The advancements in biochemistry over the last century have been astonishing. It is the branch of science that combines biology and chemistry to explore life at the molecular level.

Biochemists ask questions and solve problems to develop a greater understanding of how life works, both in health and disease. Could you be one of the next generation of biochemists working to answer some of these molecular biological problems?

In all our degrees, our aim is to stimulate your interest and understanding, and to help you develop the research skills that will allow you to continue learning throughout your career. Our teachers are actively engaged in research, so they can guide and advise you on the latest developments and technology. In the latest Research Excellence Framework results, 95% of the school’s research was deemed to be of international quality.

In addition to knowledge and understanding of molecular and cellular biology, these degree courses will also ensure that you develop the necessary skills in data interpretation, communication, IT and problem-solving.

We hope that you will consider Nottingham for your degree, and that you will visit us to see University Park Campus and the Medical School for yourself.

Dr Fergus Doherty
Course Director

Whatever your ambitions, our aim is to help you achieve them here.

To find out where a degree in biochemistry could take you, please visit nottingham.ac.uk/life-sciences
Studying biochemistry at Nottingham

Biochemistry underpins much of modern life science, creating demand for graduates with expertise in biochemistry and molecular genetics.

Location and facilities
Your learning will be mainly based in the Medical School at the Queen’s Medical Centre and the University’s largest campus, University Park, which is connected to the Medical School by a footbridge.

Having your teaching bases close together means you can take advantage of the excellent recreational facilities on University Park Campus. These include the Students’ Union, the new £40m David Ross Sports Village and catering outlets.

In the Medical School we have:
- large, well-equipped lecture theatres with modern data and video projection facilities
- newly refurbished practical laboratories containing professional equipment
- a large library with specialist health and medical texts and computer rooms

Flexible degrees
We have developed a common first year, so you have the option to transfer to another biochemistry degree path at the end of year one. You can also swap from the BSc and MSci routes up until the end of the second year, as long as you meet the academic attainment required.

To find out where a degree in biochemistry could take you, please visit nottingham.ac.uk/life-sciences

Our courses

<table>
<thead>
<tr>
<th>Degree title</th>
<th>UCAS code</th>
<th>Duration</th>
<th>A levels</th>
<th>IB</th>
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<tr>
<td>Single honours</td>
<td></td>
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<tr>
<td>BSc Biochemistry</td>
<td>C700</td>
<td>3 years</td>
<td>AAB</td>
<td>34</td>
</tr>
<tr>
<td>MSci Biochemistry</td>
<td>C703</td>
<td>4 years</td>
<td>AAB</td>
<td>34</td>
</tr>
<tr>
<td>BSc Biochemistry and Biological Chemistry</td>
<td>C720</td>
<td>3 years</td>
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</tr>
<tr>
<td>MSci Biochemistry and Biological Chemistry</td>
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<td>4 years</td>
<td>AAB</td>
<td>34</td>
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<tr>
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<td>3 years</td>
<td>AAB</td>
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<tr>
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<td>4 years</td>
<td>AAB</td>
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<tr>
<td>BSc Biochemistry and Molecular Medicine</td>
<td>C741</td>
<td>3 years</td>
<td>AAB</td>
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<tr>
<td>MSci Biochemistry and Molecular Medicine</td>
<td>C742</td>
<td>4 years</td>
<td>AAB</td>
<td>34</td>
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</tbody>
</table>

English language requirements
IELTS 6.5 (no less than 6.0 in any element). For more information and a list of the alternative English language requirements we accept, please see nottingham.ac.uk/go/alternativerequirements

Developing your academic English and study skills
The Centre for English Language Education (CELE) offers you the opportunity to develop your English language skills at one of the world’s top universities. Accredited by the British Council for the teaching of English, CELE provides high-quality teaching, facilities and support. Our presessional courses take your English language and academic skills to the level you need to progress to undergraduate study without taking IELTS again. Find out more at nottingham.ac.uk/cele

BSc or MSci?
While the BSc degree lasts for three years, the MSci degree is a four-year course designed to provide appropriate training for a future career in scientific research, either in industry or in academia.

Over one-third of our UK students receive our means-tested core bursary, worth up to £2,000 a year. For details, see nottingham.ac.uk/financialsupport

For more information about our courses, please visit nottingham.ac.uk/ugstudy/biochem
BSci | Msci Biochemistry

These degrees will provide you with a thorough understanding of modern biochemistry, including molecular cell biology, molecular genetics, biotechnology and metabolism.

Year one
The course will begin with an introduction to the fundamental aspects of cell biology, biochemistry, genetics and cellular control, as well as core skills in biochemistry and genetics. You will also cover essential chemistry, exploring molecular structure, bonding and reactivity of organic molecules. Theoretical learning is supported by practical studies in cell biology, biochemistry, genetics and physiology.

Alongside core modules, you will have 40 credits of optional modules. You could choose these from the School of Life Sciences or choose 20 credits from other schools in the University such as languages or business.

Year two
In the second year, you will cover topics in greater depth. You will study proteins and enzymes, from their structure to their mechanisms. Basic properties of DNA are explored, with practical sessions for you to practise manipulating DNA and express recombinant proteins. You will also cover cell signalling and metabolic regulation.

A dissertation is undertaken along with studies developing transferable skills of presentation, interpretation and criticism of scientific data.

Year three
A major feature of the final year is an individual project which may be laboratory, bioinformatics or literature-based. The aim is to provide you with the ability to analyse a relevant biological problem in depth, in a modern research environment.

Other modules will help you understand biochemical diseases, genetic engineering and protein folding. Optional modules are available to enhance your learning. You could discover more about cancer, proteins, cells or infection.

Year four (MSci only)
The focus of this year is a masters-level research project. You will choose an area of biochemistry you find interesting, then plan, research and present your findings. The learning style will be strongly student-centred with one-to-one supervision from a research academic.

Optional modules will also be available. This gives you the opportunity to concentrate on a topic that complements your previous study, or to try something new.

Typical modules

<table>
<thead>
<tr>
<th>Year one</th>
<th>Year two</th>
<th>Year three</th>
<th>Year four (MSci only)</th>
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<tbody>
<tr>
<td><strong>Core</strong></td>
<td><strong>Core</strong></td>
<td><strong>Core</strong></td>
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<tr>
<td>Core Skills in Biochemistry</td>
<td>Higher Skills in Biochemistry</td>
<td>Advanced Biochemistry</td>
<td>Research Presentation Skills</td>
</tr>
<tr>
<td>Genes, Molecules and Cells</td>
<td>Signals and Metabolic Regulation</td>
<td>Biochemistry of Disease</td>
<td>Research Project</td>
</tr>
<tr>
<td>Fundamental Inorganic and Organic Chemistry</td>
<td>Structure, Function and Analysis of Genes</td>
<td>Biochemistry Research Project</td>
<td>Optional</td>
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<td><strong>Optional</strong></td>
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<td><strong>Optional</strong></td>
</tr>
<tr>
<td>Evolution, Ecology and Behaviour</td>
<td>Structure, Function and Analysis of Proteins</td>
<td>Biochemistry of Cancer</td>
<td>Advanced Experimental Design and Analysis</td>
</tr>
<tr>
<td>Fundamentals of Neuroscience</td>
<td></td>
<td>Chemical Biology and Enzymes</td>
<td>Cutting-Edge Research Ideas in Molecular Biology</td>
</tr>
<tr>
<td>Human Physiology</td>
<td></td>
<td>Molecular Basis of Medicine</td>
<td>Process and Practice in Science</td>
</tr>
<tr>
<td>Life on Earth</td>
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</tbody>
</table>

Modules may change, for example due to curriculum developments. The above list is a sample of typical modules that we offer, not a definitive list. The most up to date information can be found on our website at nottingham.ac.uk/ugstudy

For more detailed course content visit nottingham.ac.uk/ugstudy/biochem
BSc | MSc Biochemistry and Biological Chemistry

Accredited by the Royal Society of Chemistry, these courses equip you with the fundamental aspects of biochemistry and chemistry.

Teaching is split between the School of Life Sciences and the School of Chemistry, providing you with expertise from both subjects.

Year one
During this introductory year, you will study cell biology, biochemistry, genetics and cellular control together with essential chemistry. These modules are supported by practical studies in cell biology, biochemistry, genetics and chemistry. Students without A level maths will be required to take modules providing the necessary maths skills for chemists.

Year two
In the second year, you will expand your chemical knowledge, both theoretically and practically. Proteins and enzymes are explored, from looking at disease to a detailed understanding of proteins.

Year three
Advanced laboratory work in biochemistry and chemistry is a major feature of the third year. In biochemistry, you will perform a number of fundamental and advanced molecular biology techniques. Individual results and data from the class will be analysed as part of an overall project to investigate relevant scientific questions. In chemistry, you will further your experience in the principles upon which modern experimental methodology is based, chemical synthesis, obtaining and interpreting physical data, and report writing.

Other advanced modules are available, from looking at disease to a detailed understanding of proteins.

Year four (MSci only)
A substantial feature of the fourth year is an extended individual project in biochemistry or chemistry, which may be either lab or bioinformatics based. All subjects will require a review of published work and the planning of a research project under the guidance of two supervisors. You will be assessed by a dissertation and oral presentation.

Additional modules are available which may cover disease, business, immunology or nucleic acids.

Modules may change, for example due to curriculum developments. The above list is a sample of typical modules that we offer, not a definitive list. The most up to date information can be found on our website at nottingham.ac.uk/ugstudy
BSci | MSci Biochemistry and Genetics

These courses will provide you with a thorough training in both biochemistry and genetics, emphasising common areas such as molecular biology, genetic engineering and biotechnology.

Year one
The course will begin with an introduction to the fundamental aspects of cell biology, biochemistry, genetics, cellular control and core skills in biochemistry and genetics. You will also cover essential chemistry, exploring molecular structure, bonding and reactivity of organic molecules. Theoretical learning is supported by practical studies in cell biology, biochemistry, genetics and physiology.

Alongside compulsory modules, you will have the choice of optional modules.

Year two
The second year covers subjects in greater detail. You will look at the structure and function of the genes, genomes and chromosomes of eukaryotic cells. The Human Genome Project is explained, and you will explore genes responsible for some of the most common disorders and the development of strategies for treatment. You will also learn about the brain – how it works, develops and makes connections.

Year three
The main component of the third year is a research project. You will work with a supervisor to find a topic you find interesting. You will then plan, research and present your findings effectively. The project could be an individual or group laboratory experiment, or an in depth literature review.

Advanced modules will also be available, covering topics from cancer to data analysis.

Year four (MSci only)
In the fourth year, you will have more independence in your learning. You will undertake a year-long masters-level research project. Supported by a research academic, you will write a research grant proposal, which is particularly good experience for those wishing to pursue a research career. You will then carry out your project and present your findings effectively.

A choice of optional modules will be available to add variety to your learning.

Modules may change, for example due to curriculum developments. The above list is a sample of typical modules that we offer, not a definitive list. The most up to date information can be found on our website at nottingham.ac.uk/ugstudy

For more detailed course content visit nottingham.ac.uk/ugstudy/biochem
Our courses

BSc | MSc Biochemistry and Molecular Medicine

These courses allow you to specialise in the medically related aspects of biochemistry while still gaining a good foundation in biochemistry. Biochemistry is important in nearly all aspects of medicine, from basic life processes to understanding changes occurring in disease and the development of new therapies.

Year one
The course will begin with an introduction to the fundamental aspects of cell biology, biochemistry, genetics, cellular control and core skills in biochemistry and genetics. You will also cover essential chemistry, exploring molecular structure, bonding and reactivity of organic molecules. Theoretical learning is supported by practical studies in cell biology, biochemistry, genetics and physiology.

Alongside core modules, you will have 20 credits of optional modules. You could choose these from the School of Life Sciences or from other schools in the University.

Year two
In the second year, you will study topics in greater depth. You will cover proteins and enzymes, from their structure to their mechanisms. Basic properties of DNA are explored, with practical sessions for you to practise manipulating DNA and express recombinant proteins. The regulation and integration of various metabolic pathways will be covered in health and disease, along with techniques to study signal transduction and metabolism.

A dissertation is undertaken along with studies developing transferable skills of presentation, interpretation and criticism of scientific data.

Year three
A major feature of the third year is a research project that may be laboratory, bioinformatics or literature-based. You will choose a topic related to your interests and plan, carry out and present your findings. Throughout the project, you will be supported by a research academic.

Year four (MSci only)
In the final year, you will undertake a masters-level research project which will involve a literature review, a grant proposal, collection of data and appropriate analysis. The findings will be presented as a research paper. You will be supervised by a research academic and benefit from professional research facilities.

In addition, you will have optional modules. You could choose to learn about how science and society influence each other, or explore new technologies and the implications on the scientific community.

Modules may change, for example due to curriculum developments. The above list is a sample of typical modules that we offer, not a definitive list. The most up to date information can be found on our website at nottingham.ac.uk/ugstudy/biochem

For more detailed course content visit nottingham.ac.uk/ugstudy/biochem
Engaging study, incredible results

Teaching and learning
You will learn through a variety of methods depending on the module. These may include:
- lectures
- seminars
- laboratory classes
- workshops
- tutorials

Much of the teaching is supported by a virtual learning environment. This allows teaching materials, self-tests and electronic feedback to be delivered directly to you and is accessible whenever and wherever you wish to study.

Assessment
Assessment varies on the module being studied, but is typically a combination of:
- exams
- essays
- dissertations
- laboratory reports
- presentations

Exams happen twice a year at the end of each semester.

Student support
When you start the course, you will be assigned a personal tutor. Personal tutors are members of academic staff in the school and they will:
- monitor your academic progress and check on your wellbeing
- provide exam marks and help you reflect on feedback
- act as a first point of contact for any guidance on academic or personal matters

At Nottingham, we still offer small group tutorials. This ensures you have enough time to build a relationship with your tutor and benefit from their support. Your fellow tutees also provide peer support.

Additionally, the school has a dedicated Welfare Officer and a Student Liaison Officer who are available to help you adapt to university life and provide advice on more complex issues.

Key Information Sets
Key Information Sets (KIS) are comparable sets of information about full or part-time undergraduate courses and are designed to meet the information needs of prospective students. All KIS data is published on the Unistats website: unistats.co.uk

For Nottingham’s KIS data, please see individual course entries at nottingham.ac.uk/ugstudy

How to apply
All applications for an undergraduate place to study at the University of Nottingham, including applications by international students, must be made through UCAS.

Applications should be made online at ucas.com and candidates will be notified of decisions through UCAS Track.

Alternative qualifications
In this brochure you will find our A level entry requirements but we accept a much broader range of qualifications.

These include:
- Access to HE Diploma
- Advanced Diploma
- Cambridge Pre-U
- International Baccalaureate
- Irish Leaving Certificate
- Scottish Advanced Highers
- Welsh Baccalaureate Advanced Diploma

This list is not exhaustive; we will consider applicants with other qualifications on an individual basis. Please contact us to discuss the suitability of your qualification.
World class for employability

As a graduate, you will have obtained a broad range of skills valued by employers in areas such as scientific research, biotechnology, diagnostics, pharmaceuticals, epidemiology and more. Many graduates choose to pursue further study including masters, PhDs or graduate entry medicine.

Recent graduate destinations:
- Cambridge Bioscience: technical sales (medical research)
- EY: audit trainee
- Essex and Suffolk Water: water quality scientist
- Inpharmation: business development consultant (pharmaceuticals)
- NHS: biomedical scientist
- Retroscreen Virology Ltd: project administrator (medical research)
- Succinct: assistant editor (media and communications)
- Vectura: scientist (pharmaceutical industry)

Careers and Employability Service
Our Careers and Employability Service has a team dedicated to Faculty of Medicine and Health Sciences students. They will be on hand to offer you specialist support and guidance throughout your degree and for life after you graduate.

Find out more about the Careers and Employability Service at nottingham.ac.uk/careers

Flexible admissions policy
We recognise that some educational and personal circumstances affect achievement. If we judge that you have experienced circumstances that have adversely affected your achievement, we will consider them when assessing your academic potential. Some courses may vary the offer as a result. For the most up to date information about our offers, please see the entry requirements section of our course pages on our online prospectus. For more information about this policy, please see nottingham.ac.uk/ugstudy/applying

Deferred entry
Applicants who wish to defer their entry by a year will not be at a disadvantage. Please tell us something about your plans for your gap year in your UCAS personal statement.

Equal opportunities policy
The University aims to create the conditions whereby students and staff are treated solely on the basis of their merits, abilities and potential, regardless of gender, race, colour, nationality, ethnic or national origin, age, socio-economic background, disability, religious or political beliefs, trade union membership, family circumstances, sexual orientation or other irrelevant distinction.

£19,571 was the average starting salary with the highest being £45,000.*

Whether you need help writing a CV, preparing for an interview or exploring career ideas, finding an internship or part-time work, you can book one-to-one appointments or come along to a workshop. Each term there is also an exciting events schedule, bringing you face-to-face with employers offering real-life insight into their professions.

The Nottingham Advantage Award
The award-winning Nottingham Advantage Award recognises and rewards your extracurricular activities. With a choice of over 200 modules, you can hone the key skills employers want. From developing your leadership skills and learning a language to public speaking and volunteering, you will leave university with demonstrable experience that sets you apart from other graduates. For further information, please visit nottingham.ac.uk/ careers/advantage

Find out how to apply please visit nottingham.ac.uk/ugstudy/applying

Flexible admissions policy
We recognise that some educational and personal circumstances affect achievement. If we judge that you have experienced circumstances that have adversely affected your achievement, we will consider them when assessing your academic potential. Some courses may vary the offer as a result. For the most up to date information about our offers, please see the entry requirements section of our course pages on our online prospectus. For more information about this policy, please see nottingham.ac.uk/ugstudy/applying

Mature applicants
We encourage applications from mature applicants who have a significant gap in education. You should apply in the normal way through UCAS. More information for mature students can be found at nottingham.ac.uk/mature

International applicants
The University provides a range of information and advice for international applicants. If you are unable to attend an open day, we can meet you in your country at one of our overseas events or arrange an individual visit to the University. For further information, please visit nottingham.ac.uk/go/international-applicants

To find out how to apply please visit nottingham.ac.uk/ugstudy/applying

How do I apply?
Experience it in a world beyond ordinary

There’s so much for you to get involved in and explore at the University and around the city. Whether you’re interested in sports, learning a language or just having fun with friends alongside studying, you’ll be spoilt for choice.

Your opportunity to study abroad

We offer a range of study abroad opportunities with many students having the option to live and study in another country as part of their university career. Studying or working abroad is a fantastic opportunity to broaden your horizons, experience different cultures, and develop the key skills that employers are looking for. Find out more: nottingham.ac.uk/studywithus/studyabroad

Music

All student musicians at the University of Nottingham are encouraged to get involved with the vibrant musical life on campus. Find out more: nottingham.ac.uk/music/performance

Exploring your new city

Nottingham city centre is around a 10-minute bus ride away from University Park Campus, so you’re always close to the action. There are plenty of music venues, from the world-famous Rock City to the Motorpoint Arena or one of the smaller gig venues for a more intimate live show. If you enjoy shopping, there are independent boutiques and vintage shops as well as high street names in our large shopping centres. Nottingham is also a hotspot for dining, with a great choice of cuisines on offer. Find out more: nottingham.ac.uk/nottinghamlife

Getting involved in your Students’ Union

University of Nottingham Students’ Union (UoNSU) is a brilliant, diverse community, and whether you are an undergraduate or postgraduate, first-year or final-year student, you are a part of it. With 300+ student-led groups, clubs and societies, hundreds of volunteering opportunities and support for every stage of your university journey, your Students’ Union offers something for everyone. Find out more: su.nottingham.ac.uk

Sport

The University of Nottingham is one of the UK’s leading universities for sport and is currently ranked 4th in the university sport rankings*. We have one of the biggest portfolios of sports facilities in the country including the brand new £40m David Ross Sports Village. We also have a rich heritage of supporting Olympic medallists and we have more than 70 student sports clubs to choose from. Find out more: nottingham.ac.uk/sport

*British Universities and Colleges Sport Standings, 2015-16.

Your new home from home

At Nottingham we offer a wide range of room types across the campuses in both catered and self-catered accommodation. From standard single rooms with shared bathrooms to large en-suite studios and flats, there’s something to suit every budget and personal choice. For current pricing and to review all accommodation options please visit nottingham.ac.uk/accommodation

Your support network

Throughout your university journey there will be numerous people on hand to support and advise you, including tutors and dedicated staff. We have Student Service Centres on all three of our UK campuses, which provide a range of support, information and specialist services. Find out more: nottingham.ac.uk/studentservices

Learn a language

The University’s Language Centre gives you the opportunity to study a language alongside your course. All languages are offered from beginners’ level with some going up to near native competency. There are nine languages to choose from: Modern Standard Arabic, Dutch, French, German, Italian, Japanese, Mandarin Chinese, Russian, and Spanish. Find out more: nottingham.ac.uk/language-centre
For undergraduate enquiries contact:
Student Recruitment Enquiries Centre
+44 (0)115 951 5559
nottingham.ac.uk/enquire

UoNLifeSciences
@UoNLifeSci

nottingham.ac.uk/life-sciences

This publication is available in alternative formats:
+44 (0)115 951 5559

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This brochure has been drafted in advance of the academic year to which it applies. Every effort has been made to ensure that the information contained in this brochure is accurate at the time of publishing, but changes (for example to course content) are likely to occur given the interval between publication and commencement of the course. It is therefore very important to check our website for any updates before you apply for the course by following nottingham.ac.uk/ugstudy. Where there is a difference between the contents of this brochure and our website, the contents of the website take precedence.