, prisms and lenses and be able to understand complex phenomena in three dimensions.

Functional Anatomy of the Eye

Aims to give you an understanding of the anatomy of the eye and related structures. You will gain practical experience of the overall structure of the eye and of its components by working with prosections, models and histological specimens in the dissecting room. The dissecting room sessions are designed to complement the lecture course.

Optometric Examination A

Introduces you to basic eye tests, known as refractive examinations. You will learn about the basic optics of the eye and errors in the focusing of light by the eye that affect visual acuity: myopia (short-sightedness), hyperopia (long-sightedness) and astigmatism. You will be able to perform a basic refractive examination, communicate adequately with patients to gain their co-operation during the examination and demonstrate manual dexterity in the use of refractive instrumentation.

Dispensing A

Gives you a basic knowledge of the manufacture, measurement and specification of ophthalmic appliances, including different types of lenses, frames and prisms.

Physical Optics

An elementary introduction to wave optics as relevant to optometry. By the end of the unit, you should understand: the limitations set by physical optics; the performance of optical instruments and the eye; the principles of contact lenses; the basis of methods such as optical coherence tomography (which provides 3D images of the retina); and be able to carry out simple calculations of the wave effects involved.

Data Handling Skills for Optometrists

Introduces you to the basic skills required to handle scientific data. You will learn how to access IT facilities, use scientific software, perform calculations and manipulate and present experimental data.

Visual Neurophysiology and Fundamentals of Visual Perception

Visual Neurophysiology introduces the basic structure and function of the visual system. You will study structures including the retina in the eye and the lateral geniculate nucleus and visual cortex in the brain. Fundamentals of Visual Perception provides a broad introduction to vision and the rules that govern perception.

Excitable Cells

Cells that respond to stimuli by producing an electric current – are key to the function of our muscles and nervous system. You will learn about the structure and function of these cells, what makes them important and the techniques used to study them.

Mathematics

A basic course in calculus and algebra for students who have not completed an A-level (or equivalent) in Mathematics.

Physiology I and Physiology II

A broad introduction to the physiological principles that govern the operation of the human body. You will study the basic physiology of cells and subsequently the physiology of respiration, reproduction, the kidneys, the heart and circulation, the central nervous system, the GI tract and the endocrine system.

Year 2

Tutorials

You will have regular small-group tuition in groups of about eight students with an academic advisor. Activities to develop your oral and written communication and teamwork skills will continue. These sessions also focus on helping you to make the best choice for your pre-registration period, and being successful in your application.

Dispensing B

Provides you with knowledge of modern spectacle frames and lenses, which will enable you to dispense optical appliances to patients in the most effective way, and to understand the theoretical background to such dispensing.

Instrumentation

Gives you sufficient knowledge of the construction and manipulation of instruments used in contemporary optometric practice to enable you to make effective use of the instruments in third-year clinical work. You will cover key techniques, including the use of slit lamp bio microscopes, perimeters and colour vision tests.

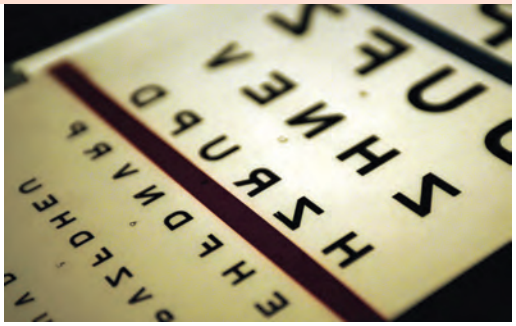
Optometric Examination B

Develops your refractive skills: your ability to perform basic eye tests on individuals who suffer from problems with their vision caused by errors in the focusing of light by the eye – myopia (short-sightedness), hyperopia (long-sightedness) and astigmatism. By the end of the year, you are expected to have mastered the examination of members of the public.

General Medical Science

Expands on the appropriate topics in Cell Biology and Physiology from the first year and provides the foundation for the second and third-year units on Ocular Disease.

You will learn about the principle types of micro-organisms and those that are pathological, how pathogens are transmitted and how infection is controlled (particularly in optometric practice). You will be introduced to concepts such as disease



classification, cell injury, inflammation, wound healing, genetic disease, environmental disease and to be able to relate these to conditions that may affect patients attending for eye examinations. You will also learn how common medical conditions affect the eye.

Visual Ergonomics, Lamps and Lighting

Outlines how the environment and vision of the individual can be optimised for the efficient performance of visual tasks. You will study topics including: interior lighting design, eye protection from chemical, mechanical and radiation hazards and vision and driving.

Visual Optics

Provides you with an understanding of the optics of the human and other eyes and the ability to carry out calculations on the imaging properties of eyes corrected by spectacle, contact and intraocular lenses.

Binocular Vision A

Binocular vision is the ability to use both eyes simultaneously to focus on the same object and view it as a single three-dimensional image. This unit will enable you to understand the physiological spectrum of binocular vision, plan and perform investigations of heterophoria, and develop strategies for managing patients with simple binocular vision problems.

Contact Lenses A

Introduces you to contact lens practice, with a combination of theory and practical content. You will study the history and current use of contact lenses, as well as the physiological basis of their use. You will be able to insert and remove soft and rigid contact lenses and explain aftercare and technological issues to patients.

Pharmacology A

Introduces you to principles underpinning the use of drugs in optometric practice. You will undertake detailed study of the major groups of drugs, including local anaesthetics and staining agents, which are used in optometric practice. The legal constraints applying to these drugs, with particular reference to the recent changes in the law relating to optometrists, will also be considered.

Advanced Visual Neurophysiology

Introduces you to the organisation of the nervous system of humans (with emphasis on vision) and methods for the scientific study of the nervous system. You will gain an understanding of some of the diseases and disorders of the central nervous system from a scientific rather than a medical standpoint.

Visual Psychophysics and Neurophysiology

Outlines the psychophysical methods that can be employed to study normal and abnormal vision and introduces some of the results obtained. You will understand how to conduct a visual experiment, how to identify and control unwanted variables and how to understand the fundamentals of data analysis and interpretation. You will become familiar with the advantages and limitations of conducting experiments with human subjects.

Ocular Disease

You will learn about ocular disease in preparation for supervised work in the third-year clinics and in the pre-registration year. The unit is organised into two sections – one per semester, with a one-week hospital attachment at Manchester Royal Eye Hospital between the semesters.

Mathematical Techniques for Optometry

You will learn to apply mathematical and statistical tools to problems in visual science.

Year 3

Clinical Practical Sessions

Gives you the opportunity to practise your clinical skills on real patients who attend The Vision Centre, under the supervision of qualified staff. A culmination of the theory and practical knowledge you have gained in the first two years will allow you to see patients in the following clinical settings: general eye examination, contact lenses, low vision assessment, dispensing, orthoptics, further investigative techniques and paediatrics.

Binocular Vision B

Gives you an understanding of the abnormalities of binocular vision associated with strabismus (abnormal alignment of one or both eyes, ie squint), anisometropia (when one eye is more long-sighted or short-sighted than the other) and incomitance (strabismus related to weakness of the eye muscles). You will learn about normal and abnormal development of vision in infants and examine, diagnose and manage strabismic patients.

Legal and Professional Aspects of Optometry

Outlines the legal and organisational aspects of the optometric profession. You will learn about the development of optometry in the UK and future trends. You will study the laws relating specifically to UK optometry and those related to running a business: for example, employment laws. You will compare and evaluate the relevant legal, professional and moral position in relation to specific scenarios that may be encountered in optometric practice.

Low Vision

Low vision is a type of visual impairment that cannot be satisfactorily corrected with glasses, contact lenses, or surgery. You will learn about the causes and prevalence of low vision, its psychological impact and how to carry out the assessment and rehabilitation of a low-vision patient. You will learn abut optical devices (such as magnifiers) and non-optical devices (such as environmental design and lighting), which can help low-vision patients.

Pharmacology B: Ocular Pharmacology

Further develops the knowledge gained in the second-year Pharmacology unit. You will gain a detailed knowledge of the drugs used in optometric practice and appreciate the wider issues of drugs and optometric practice; namely the drugs used in ocular emergencies, ocular side effects from systemic drugs and the use of drugs in ocular therapy.

Contact Lenses B

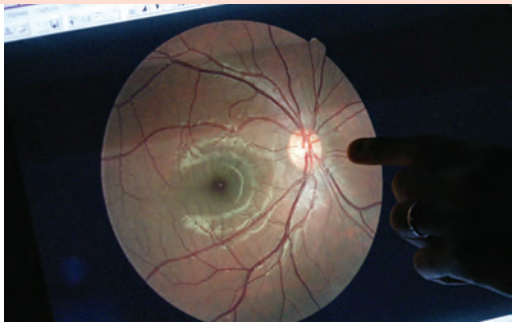
Builds upon the second-year Contact Lenses A unit. You will revisit the anatomy of the eye and gain a detailed understanding of the cause, symptoms and management of contact lens complications. You will also learn about specialist contact lens instrumentation and fitting. The lecture series runs alongside a practical clinical programme, where you will carry out all aspects of contact lens practice on both fellow students and patients.

Optometric Studies

Expands and integrates the knowledge gained from studying Refraction B, Ocular Disease and Instrumentation. It will introduce more advanced strategies for the optometric examination and management of patients with a variety of visual disorders. You will study topics including the role of the optometrist before and after refractive surgery (laser eye surgery), the ophthalmic use of ultrasound, sports vision, and occular disease such as cataract, diabetic retinopathy and glaucoma.

Ocular Disease

You will learn about ocular disease in preparation for supervised work in the third-year clinics and in the pre-registration year. The unit is organised into two sections, one per semester, with a one-week hospital attachment at Manchester Royal Eye Hospital between the semesters.



Clinical Studies

Designed to provide more advanced knowledge of Refraction, Ocular Disease Management and Optometric specialist services. You will learn strategies for the optometric examination and management of patients with a variety of visual disorders, including diabetic eye disease, glaucoma and colour vision deficiency.

Optional units

More than 20 optional course units are available. For a full list, please see the 'Modules' section of our website.

CAROLINE FISHER

"The course at Manchester is really well structured and the year group size makes it easy to get to know everyone. Manchester is a great place to be a student, with its mix of clubs, bars, restaurants and shops."

Master of Optometry (MOptom)

In order to practice as an optometrist in the UK, graduates with a BSc in Optometry must spend a further pre-registration year in supervised practice undertaking the Scheme for Registration of the College of Optometrists. The MOptom is recognised by the General Optical Council as a registerable qualification. Successful MOptom students do not therefore need to undertake the pre-registration year.

The four-year MOptom course is designed to extend the scope of the university degree course, while at the same time incorporating this pre-registration year into the formal structure of a masters course. This is the first qualification of its kind in any country where optometry is a recognised profession. Instead of obtaining a pre-registration position independently after leaving the University, MOptom students remain registered for four years. Your clinical experience will be obtained in private practice for six months and at an eye hospital for six months.This is an excellent opportunity to experience both types of practice before deciding the area on which you wish to concentrate.

Years 1 and 2

The first two years of the two degree courses (BSc and MOptom) are the same. Since continuation on the MOptom course is dependent on performance during the first and second year, you can only apply to the BSc course. We have approximately four places per year for the MOptom course.

See BSc (Hons) Optometry pages above for details of course structure and units in Year 1 and 2.

Year 3

In semester one, you undertake clinical sessions to prepare for your placements. You will continue with lecture units, developing your existing knowledge and tackling new topics such as low vision and legal and organisational aspects of the optometric profession. At the end of your first semester in the third year, you will leave to obtain clinical experience.

Course units

Pre-Placement Clinical Practical Sessions

Develops your clinical skills in preparation for the period of supervised practical placement. You will be able to: correlate history, symptoms and findings into diagnosis and management, perform routine investigative techniques, organise management, dispense appliances and communicate effectively with patients.

Binocular Vision B

Gives you an understanding of the abnormalities of binocular vision associated with strabismus (abnormal alignment of one or both eyes, ie squint), anisometropia (when one eye is more long-sighted or short-sighted than the other) and incomitance (strabismus related to weakness of the eye muscles). You will learn about normal and abnormal development of vision in infants and examine, diagnose and manage strabismic patients.

Legal and Professional Aspects of Optometry

Outlines the legal and organisational aspects of the optometric profession. You will learn about the development of optometry in the UK and future trends. You will study the laws relating specifically to UK optometry and those related to running a business: for example, employment laws. You will compare and evaluate the relevant legal, professional and moral position in relation to specific scenarios that may be encountered in optometric practice.

Low Vision

Low vision is a type of visual impairment that cannot be satisfactorily corrected with glasses, contact lenses, or surgery. You will learn about the causes and prevalence of low vision, its psychological impact and how to carry out the assessment and rehabilitation of a low-vision patient. You will learn abut optical devices (such as magnifiers) and non-optical devices (such as environmental design and lighting) that can help low-vision patients.

Pharmacology B: Ocular Pharmacology

Further develops the knowledge gained in the second-year Pharmacology unit. You will gain a detailed knowledge of the drugs used in optometric practice and appreciate the wider issues of drugs and optometric practice; namely the drugs used in ocular emergencies, ocular side effects from systemic drugs and the use of drugs in ocular therapy.

Contact Lenses B

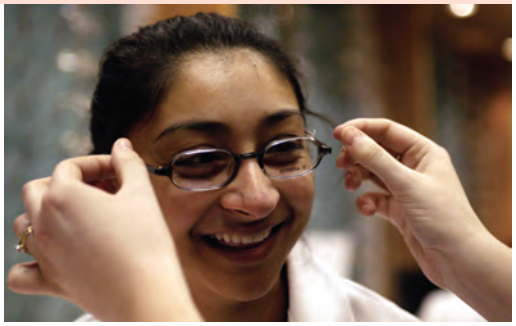
Builds upon the second-year Contact Lenses A course unit. It includes a refresher on the anatomy of the eye and provides you with a detailed understanding of the cause, symptoms and management of contact lens complications. You will also learn about specialist contact lens instrumentation and fitting. The lecture series runs alongside a practical clinical programme, where you will carry out all aspects of contact lens practice on fellow students and outside patients.

Ocular Disease

You will learn about ocular disease in preparation for supervised work in the third-year clinics and in your placement year. The unit is organised into two sections, one per semester, with a one-week hospital attachment at Manchester Royal Eye Hospital between the semesters.

Clinical Studies (General and Optometric Science)

Designed to provide more advanced knowledge of Refraction, Ocular Disease Management and Optometric specialist services. You will learn strategies for the optometric examination and management of patients with a variety of visual disorders, including diabetic eye disease, glaucoma and colour vision deficiency.



Year 4

Following your clinical experience, you return to the University for a further single semester of study. Clinical sessions will continue and will maintain and enhance the clinical skills developed in your placement year. You will also focus on understanding and evaluating scientific and clinical literature across a range of optometric topics.

Course units

Post-Placement Clinical Practical Sessions

You will undertake clinical experience under close supervision in The University of Manchester Vision Centre and external clinics. This experience will maintain and enhance the clinical skills developed in your placement year, so that you are prepared to take on the responsibilities of an independent primary care optometrist.

Optometric Studies

Expands and integrates the knowledge gained from studying Refraction B, Ocular Disease and Instrumentation. The unit will introduce more advanced strategies for the optometric examination and management of patients with a variety of visual disorders. You will study topics including the role of the optometrist before and after refractive surgery (laser eye surgery), the ophthalmic use of ultrasound, sports vision, and occular disease such as cataract, diabetic retinopathy and glaucoma.

Project / Dissertation

You will undertake a literature search and dissertation. This will assess your ability to evaluate scientific and clinical literature critically, understand literature relating to a clinical problem and explain and understand clinical disorders.

Physiology of Ocular Tissues in Health and Disease

You will attend lectures and seminars to further your understanding of ocular physiology, the mechanisms underpinning ocular pathology and how this provides a rationale for current and future therapies. The unit involves critical evaluation of research papers and you will be required to undertake oral presentations.

Investigative Techniques in Ophthalmic Diagnosis

Teaches you the basic skills needed to conduct research in investigative ophthalmology and vision sciences, and develops your skills of critical evaluation of research material. You will gain a detailed insight into the major ophthalmic investigative techniques for measuring visual function and observing ocular structures and have an increased understanding of the concept of measurement and measurement error.

Background reading

To get a good overview of the course, the following books can provide useful background reading. During the course, many lecturers will direct you to additional reading from recommended texts and journal articles. Many students choose to borrow library copies, at least in the early stages when they are unsure which book will best serve their requirements, or which of two alternatives they find easiest to read. We would advise waiting before buying expensive books that might not be as useful as you hoped.

Clinical Procedures in Primary Eye Care
– David Elliott. Butterworth Heinemann

Clinical Visual Optics
– Bennett and Rabbetts. Butterworth Heinemann

Clinical Anatomy of the Eye
– Snell and Lemp. Blackwells

Principles of Human Physiology
– German and Stanfield. Pearson Benjamin Cummings

Optics
– Tunnacliffe and Hirst. Association of British Dispensing Opticians (ABDO)

SEAN MATTHEWS

"I have always wanted to be an optometrist, and am absolutely delighted to have had the opportunity to study at Manchester. The learning experience is remarkable, with first-rate lectures and practical teaching delivered by practising optometrists, ophthalmologists and researchers at the cutting edge of development in vision and optometric study."

Life after Optometry at Manchester

Most BSc Optometry students go straight on to do their pre-registration year and take the Scheme for Registration examinations, which, when successfully completed, allow entry to the General Optical Council register.

To help you think about the pre-registration year, the Optics society arranges visits from the Association of Optical Practitioners, hospital optometrists and the multiple chains. Representatives from these organisations give valuable presentations representing their different viewpoints of the pre-registration year and its objectives.

The main employers of graduate trainees are the multiple chains. They have well-developed recruitment schemes, summer placement schemes and specialised courses for their students. Advisors are an ideal sounding board at this stage. You are encouraged to discuss your strategy for obtaining a pre-registration position with your advisor, who will help in preparing your CVs and providing a reference.

After registration with the General Optical Council, a career is open to you in practice, either privately, or within the National Health Service. Some optometrists choose to work in the Hospital Eye Service team alongside an ophthalmologist. Alternatively, you could choose to teach or undertake research in industry or academia. Many graduates choose to return to Manchester for further study.

Postgraduate studies

Optometry at Manchester has first-class research facilities and is active in a wide variety of research areas. Research specialities include the development of the nervous system, the molecular biology of retinitis pigmentosa and Alzheimer's disease, visual neurophysiology and psychophysics, eye movements and retinal image quality, along with more clinically oriented projects in contact lenses and corneal physiology, paediatric vision and visual impairment.

For further details of research opportunities in Optometry, contact the Faculty of Life Sciences Postgraduate Research Office on +44 (0)161 275 5608.

Our University website holds a wealth of information on the many varied aspects of student life. Below are some of the most popular topics – use the web links for full details…

find out more

Accommodation

As long as you apply by our deadline, all first-year students holding an unconditional offer are guaranteed an offer of a place in university accommodation. For international students, this promise is extended to the full duration of your studies. We are proud to offer more spaces in university-managed accommodation than practically any other UK university.

Discover our diverse range of university accommodation, bustling student areas, halls of residence visits, private accommodation options and more:

www.manchester.ac.uk/accommodation
www.manchesterstudenthomes.com

Admissions and applications

We welcome applications from people of all backgrounds, and are fully committed to equality of opportunity. All applications for full-time undergraduate courses in higher education are coordinated by the Universities and Colleges Admissions Service (UCAS).You must apply online at www.ucas.com. If you are unable to access the internet, contact the UCAS Customer Service Unit on +44 (0)871 468 0468.

Find out more about the application process, policies, procedures and support:

www.manchester.ac.uk/ug/howtoapply

Careers Service

Our award-winning Careers Service will work in partnership with you throughout your degree to improve your employability and prepare for the competitive jobs market. It will help you find part-time jobs, volunteering and work experience opportunities.

Since Manchester is one of the most targeted universities by graduate recruiters, you will meet many employers on campus. You might also take part in the unique Manchester Leadership Programme, to help you develop skills and boost your CV.

Find out more about careers events, mentoring programmes, accredited course units and a whole range of other services:

www.manchester.ac.uk/careers
www.manchester.ac.uk/mlp

Childcare

There are two centres associated with the University for children between six months and five years of age: Dryden Street Nursery and Echoes Nursery. Find out more about funding options, private nurseries, playgroups and schools:

www.manchester.ac.uk/studentnet/crucial-guide/personal-life/student-parents/student-parents

City of Manchester

One of the great benefits of being a student at Manchester is that all the joys of Britain's number one student city are right on your doorstep. You'll be spoilt for choice for food, drink, culture, music, history, nightlife, festivals, shopping, sport and much more – with the quiet countryside of two beautiful national parks also within easy reach when you want to get away from it all. Find out what one of our current students has to say about the capital of the North West:

www.manchester.ac.uk/ug/studentlife/sociallife/manchester

Disability support/applicants with additional support needs

We welcome applications from people with additional support needs and all such applications are considered on exactly the same academic grounds as other applications. If you have additional needs arising from a medical condition, a physical or sensory disability, or a specific learning disability, you are strongly encouraged to contact the University's DSO to discuss your needs, any arrangements that may be necessary and the extent to which appropriate support is available:

www.manchester.ac.uk/dso

Information is also available from the Students' Union Welfare Officer:

www.umsu.manchester.ac.uk

Funding and finance

In 2010, Parliament approved certain changes to university tuition fees. From autumn 2012, universities will be able to charge up to £9,000 a year for their courses; however, they will need to meet strict criteria to ensure students from all income groups can access those courses. Eligible students will not have to pay up-front for their tuition; the cost will be paid by a loan, which students will only start to repay once they have left their course and are earning more than £21,000 per annum.

At the time of going to press, we have not yet set our course fees and support levels for new entrants in 2012. Once we have done so, we will update our website. Please therefore consult our web pages for student finance before submitting your UCAS application:

www.manchester.ac.uk/studentfinance

You can also keep up to date with the latest developments via the Government's website:

www.direct.gov.uk/studentfinance

International students

The University is a multicultural environment and home to more than 9,500 international students from around 160 countries. A range of services is available for international students, to help you both before and during your studies. This includes an airport collection service, orientation courses and specialist student advisers.

Find out more, including information specific to students from your country, such as entry requirements and useful contacts:

www.manchester.ac.uk/international

IT services

As a student at Manchester, you will have access to a huge range of up-to-date IT services, including: online and mobile learning, PC clusters with a wide range of software, extensive WiFi networks, halls of residence internet service, email and technical help and support.

www.manchester.ac.uk/its

Library

The John Rylands University Library (JRUL) is one of the best-resourced academic libraries in the UK and is widely recognised as one of the world's great research libraries, with diverse special collections and electronic resources unrivalled within UK universities. In 2009, the Main Library underwent a large-scale refurbishment to the ground floor, improving access

both to the building and to the collections and also introducing new social and learning spaces to cater for a range of learning styles.

Find out more about the information services and resources available to you:

www.manchester.ac.uk/library

Maps

Get to grips with your future home and take a closer look at our campus, the city and University accommodation by viewing our maps:

www.manchester.ac.uk/visitors/travel/maps

Prospectus

Our 2012 undergraduate prospectus offers a comprehensive overview of The University of Manchester. You can view a copy online:

www.manchester.ac.uk/ug/courses/prospectus

Religious support

There are two chaplaincy centres for the major Christian churches. St Peter's House provides chaplains for the Anglican, Baptist, Methodist and United Reformed Churches, while the Roman Catholic Chaplaincy is at Avila House. Hillel House provides facilities for Jewish worship. There are prayer facilities on campus for Muslim students and student societies for many religions.

Sport

We have an exciting sport and fitness scene with something for everyone at every level, from complete beginner to high performance athlete. Discover more than 40 sports clubs; a vibrant 'Campus Sport' programme, allowing you to play in friendly, recreational leagues; a huge variety of health and fitness classes; plus sport volunteering and scholarship opportunities.

Find out more about our superb sport facilities and opportunities to get active in Manchester:

www.manchester.ac.uk/sport

Student support

Whatever the issue – financial, academic, personal, or administrative – we have experienced and sympathetic people, support groups and advice centres to help you. Find out about counselling, academic advice and various other student support services:

www.manchester.ac.uk/studentnet/crucial-guide

Students' Union

The University of Manchester Students' Union (UMSU) is the largest Students' Union in Europe, offering everything from live bands to welfare advice, cheap stationery to student representation. UMSU has some of the largest and most active student societies in the country, as well as support and welfare services, student media, shops and bars and the famous Manchester Academy.

Have a look at the SU website:

www.umsu.manchester.ac.uk

Video library

Watch and listen to our students and staff introducing various aspects of student life and The University of Manchester with our selection of online videos:

www.manchester.ac.uk/aboutus/video

contact details

For further information about the courses, or about qualifications, please contact:

address
Admissions Office
Faculty of Life Sciences
G483 Stopford Building
The University of Manchester
Oxford Road
Manchester
M13 9PT
United Kingdom

tel +44 (0)161 275 5032
fax +44 (0)161 275 5456
email ug.lifesciences@manchester.ac.uk

For the most up-to-date course information, visit our website:
www.manchester.ac.uk/lifesciences

Disclaimer

This brochure is prepared well in advance of the academic year to which it relates. Consequently, details of courses may vary with staff changes. The University therefore reserves the right to make such alterations to courses as are found to be necessary. If the University makes an offer of a place, it is essential that you are aware of the current terms on which the offer is based. If you are in any doubt, please feel free to ask for confirmation of the precise position for the year in question, before you accept the offer.

Admissions Office
Faculty of Life Sciences
G483 Stopford Building
The University of Manchester
Oxford Road
Manchester
M13 9PT
United Kingdom

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fax +44 (0)161 275 5456
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