UCL’s Grant Museum of Zoology is home to the Micrarium, a beautiful back-lit cave displaying 20,000 microscope slides and 2,323 of the tiniest specimens in the collection, all in just 2.52 square metres.
Biochemistry and Biotechnology

Examining cells at a molecular level, biochemistry develops our understanding of the chemistry of life, revealing the complex processes in operation in living systems. Biotechnology harnesses these advances of understanding for beneficial use in industry, medicine and agriculture.

Biochemistry MSci

UCAS: CC70 • 4 years

A levels: AAA. Chemistry required plus one from Biology, Mathematics or Physics. Standard GCSE offer (see page 31), except English Language and Mathematics at grade B.

IB Diploma: 38 points. A total of 18 points in three higher level subjects including Chemistry at grade 6, and one subject from Biology, Mathematics or Physics, with no score below 5.

Other qualifications: see www.ucl.ac.uk/otherquals

Biochemical research underpins a great deal of the core knowledge in life sciences. In particular, the discipline has helped illuminate many of the problems that have fascinated and perplexed molecular bioscientists. The Biochemistry MSci—premised on research—provides an invaluable foundation for postgraduate study or a dynamic career within this area.

Core modules in molecular biosciences over years one and two provide an introduction to the subject and form a firm base for later studies. After year two, upon satisfaction of specified academic criteria, your third year will provide a more research-intensive experience involving advanced techniques modules, optional advanced molecular biosciences modules and a compulsory data-analysis investigative study. In year four, you will undertake an extended intensive research project, a research techniques module and a dissertation.

Biochemistry BSc

UCAS: C700 • 3 years

A levels: AA. Chemistry required plus one from Biology, Mathematics or Physics. Standard GCSE offer (see page 31), except English Language and Mathematics at grade B.

IB Diploma: 38 points. A total of 18 points in three higher level subjects including Chemistry at grade 6, and one subject from Biology, Mathematics or Physics, with no score below 5.

Other qualifications: see www.ucl.ac.uk/otherquals

Since its emergence as a discipline, biochemistry has worked to illuminate many of the problems that have fascinated and perplexed molecular bioscientists for generations. The Biochemistry BSc aims to equip students with the essential knowledge of biochemistry and molecular biology that is at the heart of much of modern life sciences research. As such, it is a valuable entry point to a range of different careers.

In years one and two, core modules in molecular biosciences provide an introduction to the subject and form a firm base for later studies. After year two, upon satisfaction of specified academic criteria, you may choose to transfer to the four-year MSci programme or spend an additional year in a research laboratory. The final year focuses on individual module choices and includes the opportunity to carry out an investigative data-analysis research project.
Biotechnology BSc

UCAS: C560 • 3 years

A levels: AAA. Chemistry required plus one from Biology, Mathematics or Physics. Standard GCSE offer (see page 31), except English Language and Mathematics at grade B.

IB Diploma: 38 points. A total of 18 points in three higher level subjects including Chemistry at grade 6, and one subject from Biology, Mathematics or Physics, with no score below 5.

Other qualifications: see www.ucl.ac.uk/otherquals

The Biotechnology BSc provides a broad-focused grounding in chemistry, biochemistry, molecular biotechnology and biochemical engineering alongside experience of the experiment skills essential for future research. The programme is designed to equip graduates for a career in this new and exciting discipline, which has developed out of some of the most dramatic scientific discoveries of the last 30 years.

In years one and two, core modules in molecular biosciences provide an introduction to the subject and form a foundation for later studies. After year one you may, if you wish, transfer to a Molecular Biology or Biochemistry BSc. After year two, upon satisfaction of certain academic criteria, you may choose to transfer to the four-year Biochemistry MSci programme or spend an additional year in an industrial or research laboratory. The final year focuses on individual module choices including an investigative data-analysis research project.

Marc Vangerven

Biochemistry BSc

Second Year

“I chose Biochemistry because it gives me a strong base to go into many different sectors after university – from research to business. I like the programme because it gives you some freedom in what you would like to learn more about.

Outside my studies I’ve worked for different companies including biotechnology and consultancy firms and banks. I hope to go into business after my degree.

In London, you very quickly adjust and benefit from everything on offer. I play a multitude of sports ranging from squash to ice hockey. Being a member of the Biochemistry, Life Sciences, and Economics and Finance student societies means there are always events to go to and new people to meet.”
Study of the biological sciences spans a vast and exciting range of topics, from cellular structure to genetics to ecosystems. The discoveries biologists continue to make about life processes are vital to our efforts to tackle challenging problems in human welfare and environmental protection.

For more information, including programme structure visit: www.ucl.ac.uk/prospectus/biolsci
Genetics has a practical connection with policing through forensic science. When UCL’s Jill Dando Institute of Crime Science was launched in 2001 I was determined to return one day as a student.

Oli Burbage-Hall • Sergeant, Met Police Service, London

Biological Sciences BSc
UCAS: C900 • 3 years

A levels: AAA. Biology required plus one from Chemistry, Mathematics or Physics. Standard GCSE offer (see page 31), except English Language and Mathematics at grade B.

IB Diploma: 38 points. A total of 18 points in three higher level subjects including Biology at grade 6 and one from Chemistry, Mathematics or Physics, with no score below 5.

Other qualifications: see www.ucl.ac.uk/otherquals

The Biological Sciences BSc offers you an extremely wide choice of optional modules ranging from molecular genetics to behaviour and ecology, and a flexible programme of study. Taught across the Faculty of Life Sciences, we offer a breadth of biological education unmatched in almost any other UK university.

Year one covers a core range of subjects from across the spectrum of the biological sciences, giving you a firm foundation for later years. In year two, you may either continue towards a generalist degree in Biological Sciences, or choose from five specialised degree pathways: Biodiversity and Conservation, Cell Biology, Genetics, Human Genetics or Zoology. In year three you will undertake either a research project or a literature review, and choose modules from a wide range offered across UCL.

Alice Miller
Biological Sciences MSci
Fourth Year

“I would really recommend the Biological Sciences MSci at UCL. Throughout my four years I have had so many chances to tailor the degree to my interests. There is the flexibility to take electives – I have taken modules in marketing and business, which have been useful. Also, the chance to become part of a lab for your final year research project, learn new skills and gain an insight into the research community is very valuable.

One of my highlights has been studying abroad at the University of British Columbia in Vancouver, Canada. The opportunity to spend a year in Canada studying, exploring and meeting people from all over the world was incredible.”
Biomedical Sciences graduates apply their advanced skills in the dynamic and exciting field of biomedical research to improve understanding of human health around the globe. Biomedical discoveries in the mechanisms of disease are enabling advancements in diagnosis, the development of new and improved treatments, and the prevention of illness.

**Biomedical Sciences BSc**

UCAS: B990 • 3 years

**A levels:** AAA. Biology and Chemistry required, plus Mathematics or Physics preferred. Standard GCSE offer (see page 31), except English Language and Mathematics at grade B.

**IB Diploma:** 38 points. A total of 18 points in three higher level subjects to include Biology and Chemistry, plus Mathematics or Physics preferred, with no score below 5. Mathematics must be offered at standard level with minimum of grade 5, if not offered at higher level.

**Other qualifications:** see www.ucl.ac.uk/otherquals

This BSc is designed to introduce students to a variety of scientific disciplines across the biosciences. The interdisciplinary nature of the programme means that the areas covered include anatomy, cell biology, developmental biology, genetics, immunology and infection, neuroscience, pharmacology, physiology and psychology.

All first-year modules are mandatory and provide a firm foundation on which to make informed choices for later years. If, after year one, your interests have become specialised, you may transfer onto a specialist degree programme, for example Physiology or Neuroscience at BSc, or MSci level where available, or you may continue with the generalist programme. In years two and three you may choose from a wide range of optional modules within five streams of study. In year three all students also undertake a research project.

You can transfer to any of the following degree programmes after year one:

- Anatomy and Developmental Biology
- Genetics
- Human Genetics
- Immunology
- Molecular Biology
- Neuroscience*
- Pharmacology*
- Physiology
- Physiology and Pharmacology

* You may apply to Neuroscience and Pharmacology for first-year entry; see pages 117–119 for details.
The interdisciplinary approach of human sciences enables advanced discoveries in human biological function to be studied in combination with the behavioural insights provided by social science. The contrasting perspectives and methodologies covered illuminate and expand our understanding of humankind.

Human Sciences and Evolution MSci

UCAS: BCL1 • 4 years

A levels: AAA. Science subject required, preferably Biology. Standard GCSE offer (see page 31), except English Language and Mathematics at grade B.

IB Diploma: 38 points. A total of 18 points in three higher level subjects including science (preferably Biology at grade 6), with no score below 5.

Other qualifications: see www.ucl.ac.uk/otherquals

The Human Sciences and Evolution MSci is unique to UCL, and builds upon the Human Sciences BSc. This interdisciplinary degree draws on teaching from a range of science and non-science departments, and allows students to extend their specialised knowledge of human evolution.

Year one is composed of core modules, providing you with a broad foundation in biological anthropology, cell biology, genetics, human anatomy, mammalian physiology, molecular biology, and psychology. In year two you will take two core modules, The Human Sciences in Society, and Statistical Methods, and optional modules from a wide range offered across UCL. In year three you will write an interdisciplinary dissertation, and choose further optional advanced modules from a wide range. Year four includes a research project and a choice of advanced modules in human evolutionary sciences.

For more information, including programme structure visit: www.ucl.ac.uk/prospectus/humansci

Aishwarya Manjunanth
Human Sciences BSc
Third Year

“Every single day at UCL has been a surprise for me. Due to the interdisciplinary nature of the programme, I meet people with varied interests, aspirations, experiences and backgrounds: this for me is the best part about my studies.

At UCL self-study and determination are encouraged; the nature of assessments is also such that critical thinking and reflection are prerequisites. I believe that this kind of learning, freedom and independence will better prepare me for the future.

My personal tutor was of great help during the initial tough adjustment period. Whether it was issues related to health, or to academic and social life, she was the first point of contact for (and more often than not a solution to) all my problems.”
Human Sciences BSc
UCAS: BCL0 • 3 years

A levels: AAA. Science subject required, preferably Biology. Standard GCSE offer (see page 31), except English Language and Mathematics at grade B.

IB Diploma: 38 points. A total of 18 points in three higher level subjects including science (preferably Biology at grade 6), with no score below 5.

Other qualifications: see www.ucl.ac.uk/otherquals

UCL is one of the few universities in the UK to offer a Human Sciences programme. This interdisciplinary degree draws on teaching from a range of departments, and offers enormous flexibility and opportunity for you to develop your own areas of interest and specialisation in the study of humankind.

Year one is primarily composed of core modules, providing you with a broad foundation in biological anthropology, genetics, human anatomy, mammalian physiology, and psychology. In year two you will take two core modules, The Human Sciences in Society, and Statistical Methods, and select optional modules from a wide range offered across UCL. In year three you will write an interdisciplinary dissertation, and choose further optional advanced modules from a wide range.
The brain is the most complex structure we know. It interprets our sensations, stores our memories and regulates our body functions. Neuroscientists aim to understand how some 100 billion nerve cells co-operate to do these tasks, and how they malfunction in devastating disorders such as epilepsy and Alzheimer’s disease.

Neuroscience MSci
UCAS: B141 • 4 years

A levels: AAA. Chemistry required plus one from Biology, Mathematics or Physics. Standard GCSE offer (see page 31), except English Language and Mathematics at grade B.
IB Diploma: 38 points. A total of 18 points in three higher level subjects including Chemistry and one subject from Biology, Mathematics or Physics, with no score below 5.

The Neuroscience MSci offers an extra year on top of the Neuroscience BSc and is intended to extend your specialised knowledge of brain function and allow you to conduct original neuroscience research. Entry requirements for both programmes are the same. In this programme, you decide in year two whether you would like to follow the three-year BSc or the four-year MSci.

Years one and two follow the same structure as the Neuroscience BSc, with a combination of core and optional modules providing a firm foundation in all key disciplines of the subject. In each of these years you will also undertake an individually supervised project: an advanced literature project in year three and a Master’s-level experimental project in year four.

Neuroscience BSc
UCAS: B140 • 3 years

A levels: AAA. Chemistry required plus one from Biology, Mathematics or Physics. Standard GCSE offer (see page 31), except English Language and Mathematics at grade B.
IB Diploma: 38 points. A total of 18 points in three higher level subjects including Chemistry and one subject from Biology, Mathematics or Physics, with no score below 5.

The Neuroscience BSc offers you the opportunity to learn about the structure and function of the brain in one of the world’s greatest centres for neuroscience. You will have the benefit of modules in cell biology, developmental neurobiology, neuroanatomy, neurophysiology, pharmacology and psychology – all of which will show you how different areas of biology contribute to our understanding of this subject area.

Year one consists of a set of core modules related to neuroscience that provide a firm foundation for later years. In year two, module options allow you to begin to specialise. You may also take one module from outside neuroscience (e.g. a language). In year three, you will continue with modules in advanced neuroscience and related disciplines. You will also join an existing research team in one of UCL’s departments or institutes to conduct an original research project.
Pharmacology is the science of how chemical substances, especially medicines, interact with our bodies in both healthy and diseased states. Pharmacological advances play a large part in medicine and human health, from the development of new therapeutic agents to understanding the effects of poisons and drugs of abuse.

Pharmacology MSci

UCAS: B211 • 4 years

A levels: AAA-AAB. Chemistry required plus one from Biology, Mathematics or Physics. Standard GCSE offer (see page 31), except English Language and Mathematics at grade B.

IB Diploma: 36-38 points. A total of 17-18 points in three higher level subjects including Chemistry and one subject from Biology, Mathematics or Physics, with no score below 5.

Other qualifications: see www.ucl.ac.uk/otherquals

This programme is intended for students who want to pursue careers or further study in pharmacology or related disciplines. It offers an additional year on top of the Pharmacology BSc in which to undertake your own major, cutting-edge research project, alongside advanced modules.

In years one and two most modules are compulsory. They provide a solid introduction to the subject of pharmacology and lay the groundwork for later study, covering essential knowledge in physiology, neuroscience, chemistry, genetics, and statistics. In years three and four you will have the freedom to select optional modules from a wide range, alongside compulsory project work. You may also apply for a ‘sandwich’ year, usually taken between years three and four, spent in the pharmaceutical industry or another pharmacology-related area.
Pharmacology BSc
UCAS: B210 • 3 years

A levels: AAA-AAB. Chemistry required plus one from Biology, Mathematics or Physics. Standard GCSE offer (see page 31), except English Language and Mathematics at grade B.

IB Diploma: 36-38 points. A total of 17-18 points in three higher level subjects including Chemistry and one subject from Biology, Mathematics or Physics, with no score below 5.

Other qualifications: see www.ucl.ac.uk/otherquals

The subject of pharmacology is immensely broad and covers areas of physiology, chemistry, neuroscience, biochemistry, and genetics. This flexible three-year programme offers a thorough scientific training in the subject, and students have the option of transferring to the MSci at the end of year two.

In years one and two most modules are compulsory. They provide a solid introduction to the subject of pharmacology and lay the groundwork for later study by covering essential knowledge in physiology, neuroscience, genetics, chemistry and statistics. In your final year you will have the freedom to select optional modules from a wide range, alongside a compulsory laboratory or literature project. You may also apply for a ‘sandwich’ year taken between years two and three, spent in the pharmaceutical industry or another pharmacology-related area.

Nikita Patel
Pharmacology MSci
Third Year

“I chose Pharmacology after undertaking a summer lab placement investigating the effect of different drugs on the chronotropy of chick embryo cardiomyocytes. I thoroughly enjoyed the whole experience so decided to apply and now here I am!

What I like most about the programme is that you gain a broad bioscience background in the first year, which then becomes more focused by the third and fourth years. In addition, there are many different styles of teaching, from lectures to tutorials to workshops, as well as labs that allow you to put the theory learned into practice. You are taught by experts in the field.”

FACULTY OF LIFE SCIENCES
Pharmacists are concerned with the science of medicines – how they work, how they are made and how they are used to prevent and treat disease. You will study the function of the human body in health and disease and how drugs are discovered, formulated and used therapeutically, in the context of professional pharmacy practice.

Pharmacy MPharm
UCAS: B230 • 4 years

A levels: AAA-AAB. Chemistry and either Biology, Mathematics or Physics required. Standard GCSE offer (see page 31), except English Language and Mathematics at grade B.

IB Diploma: 36-38 points. A total of 17-18 points in three higher level subjects including Chemistry and one subject from Biology, Mathematics or Physics, with no score below 5.

Other qualifications: see www.ucl.ac.uk/otherquals

Pharmacists are healthcare professionals who are experts in medicines, with a detailed understanding of the scientific basis of therapy. The MPharm programme integrates pharmaceutical science into the practice of clinical pharmacy. We offer you the opportunity to become a confident and competent healthcare professional with patient safety and wellbeing as your primary concern.

Years one and two focus on the scientific basis of pharmacy and the translation of medicines from laboratory to patient. In year three you may choose from a wide range of advanced specialist optional modules, and in year four you will undertake a research project which may be carried out within UCL, or in another institution in the UK or abroad. Contact with patients in NHS trusts and Green Light community pharmacy is embedded throughout your degree.