

READING SCHOOL OF PHARMACY

MEDICINES MATTER



“ At Reading School of Pharmacy, we are committed to making a difference and to improving the health and wellbeing of communities across the world. Our collaborative and diverse environment celebrates our differences and strengths and supports our staff and students to work together to shape the future of healthcare. We are proud to train and support the development of pharmacists, allied healthcare professionals, scientists and leaders in healthcare and the pharmaceutical industry. Our innovative and exciting programmes provide lifelong learning opportunities for students, healthcare professionals and research scientists. As educators, we value and promote diversity, inclusion and equality.



Technology-enhanced learning, varied teaching methods and pro-active student support ensure that our courses meet the needs of all students, empowering them to achieve their full potential. Drawing on our research and clinical expertise, our programmes are dynamic and current, preparing our students to be leaders in shaping the future of healthcare. ”

Professor Katrina Bicknell

Head of Reading School of Pharmacy

www.reading.ac.uk/pharmacy

“ The desire to take medicine is perhaps the greatest feature which distinguishes man from animals. ”

William Osler, Physician

1849-1919



WALKING THE WALK



Catherine Langran

Catherine worked as a medical admissions and anticoagulant pharmacist before moving into the Education and Training arena at Frimley Park Hospital – and got the bug for teaching.

In 2011 she joined the University as a Senior Teaching Fellow in pharmacy practice. "As soon as I arrived at Reading, I knew there was something I needed to bring to the course – and that was more hands-on experience of real-life patients. Training workshops and simulations are useful, but nothing can beat the real thing."

True to her vision, Catherine launched the Healthy Living Assessment (HLA) later that year.

After training and competency tests, students are able to undertake a Healthy Living Assessment on real patients. This entails performing a series of diagnostic tests to calculate the possible risk of heart disease. They also consult with the patients and discuss their lifestyle (such as diet, exercise regime and alcohol consumption) enabling them to give evidence-based healthy living advice.

But for Catherine it didn't end there. Her determination to help her students have a greater understanding of their patients' challenges has been further enhanced by the introduction of an Inter-professional Learning Symposium.

Students have the opportunity to talk to elderly patients and then get to experience for themselves the everyday difficulties these patients face.

For example, by wearing visual impairment glasses, students can empathise with how challenging simple tasks can become – like reading a medicine label, filling out a hospital menu or simply finding the toilet.

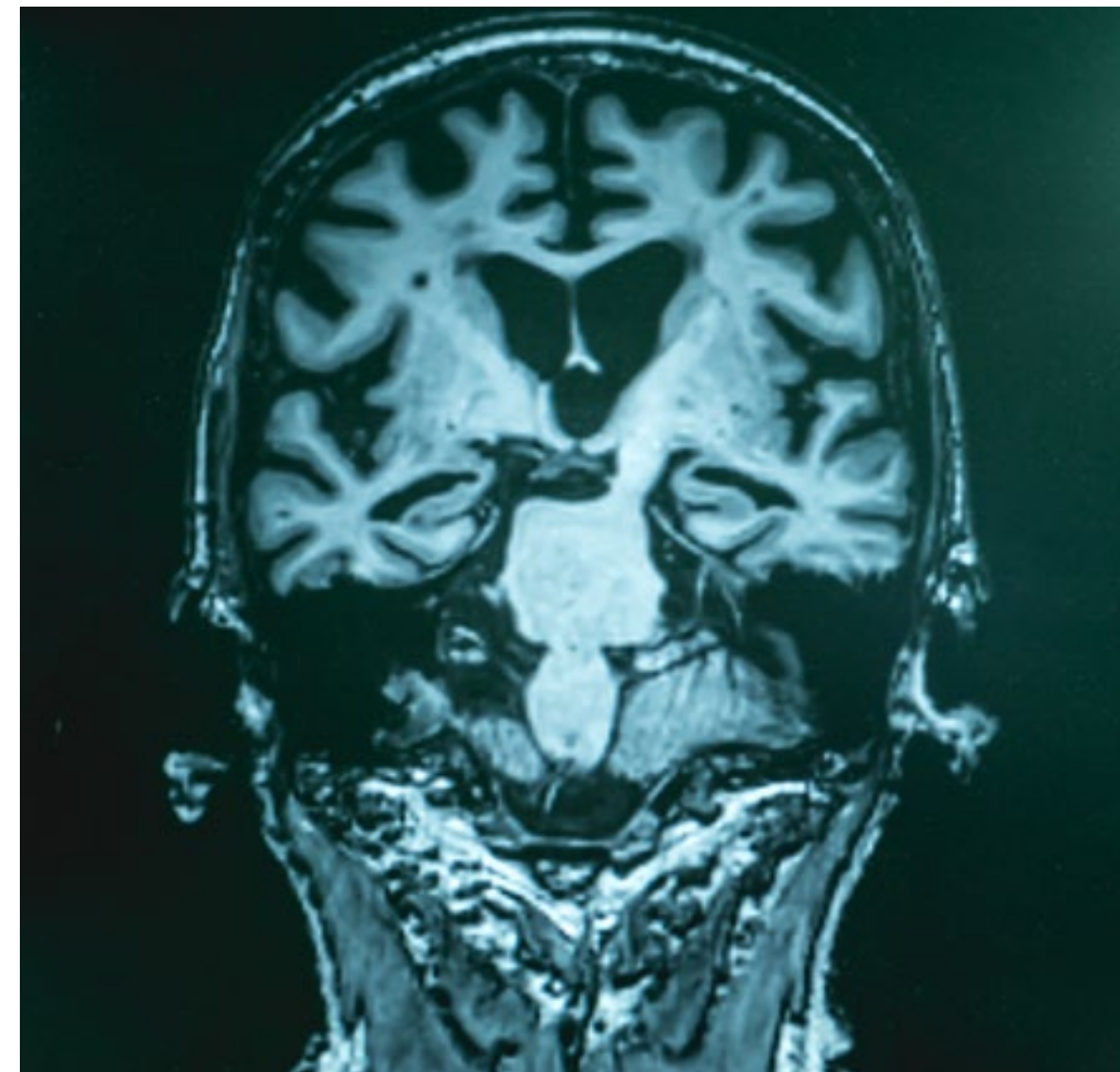
By putting on bariatric suits (which simulate being overweight) and movement-restricting elderly simulation suits, students discover how hard and stressful it can be for some people to get back up after experiencing a fall.

"Today, empathy with the problems that patients face is paramount to any would-be pharmacist," Catherine summarises, "and there is no substitute for real, hands-on experience – which is something that I am determined every pharmacy graduate from Reading School of Pharmacy walks into work with."



A petri dish containing a bacterial culture on a yellow and red agar medium. The dish is held by a gloved hand. The agar shows various bacterial colonies, including small dark spots and larger red ones. A small label with the text "S-10" is visible on the left side of the dish. The background is a light blue grid pattern.

THINKING IN VITRO



Dr Angela Bithell

Try to imagine a dish that thinks it's a brain. If you can, you can seriously start thinking about working alongside Dr Angela Bithell.

As Associate Professor in Stem Cell Biology and Regenerative Medicine, her research has led to the development of 3D 'brain network' models in vitro.

The in vitro models have been specially created to help us build a better understanding of central nervous system diseases and their

causes. By mimicking features of healthy human brains and brains affected by Alzheimer's disease, Angela's work aims to identify and test life-changing new drugs.

She also brings her research to her teaching. You might learn with her during your studies and could be offered the opportunity to carry out your final year research project alongside her and have your name published on any resulting research papers.

Research within Reading School of Pharmacy as a whole spans a broad spectrum from study of molecules and chemistry, through formulation, diagnosis and pharmacology, to patients. With funding from government, charity and industry,

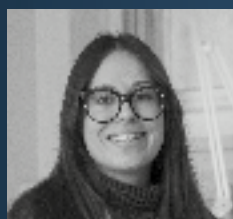
academics are helping to improve healthcare. At Reading, our particular strengths include neurobiology, cardiovascular disease, crystallography, nanomedicine and health service innovation.

Reading School of Pharmacy is also one of the University's key supporters of equality. In fact, Angela leads the School's Athena SWAN programme, promoting the careers of women in science, technology, engineering and mathematics (STEM), as well as Diversity and Inclusion in higher education.

"The result is a nice working environment, free from obstacles. We make sure that both staff and students are aware of everything that's in place to support them."

“Developing more relevant human in vitro models of disease can help us to better investigate the underlying causes. As such, they may also help to identify new therapeutic targets and test drug candidates.”

JOURNEY INTO MEDICINE



Samantha Bautista, Neurology, PA Ambassador

Physician Associates (PAs) are medically trained professionals who work alongside other healthcare roles helping to diagnose patients, formulate management plans and, ultimately, make a real difference in patients' care. The role was first introduced into the NHS in 2003 recruiting PAs trained in the USA.

Quick to see the potential of this new role The University of Reading working with local NHS trusts and the Royal Berkshire Hospital developed a postgraduate programme to train PAs in the UK and is one of the first institutions to introduce a new integrated master's programme in physician associate studies (MPAS) allowing students to study to be a PA straight after A-levels.

Samantha Bautista was in the very first postgraduate cohort of PAs at Reading, graduating from our PGDip programme in 2017. She is now thriving in two roles for the NHS, splitting her time between jobs at the Royal Berkshire Hospital and a local GP surgery.

"It is an exciting new way to practice medicine. When I visited the University of Reading, I got a strong sense that they were really enthusiastic and passionate about this new role in the NHS."

Samantha just like all our trainee PAs was taught by various healthcare professionals, such as consultants and registrars, from the Royal Berkshire Hospital.

"The placements and guest lectures really helped my career prospects. My neurology placement sparked my interest the most. I find the brain so fascinating."

Samantha now channels her fascination of the brain into three clinics at the Royal Berkshire Hospital. She runs a headache clinic, a nerve conduction clinic for patients suffering from nerve problems in the upper limbs, and a Botox clinic for patients with neuromuscular disorders affecting the face and neck.

Alongside her three days a week at the RBH, Samantha works with Dr Richard Perry – a GP and Lecturer on the PA programme – at his local Practice, and is Health Education England PA Ambassador Regional Lead for the South, helping to promote the role of the PA to colleagues in the NHS and prospective students.

“The world of healthcare is changing, and patient needs are changing with it. Physician Associate's have an integral and fundamental role to play as an integrated, frontline, generalist clinician. We are educated, trained and equipped with the skills and competences needed to provide excellent patient medical care. The role is both varied and rewarding, and is certainly an exciting profession to enter.”

SNAKEBITE ANYONE?



Professor Sakthivel Vaiyapuri

Why do we take the drugs that we do to cure diseases? How do they work and how are they processed by the body? If you are passionate about scientific research, interested in drug development and want to make a real difference in life, studying pharmacology at university could be for you.

Pharmacology is the science of drugs and their effect on living systems and is crucial for drug discovery or improving the effectiveness of existing drugs. It is therefore an important subject for all our students.

At Reading, Pharmacology is taught by scientists at the forefront of the major aspects of Pharmacology. Be it neuroscience, stem cell biology or cardiovascular pharmacology.

Professor Sakthivel Vaiyapuri's research focuses on cardiovascular and venom pharmacology. All his research deals with platelets, the part of our blood responsible for clotting and the subsequent wound healing processes and managing immune cells. One of Professor Vaiyapuri most exciting projects is developing an improved anti venom therapy to treat the effects of snakebites.

Considered to be a significant occupational health issue around the world, a snakebite is classified as a

'neglected tropical disease' by the World Health Organization. Globally, it affects nearly 5 million people and causes around 150,000 deaths each year.

Snakebite venoms are made of proteins/peptides that induce bleeding or blood clotting and neurological defects.

Professor Vaiyapuri is working on developing a universal antidote that can effectively neutralise all venom proteins stored at the local bite site and in the blood circulation, irrespective of which type of snake bit the person. Such drugs could be made available in tablet form or as a nasal spray and would not have to be refrigerated, which opens up the possibility of making treatments available to everyone, even in the most remote places.

Sakthivel will be teaching cardiovascular pharmacology and clinical toxicology on our new BSc Pharmacology programme. He brings the subject to life using his research and every year undergraduates have the opportunity to assist him on his research with testing new compounds and data collection.

Studying Pharmacology at an undergraduate level can open the door to a diverse career which can have an impact on a global scale. Our BSc Pharmacology programme aims to provide students with the education, training and experience that enables them to work as pharmacologists within the pharmaceutical, or life sciences-related, industry or academia.



INSIDE TRACK

Emily Jackson went to prison for the sake of her education. Well, to clarify, she spent two days working in HM Prison Swansea's Pharmacy Department – one of eight placements that Emily undertook during her MPharm degree. Getting out into the workplace helps students put learning into context, which is why MPharm students undertake placements throughout their undergraduate degree.

HM Prison Swansea was Emily's first placement. She shadowed the Chief Pharmacist throughout her daily activities and was trusted to help with controlled drug stock checks.

"Learning about prison drug charts and medication was extremely interesting and it was especially useful to observe the pharmacist-patient interaction to

see how it compares with other pharmacy settings."

Next, she spent four weeks interacting directly with customers during her placement with Boots, followed closely by a week at St Bernard's Hospital, where she gained experience of psychiatric medicines. She then furthered her knowledge at Royal Berkshire Hospital, University Hospital of Wales, Morriston Hospital and Prince Charles Hospital.

"Placements in such a wide range of establishments enabled me to make an informed decision about what area of pharmacy I wanted to work in for pre-registration. Working in these environments gave me real-life experience that can't be learned from lectures."

As well as shadowing pharmacists, Emily had an opportunity to work alongside other healthcare professionals and to learn from medicines management technicians, pharmacy technicians and assistant technical officers.

However, it is not only the students who benefit from these relationships. During her final placement, Emily supported a hospital pharmacy with an audit and was directly responsible for a number of prescription changes that improved the quality of care for patients.

It is the outstanding quality of students, like Emily, that has helped solidify long-established, trusted relationships between Reading School of Pharmacy and the healthcare sector. Yet, despite close links with industry and strong

support from the School, securing placements takes effort.

"Don't be afraid to contact as many places as possible because, in my experience, they are always supportive and positive."

After graduating Emily went off to train at Morriston Hospital in Swansea to become fully qualified.

"I feel I'm very well prepared with both theoretical and practical knowledge from my time at Reading and am excited to discover what opportunities lie ahead in my pharmacy career."

WE ARE FAMILY



**Kiran
Sharma**

“Pharmacy at Reading teaches you everything you need to know from pharmacy professionalism, practice and skills, to the science behind the way medicines work and the effects on the human body.”

University of Reading alumni Kiran Sharma, knew she wanted to study Pharmacy from early on, she wanted a University that made her feel welcome and supported.

“The University creates an environment to involve you in your learning and supports you in getting the most out of your time here... there is a family like feel amongst students and academics with everyone being approachable and helpful.”

The Reading School of Pharmacy blends academic and practical ways of learning. Lectures, workshops and practical sessions are combined with problem-based and inter-professional education to help develop a diverse set of skills to make you ready for your future.

Talking about her favourite teaching session, Kiran says, “Prescription assessment and medicines supply is an excellent hands-on experience. We learn the ‘Gold-Standard’ practice for dispensing - in what is a full-size replica of a pharmacy set-up within the School!”

The Reading School of Pharmacy offers an innovative Personal and Academic Development Portfolio, a document that allows you to develop both your clinical and independent study skills. It gives you a chance to reflect on your placements and inter-professional education thereby evolving your experiential learning.

It will also act as a record of your studies giving you a place to showcase yourself and get involved in the wider community of pharmacy through work experience, volunteering, attending talks or conferences and reading articles that you wouldn’t normally be exposed to on the course.

Giving you a place to reflect back on your experiences, the portfolio serves as a good log of your personal development for future employers. Kiran credits the department with keeping students on track with their portfolio.

“Through workshops, lectures and online material they have facilitated our understanding and learning about the portfolio, and staff are always happy to help when need be. Every year we are given a ‘reminder’ of how and what things should be included in the portfolio. It is realistic and makes you aware of standards of work expected.”

Every pharmacy student is also assigned an academic tutor, a member of academic staff, who can advise and support you across a wide range of issues to achieve your potential while at University or Reading.

Academic tutors engage with you to learn more about your experiences, discuss your progress and help with any support you may need, with specific reference to the portfolio. For Kiran, having an academic tutor is highly beneficial to university life.

“An academic tutor is an individual who supports you and aids you with your queries in a non-biased way. They are there to listen to your successes and help you to learn from your failures. There is an element of friendship that exists between you and your academic tutor as they stay constant throughout the degree – who you get assigned to in the first year, is who you remain with until the end of your degree. They also provide a different perspective to things by sharing with you their expertise on the topic or skill of discussion.”

Grateful for all the support and encouragement received from the Reading School of Pharmacy, Kiran says:

“Pharmacy at Reading teaches you everything you need to know from pharmacy professionalism, practice and skills, to the science behind the way medicines work and the effects on the human body. It is a whirl-wind of an adventure that you will always be grateful to have started.”

READING SCHOOL OF PHARMACY

MPharm PHARMACY

MPharm PHARMACY

WITH PREPARATORY YEAR

MPharm PHARMACY

MPharm PHARMACY

WITH PREPARATORY YEAR

B230

B231

Length of programmes	Typical A-level entry requirements
MPharm Pharmacy: 4 years full-time	ABB including grade B in Chemistry and one other science subject
MPharm Pharmacy with Foundation: 5 years full-time	<i>Foundation entry:</i> BBB – for applicants without Chemistry and a second science <i>Foundation entry:</i> CCC – for applicants with Chemistry and a second science

Our MPharm course will set you on the path to becoming a qualified pharmacist. It is accredited by the pharmacy regulator, the General Pharmaceutical Council (GPhC), and has been designed to reflect the changing roles of pharmacists. We will equip you with the skills and knowledge needed for success in this constantly evolving healthcare sector.

The course content integrates core scientific disciplines with the practice of pharmacy in order to provide you with the skills needed for person-centred care. For example, you will learn how to integrate chemistry, biology, pharmacology, pharmaceuticals and pharmacy practice within distinct body systems, such as the gastrointestinal tract. You will develop clinical decision-making in preparation for becoming independent prescriber at point of registration. You will gain an insight into professional practice by carrying out observational visits and placements in hospital and community pharmacies. Additionally, you will develop your research and critical thinking skills throughout the course, and have the option of spending part of your final year working alongside internationally recognised researchers on a research project.¹

As part of the course, all MPharm students will also benefit from business and leadership lectures run by the award-winning Henley Business School.

Following graduation, you will need to complete the foundation training year in order to become a fully qualified pharmacist.

YEAR ONE	YEAR TWO	YEAR THREE	YEAR FOUR
<ul style="list-style-type: none">• Professional Practice 1• Fundamentals of Cell Biology• Fundamentals of Pharmaceutical Science• Introduction to Medicines Design• Introduction to Microbiology, Immunology and Physiology	<ul style="list-style-type: none">• Professional Practice 2• Clinical Therapeutics 1• Clinical Therapeutics 2	<ul style="list-style-type: none">• Professional Practice 3• Clinical Therapeutics 3• Clinical Therapeutics 4	<ul style="list-style-type: none">• Professional Practice 4• Research Skills• Clinical Therapeutics 5

Progression from Part 0 to 1 of the MPharm with Preparatory Year is guaranteed if you meet the academic requirements. There may be travel and accommodation costs incurred for organised placements, and placements may involve approximate commute times of up to one hour each way.

Please note that all modules are subject to change.

¹ More than 85% of our research output is recognised as internationally excellent or world leading (REF, 2014 – Allied Health Professions, Dentistry, Nursing and Pharmacy).

READING SCHOOL OF PHARMACY

MPAS PHYSICIAN ASSOCIATE STUDIES

MPAS PHYSICIAN ASSOCIATE STUDIES

BB96

Length of programmes

4 years full-time

Typical A-level entry requirements

ABB including Biology and Chemistry

Our four-year integrated master's degree in Physician Associate Studies MPAS provides you with the training to become a fully qualified physician associate. An exciting new professional healthcare role within the NHS, a physician associate works alongside doctors in hospitals and in GP practices supporting in the diagnosis and treatment of patients.

Our MPAS programme has been designed in partnership with our local NHS partners to respond to the increasing demand for well-trained PAs. You will benefit from placements in our well-established network of clinical partners, including the Royal Berkshire Hospital, Berkshire Healthcare Foundation Trust, and others in the region.

The first year of this degree follows the BSc Medical Science curriculum which contains a pathway that enables students to develop professional skills required for a role in healthcare. The second year continues your learning alongside more professional skill training that includes short NHS placements. Your final two years of the programme mirror our established MSc Physician Associate Studies programme where 50% of your training is in the workplace. Placements cover all areas of medical practice in a variety of hospital and community settings.

YEAR ONE	YEAR TWO	YEAR THREE	YEAR FOUR
<ul style="list-style-type: none">• Anatomy and Physiology 1• Pathology• Building Blocks of Life• Introduction to microbiology• Principles of Drug Action• Public Health and Nutrition• Clinical Biochemistry• Professional Skills	<ul style="list-style-type: none">• Anatomy and Physiology 2• Clinical Biomedicine• Molecular Drug Targets• Medicines in Healthcare• Professional Skills (Placements)	<ul style="list-style-type: none">• Clinical Skills (including Placements)• Medical research and enquiry	<ul style="list-style-type: none">• Clinical Skills (including Placements)

Please note that all modules are subject to change.

Visit reading.ac.uk/pharmacy for more information.
Ask us your questions at reading.ac.uk/question

READING SCHOOL OF PHARMACY

BSc PHARMACOLOGY

BSc PHARMACOLOGY

WITH A YEAR IN INDUSTRY

BSc PHARMACOLOGY

WITH FOUNDATION

BSc PHARMACOLOGY	B210
BSc PHARMACOLOGY WITH A YEAR IN INDUSTRY	B211
BSc PHARMACOLOGY WITH FOUNDATION	B212

Length of programmes	Typical A-level entry requirements
BSc Pharmacology: 3 years	BBB at A level including Biology and Chemistry, or equivalent qualification
BSc Pharmacology with a Year in Industry: 4 years	<i>Foundation entry:</i> BBB – for applicants without Chemistry and Biology
BSc Pharmacology with Foundation: 4 years	<i>Foundation entry:</i> CCC – for applicants with Chemistry and Biology

Our BSc Pharmacology programme will give you the knowledge, skills and professional behaviours needed to work as a pharmacologist within the pharmaceutical or life sciences-related industry and is great preparation for further study.

This course will provide you with the knowledge of the principles of drug action and their molecular targets, including drugs as medicines that can be used in health and disease, supported by teaching of fundamental physiology, biochemistry & cell biology that underpin the actions and discovery of medicines. You will be taught by a range of staff and academics in Pharmacology, Pharmaceutical Chemistry and Pharmacy Practice, as well as Biomedical Science and Mathematics, who are working on different aspects of drug research. The course also emphasises the key mathematical principles and skills required in industry including statistical analysis, as well as handling and analysing big data sets.

The course is informed by the British Pharmacological Society and pharmaceutical industry's need to have fully trained graduates ready for employment and pharmaceutical industry. Therefore, training in Pharmacology laboratory techniques and experimental design is embedded throughout the course, culminating in a final year research project to practise and perfect those skills. The course also has an option to spend a year in industry with one of our programme partners to gain key graduate employability skills and experience.

YEAR ONE	YEAR TWO	OPTIONAL YEAR IN INDUSTRY	YEAR THREE/FOUR
<ul style="list-style-type: none">• Principles of Drug Action• Key Skills for Pharmacology• Maths & Stats for Pharmacology• Building Blocks of Life• Anatomy and Physiology 1• Pathology• Microbiology• Clinical & Metabolic Biochemistry	<ul style="list-style-type: none">• Medicines in Healthcare• Molecular Drug Targets• Drug Design & Delivery• Maths Modelling for Pharmacology• Anatomy & Physiology 2• Clinical Biomedicine		<ul style="list-style-type: none">• Research Project• Societal Impact of Pharmacology• Clinical Pharmacology & Toxicology

Please note that all modules are subject to change.

Visit reading.ac.uk/pharmacy for more information.
Ask us your questions at reading.ac.uk/question

Important Information

This brochure was issued in 2023 and is aimed at prospective undergraduate students wishing to apply for a place at the University of Reading (the University) and start a course in autumn 2024. The University makes every effort to ensure that the information provided in the brochure is accurate and up-to-date at the time of going to press (May 2023). However, it may be necessary for the University to make some changes to the information presented in the brochure following publication – for example, where it is necessary to reflect changes in practice or theory in an academic subject as a result of emerging research; or if an accrediting body requires certain course content to be added or removed. To make an informed and up-to-date decision, we recommend that you check reading.ac.uk/study

The University undertakes to take all reasonable steps to provide the services (including the courses) described in this brochure. It does not, however, guarantee the provision of such services. Should industrial action or circumstances beyond the control of the University interfere with its ability to provide the services, the University undertakes to use all reasonable steps to minimise any disruption to the services.

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Modules

Sample modules are provided as a taster of some of the modules that may be available on each course. The sample modules listed may be compulsory (core) or optional modules and have been approved in principle for delivery in 2024/25. Please note that as part of our current curriculum improvement process, all modules require final University approval and the University cannot guarantee that a module appearing in this list will definitely run. Teaching staff on specific courses or modules mentioned in this brochure may be subject to change. For the most up to date module information, please check reading.ac.uk

For optional modules, the University cannot guarantee that all optional modules will be available to all students who may wish to take them, although the University will try to ensure that students are able to take optional modules in which they have expressed interest at the appropriate time during their course. Optional modules vary from year to year and entry to them will be at the discretion of the Programme Director.

Joint courses

Our joint courses may have extra requirements, including English language requirements. Please check the individual course pages on our website for further details.

Year abroad and placement fees

Some courses include an optional or compulsory year abroad or placement year. During this year you will only pay a partial fee which is currently set at 15% of the normal tuition fee. Check the website for the latest information: reading.ac.uk/fees-and-funding

Placements

Programmes with a Professional Placement Year (also known as ‘Year in Industry’ or ‘Placement Year’) are fully dependent on students securing their own placement opportunity, normally through a competitive recruitment process. The University provides dedicated career and application support for placement year students. Students who do not secure a placement or who are unable to complete the placement year due to extenuating circumstances, have the option to transfer to a three year variant of their programme with agreement from their School/Department.