Life Sciences at Glasgow

With hands-on experience and flexible degrees, studying at the School of Life Sciences challenges you to apply the theory of the classroom in practical situations, in the lab or the field. We offer an extremely wide range of courses in human and animal biology, biomolecular sciences, infection and immunity.

Our aim is to offer internationally competitive degrees that meet the needs of today’s science graduates. To achieve this aim, we utilise the research and teaching strengths of the College of Medical, Veterinary & Life Sciences to provide our graduates with the skills necessary for success in any chosen career.

We have a large and diverse student body, which includes Scottish, UK, EU and international students. We regularly welcome visiting and exchange students, and we believe in the many advantages our students gain from adding an international dimension to their studies.

Strengths of the school include:
- substantial flexibility within our range of degree programmes
- an opportunity for you to gain experience working or studying abroad
- annual field courses to destinations around the globe
- access to the University’s world-renowned museums of Anatomy and Zoology
- top-quality student experience.

Our museums

The University’s Hunterian Museum is home to over a million magnificent items, ranging from meteorites to mummies and Mackintosh. The Zoology and Anatomy museums are a fantastic resource for Life Sciences students.

Zoology Museum
With almost two million animal species described so far – and many more to discover – we can only hope to give our visitors a taste of the range of animal variety. Perhaps unexpectedly, the museum also maintains displays of live animals – a small selection of snakes, lizards, frogs and invertebrates is on show.

Anatomy Museum
William Hunter’s remarkable specimens show all aspects of human form and function and reflect his lifelong career as a pioneering anatomist and obstetrician. Largely used for teaching and research, the collections have considerable importance in the history and development of medicine.

How to apply

For full-time study you must apply through the Universities & Colleges Admissions Service (UCAS). See ucas.com.
Our programmes

A degree at the School of Life Sciences offers you the flexibility to study a range of subjects in your first two years, giving you a breadth of experience, before specialising for your Honours years.

Degrees in Life Sciences are all offered as single Honours. In first year, you’ll normally select three Level-1 courses, according to your interests and long-term plans. These will include Biology and a Chemistry-based course. Although your interests are likely to be science subjects, you may also be able to choose an Arts or Social Sciences subject as a third choice, subject to availability.

In second year, you may select all of your courses from Life Sciences or combine them with additional Level-1 or Level-2 courses.

At the end of second year, most of our students progress to a Bachelor of Science with Honours degree (four years). We also offer a Master in Science Advanced Honours degree (five years) and a Bachelor of Science designated degree (three years).

Degree structure

Example of a BSc single Honours degree path (e.g., BSc with Hons in Physiology):

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Honours degree destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select three subjects according to your interests</td>
<td>Continue with at least one of your first year subjects</td>
<td>Study your chosen degree subject exclusively</td>
<td>Life Sciences Project (40 credits)</td>
<td>BSc with Honours in Physiology</td>
</tr>
<tr>
<td>Biology 1A+1B (2x20 credits)</td>
<td>Fundamental Topics in Biology 2X (30 credits)</td>
<td>Physiology 3A (60 credits)</td>
<td>Compulsory “Core Skills” course (20 credits)</td>
<td></td>
</tr>
<tr>
<td>Chemistry or Science Fundamentals (40 credits)</td>
<td>Human Biological Sciences 2C (30 credits)</td>
<td>Physiology 3B (60 credits)</td>
<td>Life Sciences Honours Options (3 x 20 credits)</td>
<td></td>
</tr>
<tr>
<td>40 credits from other courses</td>
<td>60 credits in Biology or other courses</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ANATOMY

Anatomy is the scientific study of the human body in relation to its function.

BSc (Hons) (B110): Four years
MSci: Five years

Note
You may apply for transfer to the MSci mid-programme. MSci applications are NOT taken via UCAS.

Year 1
You will be given a general introduction to all aspects of modern biology and encouraged to acquire general scientific skills.

You will also study other subjects in years 1 and 2.

Year 2
In semester 1, you will develop your knowledge of fundamental aspects of biology. In semester 2, you will be introduced to specialist subject areas according to your interests (e.g., animal biology; biomolecular sciences; human biology; infection biology).

Years 3, 4 and 5
If you meet the requirements for progress to Honours (years 3 and 4), you will take courses that will provide you with a more detailed understanding of human anatomy, histology and embryology. Covering many organ systems including the upper limb, central nervous system, and cardiovascular system. You will also study the related physiology, pharmacology and pathology to set the anatomy in a wider context.

Practical work is very important in anatomy and you will gain hands-on laboratory experience of techniques used by modern anatomists, including human dissection, histology and microscopy (light and electron microscopy), and molecular techniques.

You will also be encouraged to develop transferable skills such as written and oral communication, data analysis and critical analysis of published research to help prepare you for a career as a scientist.

In year 4 a major component of your studies is to complete an independent research project. You will also study some anatomical topics in more depth, in areas such as clinical applied anatomy, problems in lower limb anatomy.

BIOCHEMISTRY

Biochemistry combines the study of the biology and chemistry of living organisms to allow us to understand the molecular basis of life.

BSc (Hons) (C700): Four years
MSci: Five years

Note
You may apply for transfer to the MSci mid-programme. MSci applications are NOT taken via UCAS.

Year 1
You will be given a general introduction to all aspects of modern biology and encouraged to acquire general scientific skills.

You will also study other subjects in years 1 and 2.

Year 2
In semester 1, you will develop your knowledge of fundamental aspects of biology. In semester 2, you will be introduced to specialist subject areas according to your interests (e.g., animal biology; biomolecular sciences; human biology; infection biology).

Years 3, 4 and 5
If you progress to Honours (years 3 and 4) you will focus on proteins and nucleic acids as the key molecules in understanding living organisms including viruses, bacteria, plants and animals, including humans. There is a strong emphasis on practical laboratory work, allowing you hands-on experience of major techniques including DNA technology, characterisation of proteins and bioinformatics. Your fourth year will feature a research project, a dissertation, and advanced-level Honours option courses.

Biochemistry can be taken as an MSci, which includes an additional placement year, between the third and final years of the degree. This is normally spent doing research in industry or an organisation such as a research institute in the UK or overseas.

The final-year optional courses may be subject to change each year. Places on particular optional courses may be limited.

Why choose Glasgow?

You will benefit from access to state-of-the-art facilities and a dedicated Anatomy Museum, all housed in the Anatomy Building.

Why choose Glasgow?

You will have the opportunity to run your own experiments, collate and analyse your data and report results.
GENETICS

Understanding genetics and molecular genetics is fundamental to all aspects of biology, modern medicine and biotechnology. Genetics affects all aspects of life. A Genetics degree opens up a whole world of job opportunities in science, industry, healthcare, forensics, and beyond.

BSc (Hons) (C400): Four years
MSci: Five years

You may apply for transfer to the MSci mid-programme. MSci applications are NOT taken via UCAS.

Entry requirements
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Final-year optional courses may change and places may be limited. Students are not guaranteed a place on a particular final-year option.

Career prospects
Recent graduates have taken research, support or leadership roles in academia, industry and public services. Many graduates have entered teaching, medicine, management and journalism.

Why choose Glasgow?
You will undertake laboratory training and acquire important transferable skills including problem solving, writing and presenting of reports, and critical analysis of written reports and data.

HUMAN BIOLOGY

Human biology explores the scientific principles that underlie investigations into the function of the human body from a molecular and cellular level to a whole-body level. It examines the way in which the body works in health, during normal healthy ageing and disease.

BSc (Hons) (C1W3): Four years
MSci: Five years

You may apply for transfer to the MSci mid-programme. MSci applications are NOT taken via UCAS.

Entry requirements
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Final-year optional courses may change and places may be limited. Students are not guaranteed a place on a particular final-year option.

Career prospects
This is a new programme and it is anticipated that graduates will be well qualified to seek employment in a broad range of scientific careers in the NHS, in commerce, education and management.

Why choose Glasgow?
You’ll be taught by world-class researchers from across our internationally renowned Medical, Veterinary & Life Sciences research institutes.

glasgow.ac.uk/ug/genetics  lifesci-enquiries@glasgow.ac.uk

* Discover Uni (discoveruni.gov.uk), January 2020
HUMAN BIOLOGY & NUTRITION

Human Biology & Nutrition will equip students with a critical understanding of normal physiology and homeostatic mechanisms, and this will be related to both normal and disease-related conditions.

Year 1
You will be given a general introduction to all aspects of modern biology and encouraged to acquire general scientific skills.
You will also study other subjects in years 1 and 2.

Year 2
In semester 1, you will develop your knowledge of fundamental aspects of biology. In semester 2, you will be introduced to specialist subject areas according to your interests.

Year 3 and 4
If you progress to Honours (years 3 and 4), you will take courses which allow you to develop a broad understanding of human biology through the study of the anatomy and physiology of body systems, and the assessment of cardiovascular and respiratory function, as well as introductory nutrition.

In year 4, you will take three compulsory courses: the anatomy and physiology of body systems, and the understanding of human biology through the study of infectious disease, vaccination, cancer, rheumatoid arthritis, cardiovascular diseases, neuroinflammation and other autoimmune and inflammatory pathologies.

Entry requirements
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Career prospects
This degree will provide you with a variety of career opportunities. You may choose to go into health promotion, lifestyle consultancy, food industry related jobs or a range of other nutrition focused careers. Graduates may continue their education to Masters or PhD level. Graduates may also apply for professional postgraduate programmes such as dietetics and teaching.

Why choose Glasgow?
You’ll be taught by world-class researchers from across our internationally renowned Medical, Veterinary & Life Sciences research institutes.

IMMUNOLOGY

Immunology is the study of the body’s defence (immune) system and how it protects from, and contributes to, disease.

BSc (Hons) (C184): Four years
MSci: Five years
You may apply for transfer to the MSci mid-programme. MSci applications are NOT taken via UCAS.

Year 1
You will be given a general introduction to all aspects of modern biology and encouraged to acquire general scientific skills.
You will also study other subjects in years 1 and 2.

Year 2
In semester 1, you will develop your knowledge of fundamental aspects of biology. In semester 2, you will be introduced to specialist subject areas according to your interests (eg animal biology; biomolecular sciences; human biology; infection biology).

Years 3, 4 and 5
If you progress to Honours (years 3 and 4), you will attend lectures covering the whole field of immunology as well as lectures on molecular biology, statistics and data analysis. A series of practical classes will increase familiarity with many current immunological techniques.

In year 4 you will study key concepts of immunology in greater depth. You will undertake a supervised laboratory research project in our state-of-the-art research labs. You will also attend the three-day Reading Party at The Burn, near Edzell in Angus, where you will present data related to your research project.

The Honours programme is delivered by research-active scientists and clinicians, and provides a full understanding of how the immune system works under both physiological and pathological conditions, covering topics such as infectious disease, vaccination, cancer, rheumatoid arthritis, cardiovascular diseases, neuroinflammation and other autoimmune and inflammatory pathologies.

Immunology can be taken as an MSci, which includes an additional placement year, between the third and final years of the degree. This is normally spent doing full-time research in industry, academia or another approved placement provider in the UK or overseas.

The list of available final-year optional courses is subject to change each year. In addition, places in optional courses may be limited, so students are not guaranteed a place on a particular final-year option.

Entry requirements
Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate. Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Career prospects
Many graduates continue to postgraduate Masters or PhD studies, or enter medicine, dentistry or veterinary medicine. Research-based career destinations include universities and research institutes and industry, and clinical research and diagnostic work in hospital laboratories. Many go on to a career in other fields of science, such as infection biology, and cancer or cardiovascular research, or areas such as teaching, scientific journalism, business and the Civil Service.

Why choose Glasgow?
This is one of the few programmes in the UK which offer an Honours degree focusing solely on immunology for two years (years 3 and 4).
**MARINE & FRESHWATER BIOLOGY**

Marine and freshwater biology is the study of the world’s aquatic environments.

**BSc (Hons) (C164): Four years**
**MSci: Five years**

You may apply for transfer to the MSci mid-programme. MSci applications are NOT taken via UCAS.

**Year 1**
You will be given a general introduction to all aspects of modern biology and encouraged to acquire general scientific skills.

**You will also study other subjects in years 1 and 2.**

**Year 2**
In semester 1, you will develop your knowledge of fundamental aspects of biology. In semester 2, you will be introduced to specialist subject areas according to your interests (e.g., animal biology; biomolecular sciences; human biology; infection biology).

**Years 3, 4 and 5**
If you progress to Honours (years 3 and 4) you will study a wide range of topics including animal diversity and its classification; ethical aspects of scientific work; evolution and ecology; wildlife conservation; animal behaviour and animal welfare; environmental management (aquatic pollution); and aquatic environments. There are also visits to hatcheries, fish farms and aquaculture projects.

Another major component of your final year is an independent research project, which can be carried out in the laboratory, or in the field, at home or abroad. You can take Marine & Freshwater Biology as an MSci, which includes an additional placement year, between the third and final years of the degree. This is normally spent doing research in industry or some other organisation such as a research institute in the UK or overseas.

The available final-year optional courses are subject to change each year. Places on optional courses may be limited, so students are not guaranteed a place on a particular final-year option.

**Entry requirements**
Our programme webpages advertise the most up-to-date detail on our entry requirements for 2022-23 entry at glasgow.ac.uk/undergraduate.

Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

**Career prospects**
Your qualification is an entry point to a wide range of careers that demand the analytical and science-based communications skills developed during this degree programme. Our graduates move into many careers including conservation, environmental management, fisheries and aquaculture. Many choose to continue on to postgraduate study.

**Why choose Glasgow?**
We have an Exploration Society to help you organise and conduct scientific expeditions to all parts of the world.

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**MICROBIOLOGY**

Microbiology is the study of all aspects of microorganisms such as bacteria, viruses and parasites including their identification, transmission, interaction with the host in disease and the growing problem of antimicrobial resistance.

**BSc (Hons) (C500): Four years**
**MSci: Five years**

You may apply for transfer to the MSci mid-programme. MSci applications are NOT taken via UCAS.

**Year 1**
You will be given a general introduction to all aspects of modern biology and encouraged to acquire general scientific skills.

**You will also study other subjects in years 1 and 2.**

**Year 2**
In semester 1, you will develop your knowledge of fundamental aspects of biology. In semester 2, you will be introduced to specialist subject areas according to your interests (e.g., animal biology; biomolecular sciences; human biology; infection biology).

**Years 3, 4 and 5**
If you progress to Honours (years 3 and 4) you will learn about many aspects of microbiology with particular emphasis on prevention, treatment and pathogenicity of bacterial, parasitic and viral infectious diseases. There is also a chance to explore the industrial and environmental applications of microbiology.

You will study the spectrum of infection by bacteria, parasites and viruses. This includes the study of the molecular basis of infection and immunity. Year 3 is run as a joint course with the Parasitology and Virology degree programmes.

In year 4 you will choose from a range of specialised advanced courses and undertake a research project under supervision from within the University or an institution such as a hospital.

Microbiology can be taken as an MSci, which includes an additional placement year between year 3 and the final year of the degree. This is normally spent doing research in industry or a research institute, in the UK or overseas, and often attracts a modest salary.

The available final-year optional courses may change each year and places may be limited.

**Entry requirements**
Our programme webpages advertise the most up-to-date detail on our entry requirements for 2022-23 entry at glasgow.ac.uk/undergraduate.

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During the final Honours year, you will have the opportunity to apply for an endorsement on your BSc (Hons)/MSci Microbiology degree, depending on the combination of optional courses taken. The endorsements are:

- BSc (Hons)/MSci Microbiology with a specialisation in Bacteriology
- BSc (Hons)/MSci Microbiology with a specialisation in Parasitology
- BSc (Hons)/MSci Microbiology with a specialisation in Virology

**Career prospects**
Our graduates are employed in many different industries, including public health and hospital laboratories, food, brewing and petroleum industries, water and aquaculture companies. Others choose to progress to postgraduate study and follow research careers. Our graduates are equipped with a flexible, broad-based training that takes them in many directions. The final-year options provide ample opportunity for specialisation towards your chosen career.

**Why choose Glasgow?**
You’ll receive practical training in aspects of epidemiology at the Marine Biology Station at Millport in the Firth of Clyde. You will have the opportunity to include a specialisation in Bacteriology, Parasitology or Virology.
MOLECULAR & CELLULAR BIOLOGY

Molecular and cellular biology combines genetics and biochemistry to understand life at the molecular level and it aims to explain how molecular function produces the hierarchy of living cells, tissues and ultimately whole organisms.

Year 1
You will be given a general introduction to all aspects of modern biology and encouraged to acquire general scientific skills.
You will also study other subjects in years 1 and 2.

Year 2
You will develop your knowledge of fundamental aspects of biology and be introduced to specialist subject areas according to your interests.

Years 3, 4 and 5
If you progress to Honours (years 3 and 4) you will study a broad spectrum of molecular topics: molecular genetic methods, genomics, proteins, membranes and filaments, DNA structure and function, gene expression, mobile DNA, biotechnology, essential cell biology and experimental strategies.
In year 4 you will learn to study and interpret primary data from current research and you will choose from a range of specialised advanced courses. You will also undertake a research project.
Molecular & Cellular Biology can be taken as an MSci, which includes an additional placement year, between the third and final years of the degree. This is normally spent doing research in industry or some other organisation such as a research institute, in the UK or overseas.
The available final-year optional courses may change each year and places may be limited.

Entry requirements
Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate.
Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Career prospects
Our graduates are employed in the pharmaceutical, biomedical and biotechnological industries; others go on to postgraduate research in laboratories and then into research careers. Graduates are able to move readily into related specialties such as biotechnology, genetics, immunology, microbiology, pharmacology and physiology.

Why choose Glasgow?
You will gain hands-on experience of modern laboratory techniques.

MOLECULAR & CELLULAR BIOLOGY (WITH BIOTECHNOLOGY)

Biotechnology seeks to optimise the utilisation of microorganisms, animals, plants and their cellular components in industrial, medical and agricultural processes and in environmental management.

BSc (Hons) (C110): Four years
MSci: Five years
You may apply for transfer to the MSci mid-programme. MSci applications are NOT taken via UCAS.

Year 1
You will be given a general introduction to all aspects of modern biology and encouraged to acquire general scientific skills.
You will also study other subjects in years 1 and 2.

Year 2
You will develop your knowledge of fundamental aspects of biology and be introduced to specialist subject areas according to your interests.

Years 3, 4 and 5
If you progress to Honours (years 3 and 4) you will study a broad spectrum of molecular topics to learn the key sciences that underpin biotechnology: molecular genetic methods, genomics, proteins, membranes and filaments, DNA structure and function, gene expression, mobile DNA, biotechnology, essential cell biology and experimental strategies.
In year 4 you will learn to study and interpret primary data from current research and choose from a range of specialised advanced courses. You will also undertake a research project.
Molecular & Cellular Biology (with Biotechnology) can be taken as an MSci, which includes an additional placement year, between the third and final years of the degree. This is normally spent doing research in industry or a research institute in the UK or overseas.
The available final-year optional courses may change each year and students are not guaranteed a place on a particular final-year option.

Entry requirements
Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate.
Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Career prospects
Many of our graduates undertake further study to pursue careers in scientific research in academic institutions, or in laboratories of biotechnology or biomedical industries. Others find employment in industries based in biotechnology, pharmaceuticals and agrochemicals and in the health service, such as in hospital laboratories.

Why choose Glasgow?
You will gain hands-on experience of modern laboratory techniques.
MOLECULAR & CELLULAR BIOLOGY
(WITH PLANT SCIENCE)

Plant science combines a broad range of approaches to understand how plants function in the natural world.

MOLECULAR & CELLULAR BIOLOGY

The available final-year optional courses may change each year and students are not guaranteed a place on a particular final-year option.

Why choose Glasgow?
You will gain hands-on experience of modern laboratory techniques.

Entry requirements
Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate. Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Career prospects
There are increasing opportunities in the agrochemical, pharmaceutical and fermentation industries, particularly for those graduates with interests in plant molecular biology and biotechnology. Graduates with ecological interests are increasingly being employed to monitor the environmental aspects of such industries and in conservation work. Other areas of employment include the Scientific Civil Service, government research laboratories and teaching.

Entry requirements
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Career prospects
Our graduates are employed in a range of areas including the pharmaceutical industry in the UK and overseas. Many go on to undertake postgraduate research degree programmes.

Why choose Glasgow?
You will gain hands-on experience of modern laboratory techniques.

NEUROSCIENCE

Neuroscience is the study of the brain and the rest of the nervous system in humans and other animals.

NEUROSCIENCE

If you progress to Honours (years 3 and 4) you will take courses that provide you with an overview of human biology, the central nervous system, molecular biology and developmental biology. You will also have lectures specific to your chosen area of interest, and practicals and workshops in neuroscience.

Why choose Glasgow?
You will gain hands-on experience of modern laboratory techniques.

Entry requirements
Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate. Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Career prospects
Our graduates are employed in a range of areas including the pharmaceutical industry in the UK and overseas. Many go on to undertake postgraduate research degree programmes.
PHARMACOLOGY

Pharmacology is the study of drugs – not just medicines, but also substances produced within the body, such as hormones. It also encompasses the study of food additives, agricultural compounds such as insecticides, and even animal venoms and toxins. Pharmacology is not the same as pharmacy and this degree does not qualify you as a pharmacist.

Year 1
You will be given a general introduction to all aspects of modern biology and taught general scientific skills. You will also study other subjects in years 1 and 2.

Year 2
In semester 1, you will develop your knowledge of fundamental aspects of biology. In semester 2, you will be introduced to specialist subject areas according to your interests (e.g., animal biology; biomolecular sciences; human biology; infection biology).

Years 3, 4 and 5
If you progress to Honours (years 3 and 4) you will study the principles of pharmacology and the effects and mechanisms of the major drugs, and undertake specialised study of molecular, cardiovascular and neuro-pharmacology. In year 3, you will learn the basic principles of quantitative pharmacology, practical skills and laboratory techniques. The fourth-year course includes four five-week long Honours option courses and a research project with the results sometimes contributing to scientific publications. By the end of year 4 you should be familiar with all aspects of drug action and be able to originate hypotheses for new experiments, and to design and execute experiments to test them.

Why choose Glasgow?
You may have the opportunity to go on a work placement to companies such as AstraZeneca, GlaxoSmithKline and Pfizer.

Entry requirements
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You can take Pharmacology as an MSci, which includes an additional placement year, between the third and final years of the degree, normally doing research in industry or a research institute in the UK or overseas. The available final-year optional courses may change each year and students are not guaranteed a place on a particular option.

Career prospects
Many of our graduates work in academia and the pharmaceutical industry. The majority of graduates continue with research studies and gain MSc and PhD qualifications before moving into employment.

PHYSIOLOGY

Physiology is concerned with the working of living organisms. It aims to understand the underlying processes and mechanisms operating in structures from single cells to the whole animal.

Year 1
You will be given a general introduction to all aspects of modern biology and encouraged to acquire general scientific skills.

You will also study other subjects in years 1 and 2.

Year 2
You will develop your knowledge of fundamental aspects of biology and be introduced to specialist subject areas according to your interests.

Years 3, 4 and 5
If you progress to Honours (years 3 and 4) you will learn about the major organ systems of the body, including cardiovascular, respiratory, alimentary and renal, and the central nervous system, among other topics. In year 4 you will cover several topics in physiology in depth and undertake a research project.

You can take Physiology as an MSci, which includes an additional placement year, between the third and final years of the degree, normally doing research in industry or a research institute in the UK or overseas. The available final-year optional courses may change each year and students are not guaranteed a place on a particular option.

Career prospects
Physiology provides a broad scientific education, which allows you to pursue a career in research or related subjects and in areas such as universities and the pharmaceutical industry, scientific publishing and public health.

As a graduate you will have a number of direct paths open to you:
• Physiologists work with clinical colleagues in the investigation of diseases
• Neurophysiologists study the brain
• Cellular physiologists study how individual cells work
• Sports physiologists work with athletes and dieticians.

Recent graduates have gone on to train as teachers, nurses, doctors and dentists. Several have taken postgraduate courses in dietetics, metabolism and physiotherapy.

Why choose Glasgow?
You may have the opportunity to go on a work placement to companies such as AstraZeneca, GlaxoSmithKline and Pfizer.

Entry requirements
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BSc (Hons) (B120): Four years
MSci: Five years
You may apply for transfer to the MSci mid-programme. MSci applications are NOT taken via UCAS.

Year 1
You will be given a general introduction to all aspects of modern biology and taught general scientific skills. You will also study other subjects in years 1 and 2.

Year 2
You should be familiar with all aspects of drug action and be able to originate hypotheses for new experiments, and to design and execute experiments to test them.

Why choose Glasgow?
You will be introduced to a wide range of experimental techniques, as well as methods for analysing and presenting experimental results.

Entry requirements
Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate.
Whether at the level of basic health or high-level sport, physiology and sports science is designed to serve the community in terms of research, teaching and counselling.

**Entry requirements**

Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate.

Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

**Career prospects**

Our graduates are employed in research projects, and in testing and advising professional athletes and others. Recent graduates have entered teaching and careers in business or further study. Others have gone on to support elite athletes through the Scottish and English Institutes of Sport and professional sports clubs.

**Why choose Glasgow?**

Your final year can include working as an intern with sports professionals or physical activity/ public health providers to give you valuable work experience. You can achieve funding through the Cathcart Scholarship to experience applied sports science within elite sport for a few weeks/months in your third or fourth year.

**BSc (Hons) (BC16): Four years**

MSci: Five years

You may apply for transfer to the MSci mid-programme. MSci applications are NOT taken via UCAS.

Note

Sporting proficiency is not essential for admission to the programme, nor does the programme involve you directly in sport.

**Years 3, 4 and 5**

If you progress to Honours (years 3 and 4), you will be able to study elite performance, causes and management of injury, and the interactions of diet, physical activity and genetics with public health.

You will also study the physiological adaptations to exercise, nutrition and energetics, and complete specialist courses in statistics and molecular biology techniques.

In year 4 you will choose four courses to study in depth and undertake a supervised research project or internship. You can take Physiology & Sports Science as an MSci, which includes an additional placement year, between the third and final years of the degree, normally doing research in industry or some other organisation in the UK or overseas.

**BSc (Hons) (BC46): Four years**

MSci: Five years

You may apply for transfer to the MSci mid-programme. MSci applications are NOT taken via UCAS.

Note

Sporting proficiency is not essential for admission to the programme, nor does the programme involve you directly in sport.

**Years 1, 2, 3 and 4**

You will be given a general introduction to all aspects of modern biology and taught general scientific skills. You will also study other subjects in years 1 and 2.

Year 2

You will also study other subjects in years 1 and 2.

Year 3

You will also study other subjects in years 1 and 2.

Year 4

You will also study other subjects in years 1 and 2.

**Year 2**

You will also study other subjects in years 1 and 2.

**Career prospects**

This degree will provide you with a variety of career opportunities in sports science and/or nutrition. You may choose to go into health promotion, the food and nutrition support industry, fitness testing, lifestyle consultancy or research. Other careers followed include accountancy and teaching. Several of our graduates have gone on to undertake postgraduate study in dietetics, physiotherapy or other specialist training, or to study for a PhD.

**Why choose Glasgow?**

Nutrition in sport and exercise science is an emerging industry and there is an increased demand for graduates in this field.
ZOOLOGY

Zoology is the scientific study of all aspects of animals, their structure, function, ecology and evolution.

Year 1
You will be given a general introduction to all aspects of modern biology and encouraged to acquire general scientific skills.

You will also study other subjects in years 1 and 2.

Year 2
In semester 1, you will develop your knowledge of fundamental aspects of biology. In semester 2, you will be introduced to specialist subject areas according to your interests (e.g., animal biology; biomolecular sciences; human biology; infection biology).

You will also be able to study other subjects outside biology.

Years 3, 4 and 5
If you progress to Honours (years 3 and 4), fieldwork becomes an important component of your study mix. Specific topics you may study include invertebrate and vertebrate biology; ecology; molecular ecology; animal physiology; parasite biology; and marine biology. There are also courses on experimental design, data collection and analysis.

A major component of your final year is an independent research project. This project will give you the chance to research something new, and the results sometimes contribute to scientific publications. You can take Zoology as an MSci, which includes an additional placement year, between the third and final years of the degree, normally doing research in industry or a research institute in the UK or overseas.

The list of available final-year optional courses is subject to change each year. In addition, places in optional courses may be limited, so students are not guaranteed a place on a particular final-year option.

Entry requirements
Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate. Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Why choose Glasgow?
You'll take part in field courses on Loch Lomond and at the Marine Biology Station at Millport in the Firth of Clyde.

Our field courses

The diversity of our field trips ensures that our students are equipped with strong field and lab skills that are directly transferable to their future careers. As well as taking full advantage of the natural habitat on our doorstep on the west coast of Scotland, we organise trips to destinations around the globe such as Ecuador, Trinidad, Egypt and Cyprus.

Tropical marine biology field course: Egypt
Tropical ecosystems are of vital importance to coastal communities and of high conservation value. The Red Sea expedition offers students the opportunity to study coral reef, sea grass and mangrove communities through lectures, practical exercises, and group projects. The two-week long course develops a wide range of technical and personal skills applicable to many areas of ecology.

Microbiology field course: Millport
The three-day course at FSC Millport involves collection and sampling from marine habitats on the west coast of Scotland. It provides you with the opportunity to gain practical research skills to underpin those developed in the classrooms and the lab.

Tropical rainforest field course: Ecuador
A highlight of the final year of our undergraduate course in Zoology is the opportunity for students to participate in a tropical rainforest field course. The course takes place in an area of primary Amazonian forest in the Napo Biodiversity Hotspot in eastern Ecuador. Students live in basic forest accommodation surrounded by the most diverse ecosystem on the planet. From dawn to dusk and beyond they are able to experience first-hand the rainforest environment and its organisms, big and small, from ants and frogs, to birds and mammals.

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Every effort has been made to ensure the accuracy of the information contained within this leaflet at the time of publication. Information is subject to alteration without notice.

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