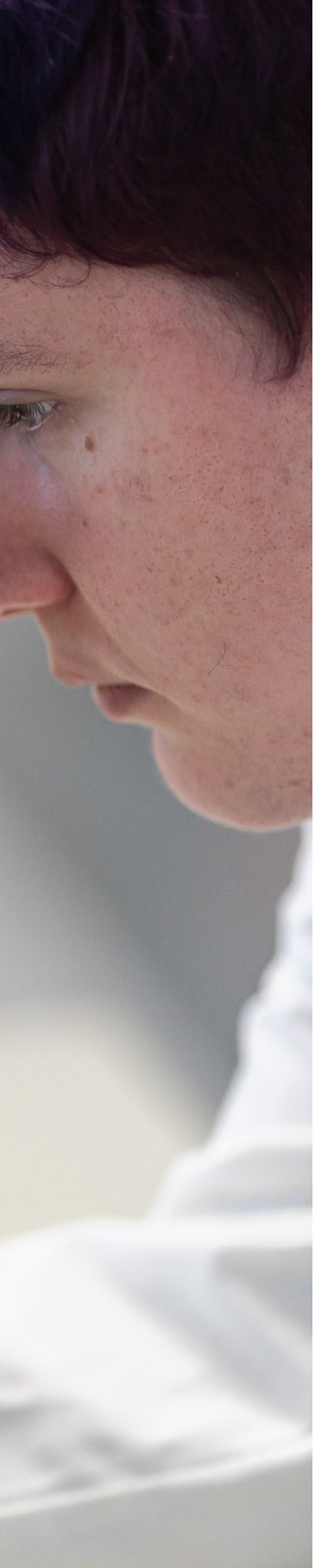
Lancaster University

Neuroscience

Undergraduate Degrees 2026



Contents

Discover **the** *mysteries* **of the brain**

With a growing awareness of mental health and brain disorders, a degree in neuroscience has never been more relevant.

It will see you gain a deep understanding of the nervous system and its role in human behaviour and conditions, including schizophrenia, autism, mood disorders and dementia.

We are delighted to launch our new neuroscience degrees which are delivered in partnership by two outstanding departments: Biomedical and Life Sciences and Psychology.

You will learn from academics in both departments whose expertise spans the full breadth of the subject.

It's this diverse suite of skills and knowledge that makes Lancaster such an exciting place to study neuroscience.

With access to excellent lab spaces and a curriculum shaped by the latest scientific discoveries, you'll be empowered to ask bold questions and seek meaningful answers.

You'll join a thriving, close-knit, and supportive community where you can share your experiences, socialise, and make friends for life.

We're committed to preparing you for life beyond Lancaster by developing your employability and equipping you to make an impact in your future career, whether that's within the lab or beyond.

Your time at university has the potential to define the rest of your life. I would like you to be assured that we are here to support you every step of the way.

Head of Department,
Biomedical and Life Sciences

Professor Jackie Parry

Our *degrees*

Neuroscience is one of a spectrum of biosciences subjects taught at Lancaster University.

+ **Biology** - our most flexible degree, encompassing the study of life from cells to animals, plants to whole communities and ecosystems.
+ **Biomedicine and Biomedical Science** – our most specialised courses, focussing on the study of human life processes and disease.
+ **Biochemistry** – uniting biology and chemistry to explore life at a molecular and cellular level.
+ **Pharmaceutical Science** - the design, formulation, development, manufacturing and evaluation of drugs.
+ **Pharmacology** – exploring how drugs interact with living systems and affect our bodies.
+ **Neuroscience** – combining biology and psychology to understand the nervous system's role in behaviour and brain disorders.
+ **Ecology and Conservation** – focussing on ecosystems, animal behaviour, evolution and global change biology.

A degree in neuroscience offers you a deep understanding of the nervous system and its pivotal role in human behaviour and brain disorders.

You will delve into neuroscience, exploring its implications in health and disease and study topics in neuroscience, pharmacology, genetics, and psychology. This will provide you with a comprehensive understanding of the brain and nervous system.

A level entry requirements

Degree title		Degree (Hons)	UCAS code	Course duration (years)	Typical A level offer
Neuroscience		BSc	B140	3	AAB
Neuroscience		MSci	B141	4	AAA
Neuroscience (Placement Year)		BSc	B142	4	AAB
Neuroscience (Study Abroad)		BSc	B143	4	AAB

Study abroad available Industry placement available

A levels should include Biology and one other science subject from: Chemistry, Mathematics, Physics or Psychology.

GCSEs should include English Language grade 4/C and Mathematics grade 5/B.

BTEC and International Baccalaureate (IB) entry requirements

Degree	BTEC	IB*
MSci	NA†	36 points
BSc	DDD††	35 points

† Only considered for entry to the BSc Hons course variant. Subject to academic progression and availability, students can transfer to the MSci course.

†† DDD in Applied Science to include sufficient Biology and other science content. We require Distinctions in the majority of relevant science units.

* To include 6 in HL Biology and 6 in one further HL science subject from Chemistry, Mathematics, Physics or Psychology.

Made for *learning*

Your degree in neuroscience will provide you with a deep understanding of the nervous system. Your learning will take you from investigation of the brain at an anatomical level, through to cognition and neuropsychology.

You will also explore pharmacology and drug design and delivery to explore how we can treat brain disorders.

How you'll learn

Your lectures will be delivered by subject experts and introduce key concepts in neuroscience, while laboratory practicals and workshops are where you will apply what you've learned. There, you will become skilled in using equipment and techniques to understand the brain from a biological and psychological perspective.

Workshops are interactive sessions that may use problem solving, computer labs, group work or scientific literature to help give you a solid understanding of the theory covered in lectures.

You will also have small group tutorials where you will acquire the key skills needed for your degree.

Your Academic Tutor will help you with academic queries, pastoral support or careers advice.

Research with impact

The academics you will learn from are experts in their fields. Their research is shaping our understanding of the world and feeds into our degrees, ensuring your education is informed by cutting-edge thinking.

+ Dr Sana Hannan researches the importance of sleep by using recordings of brain activity to examine how sleep supports memory consolidation.
+ Dr Neil Dawson studies how the genes that increase the risk of neurodevelopmental conditions impact the brain, with the aim of developing new treatments.
+ Dr Helen Nuttall uses brain stimulation and brain imaging techniques to understand hearing in the brain, and when and why it might be impaired.

Test your knowledge

Assessment methods vary across modules and may include laboratory reports, essays, independent project reports, group presentations, multiple-choice tests and exams.

Assessment is an ongoing process. This means we give you feedback throughout your degree as part of your preparation for end-of-module exams.

“The academics are passionate and knowledgeable in their subject areas, which makes their teaching exciting.”

I took a neuroscience module during my first term at university, and it was truly a lot of fun. The information presented to us was complex but explained well, so by the end of the five weeks we had an understanding of how we hear, see and move. We also learned how the brain works and sends signals to different parts of the body, about specific neurotransmitters and the mathematical equations used to calculate membrane potential.

I found these modules to be some of my favourites and would recommend Lancaster as a place to study neuroscience, as it is so clear to me that all the academics are passionate and knowledgeable in their subject areas, which makes their teaching exciting.

Zara, first-year student

Biology and Psychology

Gain *real-world* experience

Studying our Neuroscience (Placement Year) BSc is an ideal way to stand out in the competitive job market.

It's an opportunity to develop valuable, hands-on experience in your chosen field and helps you to understand how the academic theory you learn during your degree translates into real-world application.

Placements are paid, professional-level roles, lasting between ten and 12 months. We will use all reasonable effort to support you in finding a suitable role for your placement year, drawing on our strong links with organisations across healthcare, industry and research.

At present, students only pay 20 per cent of the standard tuition fee in the year of their placement. Please see our website for full details.

Five reasons to take a placement year

1. Try out your ideal job
2. Build a network of professional contacts
3. Grow in confidence
4. Boost your CV
5. Maybe even get a job offer!

“I’m particularly interested in repositioning drugs currently prescribed to treat other disorders”

Dr Neil Dawson
Senior Lecturer in Neuroscience

I research how the genes that increase someone’s risk of developing neurodevelopmental conditions, including schizophrenia and autism, affect the brain.

One of the main aims of my research is to develop new treatment options for people with these conditions.

People with schizophrenia often experience cognitive problems for which there are no effective treatments available. Similarly, there are currently no prescribed treatments that help people with autism manage their symptoms.

I’m particularly interested in repositioning drugs currently prescribed to treat other disorders and illnesses, because, if they are proven to be effective, they could be used to help people with these conditions.

Lancaster is a truly international university, with students and staff from over 100 different countries and partner institutions around the world.

Your global experience is about living and learning with people from different cultures, whether through your course, your college or your Students' Union.

Your global *experience*

Choosing our Neuroscience (Study Abroad) BSc is a fantastic opportunity to see the world, grow in confidence, and become even more employable when you graduate.

You will spend your third year studying at one of our trusted partner institutions in North America or Australasia.

There, you will gain an understanding of a different culture and society and a more global world view. It's also a chance to gain new perspectives on neuroscience.

You will choose specialist modules relating to your degree and potentially modules from other subjects offered by the host university that are specific to that university and country.

Altogether, your global experience will see you return to Lancaster in your final year as a more well-rounded, confident and employable version of yourself. This fourth year of your studies will follow the same curriculum as the final year of our three-year Neuroscience BSc.

At present, students only pay 15 per cent of the standard tuition fee during their study abroad year. Please see our website for full details..

Visit lancaster.ac.uk/study-abroad to see a full list of the overseas institutions with which we currently have a partnership arrangement.

I was fortunate enough to spend a year at Griffith University in Australia. I lived on the Gold Coast in Queensland for the year, in student accommodation just a short walk from the beach (complete with its own outdoor pool!). My host, Griffith University, is a highly ranked university with five campuses across the country. I studied modules such as 'Abnormal Psychology', which gave me an insight into the role of a clinical psychologist. I also took criminology modules, which proved useful during my final year at Lancaster, especially as my dissertation included elements of forensic psychology.

My favourite module was titled 'First Peoples' and focused on Aboriginal History. It was important to me to understand the country I was living in, and this module gave me a meaningful introduction to Australia's history. Academically, this module encouraged me to think more about the relationship between culture and psychology and significantly broadened my perspective.

I visited Tasmania, hiked in New Zealand, and spent three weeks staying with local families on tropical islands in Fiji. Before returning home, I completed the Larapinta Trail. This was a 250km hike through the West MacDonnell Range in the heart of Australia over two weeks, ending with a flight home to surprise my friends at their graduation.

I highly recommend a study abroad year to anyone interested in travel, adventure, and developing independence. Engaging with new content helped me decide which path to pursue with my degree, and thanks to this experience, I am now undertaking a PhD at Lancaster University.

Griffith University Australia

Lancaster University

"I was looking forward to a year of sunshine, but my time there was better than I ever could have imagined."

Holly

Psychology BSc
now, first year PhD


LMS

A hands-on degree

As a neuroscience student at Lancaster, you'll gain a practical education, putting theory into action while exploring the brain from both biological and psychological perspectives.

You'll work in advanced teaching and research facilities across life sciences and psychology, developing real skills that prepare you for research and clinical careers.

Life sciences labs

Our state-of-the-art life science teaching laboratories are where you will study the nervous system at the molecular and cellular level and understand the roles genetics play in brain structure and disorders.

You will learn to use tools like spectrophotometers, plate readers, and high-spec microscopes to analyse cellular activity and molecular interactions. These techniques will help you explore how the brain functions at the most fundamental biological levels.

Lab sessions are perfect for getting to know your coursemates and academics while developing the core practical skills of a modern neuroscientist.

You will also have access to equipment, including:

+ centrifuges
+ DNA, RNA and protein gel running and visualisation equipment
+ Polymerase chain reaction (PCR) thermocyclers
+ cell culture incubators
+ water baths
+ fume hoods
+ microbiology and histology preparation areas

World-class facilities

Depending on your choice of modules or research project theme, you may also use some of the following facilities:

Studying the Living Brain

Gain hands-on experience with techniques like electroencephalography (EEG), transcranial magnetic stimulation (TMS) with neuronavigation, and functional near-infrared spectroscopy (fNIRS) - cutting-edge tools used to study brain activity, connectivity, and cognition in real time.

Behavioural and Cognitive Research

Through our specialist psychology spaces, including our Infant and Child Development Lab (Baby Lab), neurophysiology, and eye tracking facilities, explore how behaviour and cognition develop and change. These experiences offer insights into sensory processing, memory, and learning, equipping you for careers in neuroimaging, psychology-oriented research, or clinical psychology.

Neuroscience

BSc Hons, MSci Hons

Our neuroscience degrees are highly structured and progressive. You will first gain a strong foundation in the fundamental principles of biology, psychology and neuroscience itself, before building on this with more advanced study throughout the later years of your degree.

You will begin, in **Year 1**, by studying the core principles such as the biosciences, anatomy and physiology and developmental psychology.

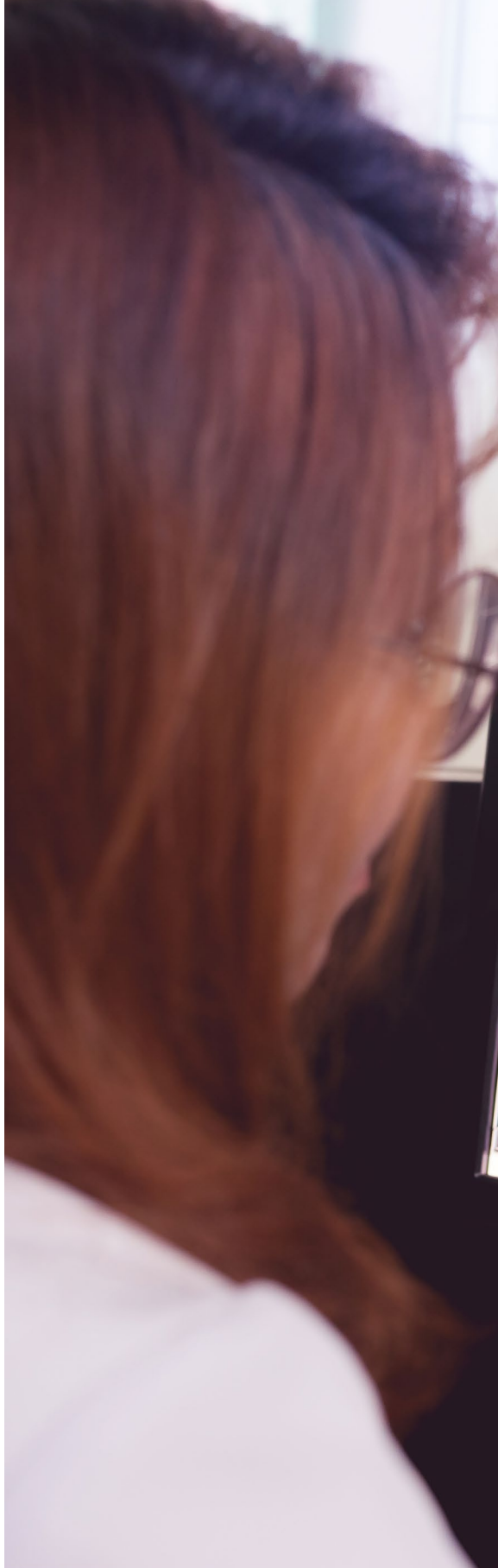
In **Year 2 and beyond**, you will develop a deeper insight by studying themes such as fundamental neuroscience and cognitive psychology. You will explore molecules and genetics in more depth and build an understanding of drug development.

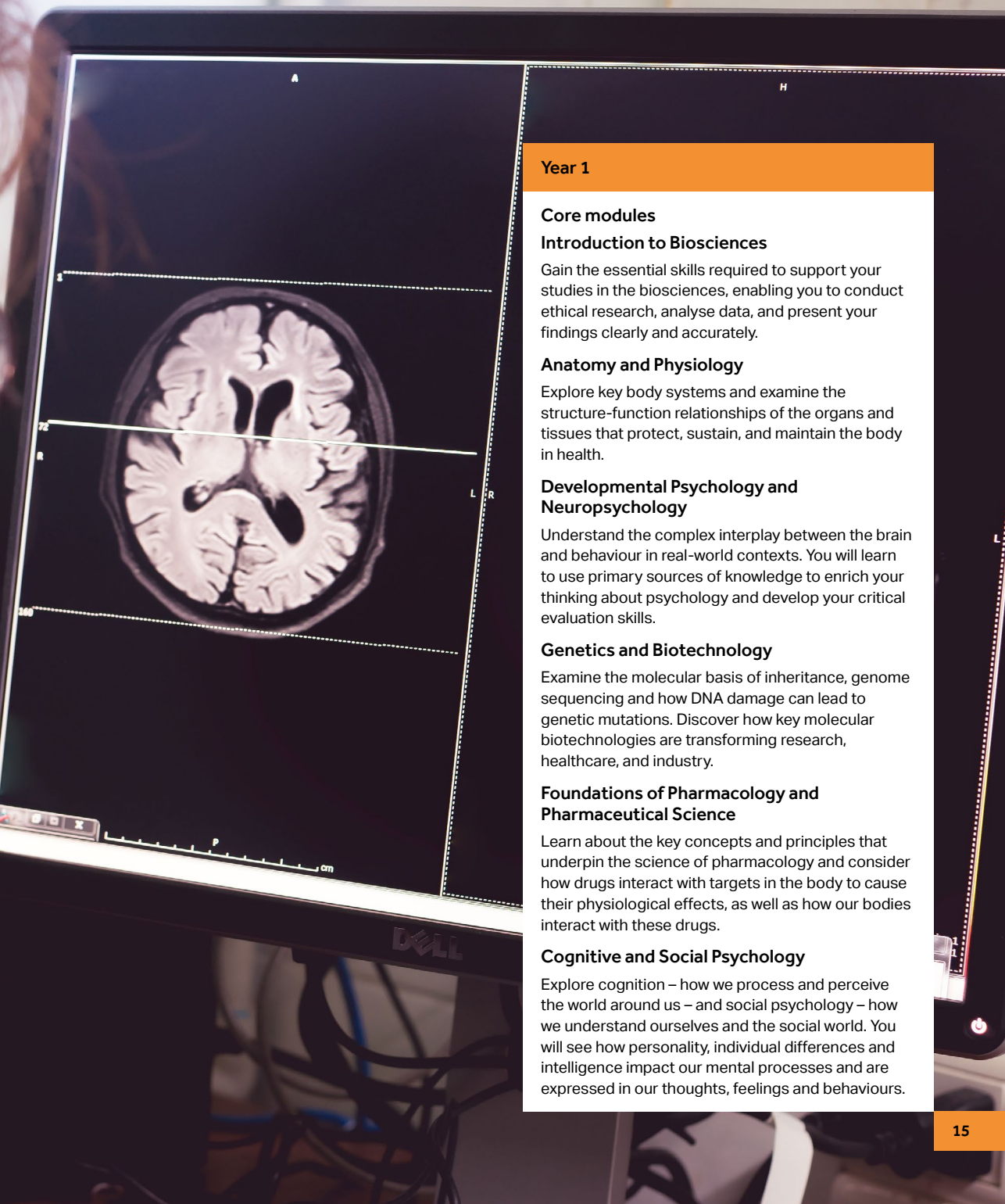
In your **final year**, you will put your learning into practice with an independent research project, working alongside our research-active academics to tackle global healthcare challenges through neuroscience. This is your opportunity to make a unique contribution to increasing scientific knowledge in an area of neuroscience that fascinates you.

Enhancing your curriculum

We continually review and enhance our course curricula to ensure we are delivering the best possible learning experience, and to make sure that the subject knowledge and transferable skills you develop will prepare you for your future. Information within this publication with respect to courses and modules is correct at the time of publication, and the University will make every reasonable effort to offer courses and modules as advertised. In some cases, changes may be necessary and may result in new modules or some modules and combinations being unavailable, for example as a result of student feedback, timetabling, staff changes and new research.

Find out more about our neuroscience degrees and modules on our website lancaster.ac.uk/biosciences/neuroscience/





Year 1

Core modules

Introduction to Biosciences

Gain the essential skills required to support your studies in the biosciences, enabling you to conduct ethical research, analyse data, and present your findings clearly and accurately.

Anatomy and Physiology

Explore key body systems and examine the structure-function relationships of the organs and tissues that protect, sustain, and maintain the body in health.

Developmental Psychology and Neuropsychology

Understand the complex interplay between the brain and behaviour in real-world contexts. You will learn to use primary sources of knowledge to enrich your thinking about psychology and develop your critical evaluation skills.

Genetics and Biotechnology

Examine the molecular basis of inheritance, genome sequencing and how DNA damage can lead to genetic mutations. Discover how key molecular biotechnologies are transforming research, healthcare, and industry.

Foundations of Pharmacology and Pharmaceutical Science

Learn about the key concepts and principles that underpin the science of pharmacology and consider how drugs interact with targets in the body to cause their physiological effects, as well as how our bodies interact with these drugs.

Cognitive and Social Psychology

Explore cognition – how we process and perceive the world around us – and social psychology – how we understand ourselves and the social world. You will see how personality, individual differences and intelligence impact our mental processes and are expressed in our thoughts, feelings and behaviours.

Neuroscience (continued)

Year 2

Core modules

Fundamentals of Neuroscience

Understand the structure and function of the nervous system: how cell types work together, the inner workings of single neurons and synapses and how brain areas process information and produce behaviour.

Pharmacology

Delve into how drugs affect the body and how the body affects drugs. Explore the pharmacokinetic parameters of absorption, distribution, metabolism and excretion, which will equip you with an understanding of critical concepts in pharmacology.

Cognitive Psychology

Uncover how the brain processes information, how we remember, learn, focus our attention and make sense of what we see and hear. Topics include memory and categorisation, face recognition, auditory processing and how our senses work together.

Molecular Genetics

Gain a deep understanding of the molecular processes that underpin the normal function of genes and genomes and how these processes can become disrupted in disease.

Drug Design and Development

Learn about different approaches for finding new drugs: from high-throughput screening of compound libraries to focused screens, virtual screens, and structure-based drug design. Explore the challenges in assessing the efficacy and safety of new drugs.

Cognitive Neuroscience

Understand the fundamental neural principles underlying cognition and behaviour, with an emphasis on perceptual, cognitive, and emotional processes. Learn about the anatomy, physiology, and functions of the nervous system, as well as theories and neuroscientific research methods.

Year 3

If you choose our Neuroscience BSc Study Abroad or Placement Year variants, you will study the modules detailed below when you return to Lancaster for your fourth year of study.

Core modules

Biosciences Research Project

The research project provides you with first-hand experience of research and the opportunity to be immersed in an area of work. You'll receive one-to-one support from a member of academic staff and receive training in research methods to support your investigation.

Advanced Neuroscience - Circuits and Systems

Learn how brain circuits are set up and how they work to process information and produce behaviour, giving you a deep and broad understanding of nervous system function.

Global Health Challenges

Whilst scientific advances have led to improvements in human health over the past century, significant challenges remain. You will study challenges of global significance that will provide you with a real-world perspective on human health and the multi-disciplinary and collaborative approaches required to tackle these.

The Lying Brain: The Neuroscience of Hallucinations, Delusions, and Disorders of Consciousness

You only know what's real because your brain tells you it is real. But what if your brain is lying to you?

Examine hallucination, delusions and disorders of consciousness in the neurotypical and pathological population. Critically review findings from neurology, neuroscience, neuropsychology, neuropsychiatry and the scientific accounts of these experiences.

Optional modules currently include:

+ Advanced Drug Design and Development
+ Cognition: From Laboratory Research to Everyday Behaviour

Please see our website for further information about the options available.

Year 4 (MSci students only)

Core modules

Biosciences Integrated Master's Research Project

The project enables you to build on the research skills you developed during your third-year project, but further enhances your independence and experience of working in a research environment.

Brain Disorders

Study a range of brain disorders that typically emerge at different points during childhood, adolescence, adulthood, and old age. Using examples such as schizophrenia and Alzheimer's disease, you'll learn how genetic and environmental factors lead to the dysfunction of brain cells and associated pathologies.

Drug Development from Concept to Clinic

Learn how current and emerging tools, such as genomics, virtual design, high-throughput screening and safety testing, are used to allow new medicines to reach clinical trials and regulatory approval.

Optional modules currently include

+ Emerging Therapeutics in Immunology
+ Life Cycle of Clinical Research

Please see our website for further information about the options available.

Hello *future!*

Neuroscience is an exciting, dynamic and evolving field, leading to a range of possible career options. You will become competent in experimental design, gain practical lab skills and become adept in statistical analysis and data recording.

You will graduate with a scientific understanding of neuroscience as well as the confidence and experience to stand out to employers.

Potential career paths

You may consider roles such as*:

+ Research and Development Scientist
+ Consultant for Pharmaceutical and Biotech Industry
+ Medical Science Liaison
+ Medical Doctor (following a graduate-entry degree in medicine)
+ Neuroscientist
+ Science Policy Manager
+ Science Teacher
+ Science Communications and Public Engagement

*Some of these roles may require further training.

Further study and training

Our neuroscience degree is also an ideal basis for applying for a highly sought-after place on the NHS Scientist Training Programme. For more details on specialisms and entry requirements, please visit the NHS website.

Postgraduate study in an area you are passionate about is another option for our Neuroscience graduates, including master's and PhDs in fields such as Alzheimer's or Parkinson's Disease, autism, ADHD or ageing.

“I particularly appreciated the level of support and guidance I received from one-to-one sessions with an expert in the field.”

MSc Clinical Neuroscience

Lancaster University

Philippa

BSc Psychology

I loved studying Psychology at Lancaster. I really enjoyed the dissertation project, as it was great to lead my own research on a topic that really interests me. I particularly appreciated the level of support and guidance I received from one-to-one sessions with an expert in the field.

In September, I'll be moving to London to do a master's degree in clinical neuroscience. I'm very grateful for all the skills and experience I gained at Lancaster. The neuroscience modules and lecturers gave me the passion for this subject, but I also gained broader skills through essays, critical reviews, group projects and my dissertation, that I have no doubt will be invaluable when I start the course.

Through taking part in a placement, and later a research assistant role at Lancaster's BabyLab, I was able to demonstrate my skills in time management, independence, working in a multi-disciplinary team, organisation, and working with participants, which will definitely be helpful when completing the clinical placement as part of my master's degree course.

Find out more

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