

Lancaster
University



Biology

Undergraduate Degrees 2026

Play a role in *tackling* the world's *greatest* challenges



Studying a degree in biology at Lancaster University is more than an academic journey, it's an opportunity to explore life in all its complexity and contribute to solving major global issues.

You'll dive deep into the fascinating science of living systems, from molecular biology to ecosystems, gaining the practical abilities and critical-thinking mindset needed to make a real impact.

Our biology degree programmes are taught by two specialist departments: the Department of Biomedical and Life Sciences and Lancaster Environment Centre. You will learn from academics in both departments whose expertise spans the full breadth of biology.

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

With access to outstanding lab spaces, inspiring fieldwork trips 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.



Director, Undergraduate
Biology

Professor Martin McAinsh

Biosciences at Lancaster

Biology 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 level entry requirements

Degree title		Degree (Hons)	UCAS code	Course duration (years)	Typical A level offer
Biology		BSc Hons	3 years	C100	AAB#
Biology		MSci Hons	4 years	1M66	AAA#
Biology (Placement Year)		BSc Hons	4 years	C104	AAB#
Biology (Study Abroad)		BSc Hons	4 years	C105	AAB#
Biology (with a Foundation Year)		BSc Hons	4 years	C10F	CCC##



Study abroad available



Industry placement available

These courses require a GCSE in English Language (grade 4/C) and Mathematics (grade 5/B); Your A levels must include Biology and one other science from Chemistry, Computing, Environmental Science, Geography, Geology, Human Biology, Mathematics, Physics or Psychology.

This course requires a GCSE in English Language (grade 4/C) and Mathematics (grade 6/B). A levels should include Biology, and one other science subject from: Chemistry, Mathematics or Physics.

BTEC and International Baccalaureate (IB) entry requirements

Biology degree	BTEC	IB
MSci	DDD†	36 points≈
BSc	DDD†	35 points≈
With Foundation Year	MMM††	27 points≈≈

†Must include sufficient Biology and other science content. We require Distinction in the majority of relevant science units.

††MMM considered on a case-by-case basis, and to include sufficient science units at Distinction.

≈16 points from the best 3 HL subjects including 6 in Biology HL and 6 in one other HL science subject from Chemistry, Computer Science, Geography, Mathematics, Physics, or Psychology

≈14 points from the best 3 HL subjects including 4 in Biology HL and 4 in one further HL science subject from Chemistry, Mathematics or Physics

Biology is the *most flexible* of our biosciences *degrees*



Whether you want to study the full range of life on earth, or focus your studies on the areas that most interest you, biology at Lancaster offers you the freedom and flexibility to follow your passions.

If you're looking for a broad education, exploring a wide range of themes in biology, from the cellular level to whole organisms and ecosystems, then you can choose an interdisciplinary selection of our core and optional modules.

Or, if you already know where you want to specialise, you can study modules that explore the aspects of biology that fascinate you most in a greater depth.

The choice is yours

Find out more about our core and optional module choices on pages 14 to 16.

An interdisciplinary degree

At Lancaster, you will be taught by two departments - Biomedical and Life Sciences and Lancaster Environment Centre.

This means that you will benefit from specialist facilities and equipment and learn from experts in their fields, whose research will feed into your education.

Practical study

You won't just learn in lecture theatres at Lancaster! We believe biology is best appreciated through hands-on experience in the field, our teaching laboratories or computer classes.

This means you can put theory into practice and gain a deeper understanding of the subject, whilst developing skills for your future career.

Integrated master's (MSci) study

If you choose our four-year biology integrated master's, (MSci) you will gain additional practical skills by undertaking an extended research project in Year 4. You can also tailor your module choices to the interests you have developed during your first three years of study.

Academic support

You'll be fully supported to achieve your academic potential. You will meet with your academic tutor regularly to discuss your academic progress, and our student learning developers can help you to improve your academic skills.

“

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”

Sarah, first-year student

Biology BSc

One of the best things about biology is that there is no average day!

Each week, I have lectures in subjects such as ecology or microbiology, as well as a couple of workshops and practicals to develop my subject knowledge.

As a first-year student living on campus, the lectures are never more than ten minutes away which is super handy!

After lectures, I normally head to the library to review my notes and maybe do some coursework.

I spend my evenings socialising. I live in a flat of 12 people, so I always have plenty of people to catch up with. Being a member of three societies means my day is always varied, from socials in town to ballroom dance lessons!

My course highlights have been field trips in Cornwall and the Lake District. I learnt so many skills and had the best time!

Real-world experience

Studying our Biology (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 your academic knowledge translates into the real world.

Placements are paid professional-level roles, lasting between ten and 12 months and could be in the public sector, industry or charitable organisations.

We will use all reasonable effort to support you to find a suitable role for your placement year, drawing on our strong links with organisations and industry, including the Environment Agency, the UK Centre for Ecology and Hydrology and the NHS.

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.

Our biology students have secured placement positions with many top organisations, including:

- + Microbiology Intern at Reckitt Benckiser
- + Environmental Hazards Placement at the Environment Agency
- + Scientific Services and Operations Intern at Pfizer



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 secure a job offer after graduation!

Biosciences internships at Lancaster

You can also apply for a paid summer internship in either Biomedical and Life Sciences or Lancaster Environment Centre. Both will help you to gain additional research experience. Past interns have worked on research topics including microbiology, infectious diseases and applying 'The Internet of Things' technology to the agricultural sector.

Learn more about our
Biology (Placement Year) BSc





Freya, graduate

Biology BSc

MSc by Research, Plant Biology

Studying biological sciences at Lancaster University allowed me to tailor my module choices towards my career goals.

Throughout my degree, my academic tutor and lecturers gave me critical feedback which improved my writing and analysis skills. I was able to pick more practical courses that gave me laboratory experience, and, following my undergraduate dissertation, I was offered a Research Studentship in Lancaster's photosynthetic biology lab.

This experience gave me valuable connections in the field and led me to stay at Lancaster to study an MSc by Research in Plant Biology. I then spent a year working in an accredited laboratory, processing environmental samples.

I now work as a Research Associate in a plant cell culture start-up, using the laboratory and analytical skills that I honed during my degree.



Your global *experience*

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

It will see you spend your third year studying at one of our trusted partner institutions in either North America or Australasia.



Find out about our Biology (Study Abroad) BSc

During your year abroad, you'll experience a different culture and society and return with a more global world view. It's also a chance to gain new perspectives on biology.

You will choose specialist modules relating to your degree. You might also have the option to study modules from 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 Biology BSc.

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

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.





Niall, *second-year student*

Biology BSc

My favourite things about studying biology at Lancaster University are the incredible practicals and field trips.

For me, the highlights have been fish dissection, soil sampling at a local estuary and using a combination of microscopy and biochemical tests to identify different bacterial species.

I find the practicals extremely enjoyable as they enable me to test the skills and procedures covered in the lectures.

I am really looking forward to my third year, especially the research project, which will allow me to further develop my knowledge and skills around an area of interest to me.



A *hands-on* degree

Our state-of-the-art life science teaching laboratories are where you'll put the knowledge you've acquired from lectures and tutorials into practice, and where you'll get to know your coursemates and academics while developing the core practical skills of a modern biologist.

Core techniques and equipment

You will learn to use sophisticated equipment and carry out techniques to understand molecules, cells and organisms.

Our teaching labs are well-equipped with all the resources you need to learn both core and advanced techniques applicable to your degree programme. These include:

- + microscopes
- + spectrophotometers
- + centrifuges
- + DNA, RNA and protein gel running and visualisation equipment
- + Polymerase chain reaction (PCR) thermocyclers
- + cell culture incubators
- + waterbaths
- + 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 labs and facilities:

VR total immersion lab

You'll benefit from unique learning spaces like our VR total immersion lab, which offers an interactive way to explore complex biological systems and environments in three dimensions - helping you to visualise processes in cell biology, ecology, and anatomy in new and engaging ways.

Bio-imaging suite

The cutting-edge microscopy in our bio-imaging suite puts you at the forefront of bioscience research.

Our facilities provide insights into biological questions ranging from human disease to global change biology, allowing you to study live cells over an extended period. This technique is often used by our integrated master's students in their fourth-year research projects.

Plate reader facility

Our plate reader facility includes instruments such as the Tecan MNano, MPlex, Infinite M200 Pro, Spark, Dionex Synergy, and Victor plate reader. These allow you to measure absorbance, fluorescence, or luminescence across multiple samples simultaneously, gaining experience in quantitative assays used to study enzyme activity, protein interactions, and cellular responses.



Controlled environment plant growth

Our suite of purpose-built glasshouses, walk-in growth rooms and high-specification growth chambers provide facilities dedicated to a wide range of plant science and ecological teaching and research.

In your undergraduate project you can take advantage of the range of the conditions available in these growth environments where climate, temperature, watering, light quality and day length can all be precisely controlled.

Soils and ecosystem ecology laboratory

This is where we study novel aspects of plant-soil interactions, soil biogeochemistry and their relationship to ecosystem ecology and conservation.

Fly labs

Our research facility where we study the fruit fly, *drosophila melanogaster*, as a model organism for biological research. These labs allow us to use the fruit fly to study various aspects of biology, including aging, brain function, and behaviour.

Wolfson plant phenotyping centre

An exciting, £1m controlled environment for precision plant growth with environmental settings that can replicate a global range of possible growth conditions. The centre also features cutting-edge robotic systems to rapidly monitor whole plant growth, function, and stress and disease tolerance.

A cellular and biochemical suite includes the latest microscopy and biochemistry tools so you can assess photosynthetic efficiency at a fine scale.

Learning on location

Fieldwork is an exciting opportunity to explore locations in the UK and overseas and gather and analyse your own research data.

We make the most of Lancaster's fantastic location. Our local surroundings are a 'living laboratory' of coasts, moorland, mountains and rivers which provide an unrivalled environment for studying diverse ecosystems.



Isle of Cumbrae, Scotland

This marine ecology field course, based on the Isle of Cumbrae in the Firth of Clyde is a brilliant opportunity to study intertidal and subtidal ecosystems.

You will explore rocky shores, sandy beaches and subtidal habitats, assessing biodiversity, species interactions, and environmental gradients.

You'll develop your skills in ecological surveying, species identification, habitat mapping, and experimental design. You will also apply statistical techniques to analyse ecological data and interpret patterns in marine community structure and dynamics.

This module is an opportunity to gain practical expertise in marine ecological research and experience in conducting independent scientific investigations in real-world environments.



Eden Project, Cornwall, UK

This week-long residential field trip explores the flora, fauna, and soil ecology of Cornwall, and the conservation efforts underway to restore the natural habitats of this unique region.

Guided by staff from Lancaster University and the Eden Project, you will experience various activities focused on biodiversity and conservation. This includes a tour of the Eden Project and plant and nesting bird surveys, as well as studying examples of conservation in practice, such as 'A history of mining,' 'Lizard Peninsula coastline vs. heathlands' and 'Roseland Peninsula marine habitats'.

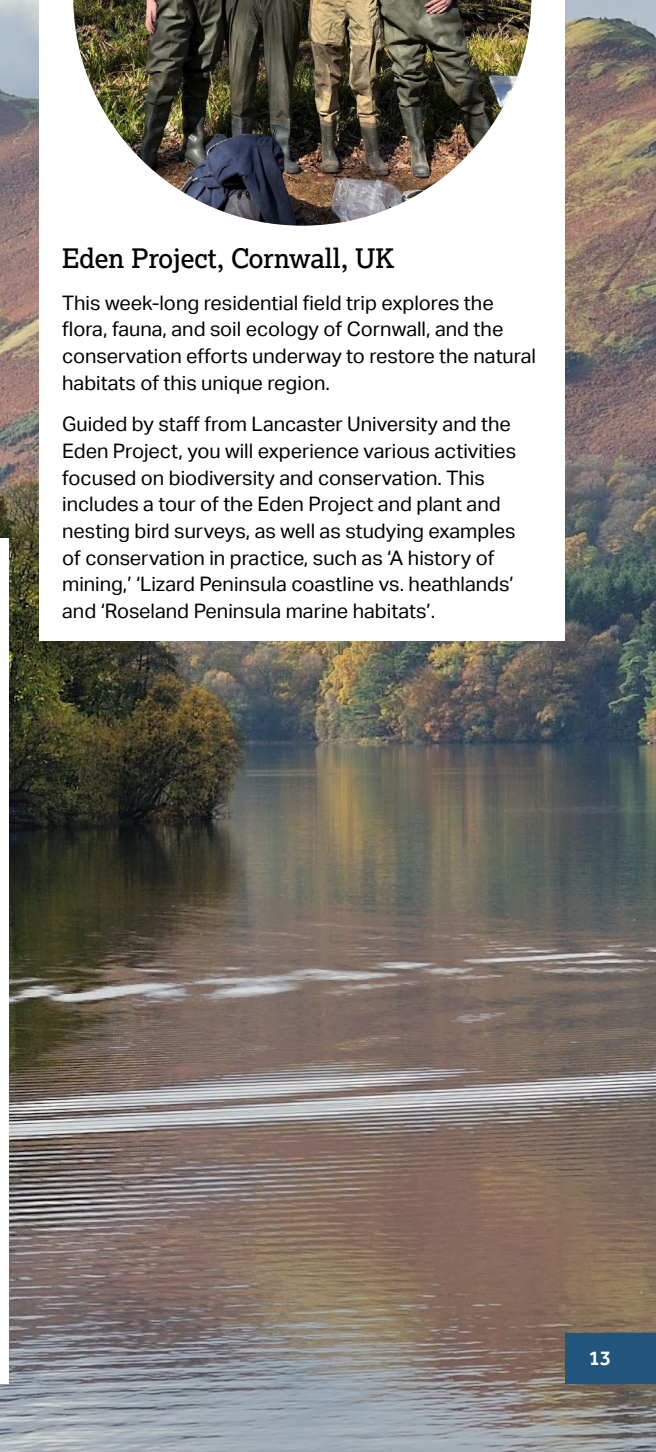


Great Rift Valley, Kenya

You'll explore the staggering biodiversity of local aquatic and terrestrial ecosystems of this beautiful landscape, and consider how to monitor and protect it.

Working with experts in African ecology, you will gain first-hand experience of the ecological processes and conservation issues common to the tropics.

Together, we will evaluate the challenging balance between tropical conservation and human activity.



Course structure

BSc Hons

MSci Hons

Tailor your degree to suit your passions

We have carefully designed our biology degrees to allow you choice and flexibility while ensuring you gain a firm foundation in the core principles that underpin this interdisciplinary subject.

Our core modules are split into two main groups: those with a molecular and cellular biology focus; and those with an organismal and environmental focus.

Years 1 and 2

In your first and second years, you'll choose one of these two groups of core modules.

You will then select from a range of optional modules which span the full range of biology.

If, for example, you choose to study core modules in molecular and cellular biology, you might wish to take a deeper dive into this area of biology by choosing optional modules that also explore molecular and cellular biology.

Or, you might choose to take a broader view of the subject by choosing optional modules in organismal and environmental biology.

Likewise, you might choose core modules in organismal and environmental biology and complement them with optional modules on the same theme. Or, you might go for optional modules in molecular and cellular biology.

Year 3 and beyond

In your third year – and fourth year if you study an integrated master's degree in biology – you will have an even greater ability to tailor your degree to your passions.

 molecular/cellular modules

 organismal/environmental modules

Year 1

Core Modules

Choose core modules in either molecular and cellular biology or organismal and environmental biology, as well as a range of optional modules.

Introduction to Biosciences (core)

Build the essential skills required to study the biosciences. Gain hands-on experience of laboratory skills and equipment and learn how to conduct ethical research, analyse data and present your findings.

Molecules to Cells (core)

Learn how organisms synthesise simple organic molecules to store energy and genetic information, how they copy the genome to next-generation cells and how defects in this process can promote cancer.

Evolutionary Biology (core)

We introduce key concepts in evolution, focusing on natural selection, sexual selection, coevolution, biodiversity and adaptation. Learn about phylogenies, the study of evolutionary trees, which helps trace the evolutionary history of species.

Genetics and Biotechnology (core)

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

Microbes, Pathogens and Immunity (core ; optional)

Learn about harmful and beneficial microbes and how the human host responds to pathogenic microorganisms, the intricate relationship between pathogens and human health, and how pathogens cause disease.

Biodiversity and Global Change (core ; optional)

Explore how biodiversity is generated, maintained and distributed globally. Examine ecological and evolutionary drivers of biodiversity and human-induced pressures such as climate change. Understand species' adaptations to these challenges and conservation strategies.

Optional modules currently include:

+ Foundations of Pharmacology and Pharmaceutical Science  

+ Ecology Field and Data Skills  

Please see our website for full details.

Core Modules

Choose core modules in either molecular and cellular biology or organismal and environmental biology, as well as a range of optional modules.

Microbiology and Immunology

(core ; optional )

Explore how our indigenous microbes help with physiological functions, protect us from pathogens and how they are tolerated by our immune system. Learn about the pathogenic mechanisms of microbes, our natural defences, and examine infection control interventions.

Cell and Developmental Biology

(core ; optional )

Discover how cells respond to environmental and developmental signals. Understand the dynamic interplay between cells and their surroundings and how disruptions in these mechanisms contribute to developmental disorders and disease.

Molecular Genetics (core ; optional)

Learn about the molecular processes that underpin the normal function of genes and genomes. You'll gain an insight into the crucial role of epigenetics in genome function, how mutations arise in genomes, and their effects on human health.

Evolution (core ; optional)

Discover how animals and plants are shaped by their environments and their predators, parasites, competitors, or kin. Explore how natural and sexual selection influence individual traits and behaviour, how these adaptations affect entire populations, and the evolutionary forces that drive biodiversity and behaviour across ecosystems.

Plant Biology (core ; optional)

Explore the diversity of photosynthetic organisms and their interactions with the environment, with an emphasis on land plants. Topics include insights from the fossil record, functional diversity in modern ecosystems, and the role of photosynthesis in global nutrient cycles.

Vertebrate Biology (core ; optional)

We will introduce you to a range of forms and functions in vertebrates, putting physiological and behavioural processes firmly within a whole organism and evolutionary context. You will compare and contrast different groups and their adaptations, and critically evaluate hypotheses to explain vertebrate diversity. Experience a field trip and develop essential skills in critical discussion, data analysis and interpretation, and science communication.

Optional modules currently include:

- + Fundamentals of Neuroscience  
- + Biochemistry of Cellular Metabolism  
- + Pharmacology  
- + Biological Research Design and Delivery  

- + Ecology and Conservation  
- + Life Cycle of Proteins  
- + Drug Design and Development  
- + Ecology Field Skills  

Please see our website for full details.

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.



Year 3

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

In Year 3 you will carry out your biosciences research project and take either:

+ Interdisciplinary Conservation Science 

or

+ Global Health Challenges 

All other modules are optional.

Core modules

Biosciences Research Project

Gain first-hand research experience and the opportunity to immerse yourself in an area of biology that fascinates you. You'll receive one-to-one support from a member of academic staff and training in research methods to support your investigation.

Optional modules currently include:

- + Medical Genetics and Clinical Immunology
- + Cancer Biology and Therapeutics
- + Protein Bioinformatics
- + Advanced Drug Design and Development
- + Advanced Neuroscience - Circuits and Systems
- + Animal Behaviour
- + Interdisciplinary Conservation Science
- + Global Health Challenges
- + Biology of Ageing
- + Cell Signalling in Health and Disease
- + Ethics in Biomedicine
- + Coral Reef Ecology
- + Land Use and Sustainable Agriculture
- + Host Parasite Interactions
- + Marine Ecology Field Course
- + Tropical Biology and Conservation Field Course

Please see our website for full details.

Year 4

For students studying biology integrated master's degree (MSci) only.

With just one core module – your fourth-year research project – your fourth year allows you freedom to explore the subjects that fascinate you.

Core module

Biosciences Integrated Master's Research Project

You will build on the research skills you developed during your third-year project while further enhancing your independence and experience of working in a research environment.

Optional modules currently include:

- + Cancer - Bench to Bedside
- + Brain Disorders
- + Emerging Therapeutics in Immunology
- + Ecological Monitoring Techniques
- + Aquatic Ecology
- + Agriculture, Climate Change and Food Security
- + Drug Development from Concept to Clinic
- + Habitat Management
- + Conservation Science
- + Neglected Tropical Diseases

Please see our website for full details.







Hello *future!*

From jungles to oceans, hospitals to classrooms, a degree in biology opens a world of career opportunities.

Perhaps you'll choose modules related to biomedicine and go for a career in the biosciences such as:

- + Biotechnologist
- + Microbiologist
- + Research Scientist (life sciences)
- + Forensic Scientist

Or, you might choose a career focussing more on ecology and conservation, such as:

- + Marine Biologist
- + Nature Conservation Officer
- + Soil Scientist
- + Water Quality Scientist
- + Wildlife Conservationist
- + Zoologist

And, if you don't know where your interests lie right now, you will have time and space to explore these throughout your degree.

Your transferable skills and analytical training will also set you up for careers in other fields such as management, teaching, marketing and finance.

Our graduate destinations

Our biology graduates have gone on to successful careers including:

- + Microbiologist
- + Food Technologist
- + Environmental Consultant
- + Research Ecologist
- + Laboratory Technician
- + Teacher
- + Scientist within the biotechnology industry

Developing your employability

We are dedicated to ensuring that you gain a highly reputable degree. We are also committed to ensuring that you graduate with relevant life and work-based skills.

Because professional skills are embedded throughout our curriculum, you will develop wider expertise valued by employers including communication, teamworking and negotiation, project management and problem-solving and ethical and environmental awareness.



14TH

for student satisfaction with teaching
in Biological Sciences

Guardian University

Guide 2025



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The information provided in this publication relates primarily to 2026 entry to the University and every effort has been taken to ensure the information is correct at the time of printing in June 2025. The University will use all reasonable effort to deliver the course as described but the University reserves the right to make changes after going to print. You are advised to consult our website at: lancaster.ac.uk/study for up-to-date information before you submit your application. Further legal information may be found at: lancaster.ac.uk/compliance/legalnotice.