

Biochemistry

 BSc (Hons)

COURSE DETAILS

- A level requirements: [ABB](#)
- UCAS code: C700
- Study mode: Full-time
- Length: 3 years

KEY DATES

- Apply by: [31 January 2024](#)
- Starts: 23 September 2024

Course overview

If you have a natural curiosity for science and a proven understanding of biology and chemistry, coupled with a desire to learn how science can be exploited for the benefit of mankind, then you have a fascinating career ahead of you.

INTRODUCTION

You'll study a broad range of tailored modules including biomolecular structure and function, metabolism and bioenergetics, and molecular cell biology, with the opportunity to specialise and carry out your own research-based project.

We also offer support for making career choices right from the beginning and you will have the opportunity to consider potential career pathways within and outside the broad field of biochemistry.

You'll learn and develop those important transferable skills in communication, team working, project management and computing with practical sessions and group work.

WHAT YOU'LL LEARN

- Analyse biochemical data and apply appropriate statistics
- Apply bioinformatics and computational biology tools to molecules of biochemical interest
- Apply biochemical knowledge in fundamental and clinical settings
- Understand how biochemistry underpins diverse biology, from bacteria to plants to humans
- Become literate in finding, interpreting, evaluating and managing information
- Communicate ideas effectively to a variety of audiences

- Work independently and collaboratively
 - Develop critical thinking and problem-solving skills
 - Use lab equipment correctly and safely
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Course content

Discover what you'll learn, what you'll study, and how you'll be taught and assessed.

YEAR ONE

In this first year, you'll gain an understanding of core concepts of biology and biochemistry, as well as the fundamental principles of immunity, infection, and therapy. You will study how organisms develop and function and learn about biological challenges that affect the global environment. You will also develop bioinformatics and practical skills, and you will discover how to utilise quantitative skills.

COMPULSORY MODULES

- Biology core concepts, principles, and fundamentals BIOS101
- Development, function, immunity, infection, and therapeutics BIOS102
- Introductory Practical Skills for Life Sciences BIOS103
- From Individuals to Ecosystem BIOS104
- Study and Communication Skills Tutorials BIOS105
- Applied Practical Research Skills for Life Sciences BIOS106

Programme details and modules listed are illustrative only and subject to change.

YEAR TWO

In your second year you'll expand your range of knowledge, building essential research skills in experimental design and analysis. You will also hone professional skills, preparing you for a career within or outside the broad field of biochemistry. You will study biochemical techniques, cell signalling, biochemical pathways, macromolecular structure and genetics. In addition, you will have optional modules enabling you to follow your interest in pharmacology, health and disease, or physiology.

COMPULSORY MODULES

- Genetics, Microbiology & Infection BIOS201
- Intermediary Practical Research Skills for Life Sciences BIOS203
- Practical Skills in Biomolecular and Drug Interactions BIOS204
- Academic & professional skills tutorials BIOS205
- The Cellular Basis of Health & Disease BIOS209
- Metabolism BIOS212
- Chemistry for Life Sciences BIOS215

OPTIONAL MODULES (CHOOSE ONE)

- Cellular and Systems Physiology BIOS214
- Drug Discovery & Development BIOS216
- Molecular Microbiology & Therapeutics BIOS218
- Further Chemistry for Life Sciences CHEM038

Programme details and modules listed are illustrative only and subject to change.

YEAR THREE

Year three will provide an unparalleled opportunity for you to learn at the cutting edge of biochemistry research and be taught by world-leading academics in subjects allied to multi-'omics, molecular systems biology, protein structure and function and cell biology in health and disease. You will also develop advanced scientific skills and you will have the opportunity to take a physical or virtual placement. Central to this year is the research project where you will plan and execute your own research, analyse and critically evaluate data and communicate your research findings in your chosen specialisation.

COMPULSORY MODULES

- Research Project BIOS301
- Introduction to the World of Work BIOS302
- Research Methods BIOS303
- Applied Biochemistry BIOS306
- Molecular Systems Biology BIOS309
- Structural Biology BIOS311
- How do cells make decisions? BIOS331

Programme details and modules listed are illustrative only and subject to change.

HOW YOU'LL LEARN

You'll learn through a balanced mix of lectures, workshops, seminars and tutorials as well as hands-on, practical laboratory sessions, working individually and in small groups.

HOW YOU'RE ASSESSED

Assessed work includes essays, presentations, group work, digital communications, qualitative and experimental reports and formal examinations with results from years two and three contributing to your final degree classification.

LIVERPOOL HALLMARKS

We have a distinctive approach to education, the Liverpool Curriculum Framework, which focuses on research-connected teaching, active learning, and authentic assessment to ensure our students graduate as digitally fluent and confident global citizens.

Careers and employability

As a Life Sciences graduate from the University of Liverpool, you will have an excellent set of career options ahead of you.

Typical types of roles/routes our graduates have gone on include:

- Postgraduate study: (MBiolSci, MSc, MRes, MPhil or PhD)
- Public sector – research institutes, government departments, the National Health Service, forensic science and the Environment Agency.
- Commercial sectors – pharmaceutical, food, biotechnology, water and agriculture industries.
- Journalists and information/liaison officers – by developments in molecular biology and biotechnology.
- Teaching profession by taking a postgraduate qualification (PGCE).
- Routes to postgraduate Medicine, Dentistry or Veterinary Science.

Recent employers and sectors:

- Pharmaceutical sector: Eli-Lilly, AstraZeneca, Glaxo SmithKline, NHS, Red X Pharma;
- Tourism/Conservation sector: Blue Planet Aquarium, Chester Zoo, RSPCA;
- Government/Legal sector: Crown Prosecution Service, The Environment Agency, Public Health England, Home Affairs, Ministry of Defence, Security and International Development;
- Media/Entertainment Sector: BBC;
- Corporate and Utilities sector: United Utilities, Vodafone, Unilever.

4 IN 5 LIFE SCIENCES STUDENTS FIND THEIR MAIN ACTIVITY AFTER GRADUATION MEANINGFUL.

Graduate Outcomes, 2018-19.

Fees and funding

Your tuition fees, funding your studies, and other costs to consider.

TUITION FEES

UK fees (applies to Channel Islands, Isle of Man and Republic of Ireland)	
Full-time place, per year	£9,250

International fees	
Full-time place, per year	£27,200

Fees are correct for the academic year 2024/25

Tuition fees cover the cost of your teaching and assessment, operating facilities such as libraries, IT equipment, and access to academic and personal support. [Learn more about tuition fees, funding and student finance.](#)

ADDITIONAL COSTS

We understand that budgeting for your time at university is important, and we want to make sure you understand any course-related costs that are not covered by your tuition fee. This includes the costs associated with placements or internships, and the optional field course in Uganda.

Find out more about the [additional study costs](#) that may apply to this course.

SCHOLARSHIPS AND BURSARIES

We offer a range of scholarships and bursaries to provide tuition fee discounts and help with living expenses while at university.

Check out our [Undergraduate Global Advancement Scholarship](#). This offers a tuition fee discount of up to £5,000 for eligible students starting an undergraduate degree from September 2024. There's also [the Liverpool Bursary](#) which is worth £2,000 per year for eligible students.

[Discover our full range of undergraduate scholarships and bursaries](#)

Entry requirements

The qualifications and exam results you'll need to apply for this course.

Your qualification	Requirements About our typical entry requirements
A levels	<p>ABB</p> <p>Applicants with the Extended Project Qualification (EPQ) are eligible for a reduction in grade requirements. For this course, the offer is BBB with A in the EPQ.</p> <p>You may automatically qualify for reduced entry requirements through our contextual offers scheme.</p> <p>If you don't meet the entry requirements, you may be able to complete a foundation year which would allow you to progress to this course.</p> <p>Available foundation years:</p> <ul style="list-style-type: none">• Biological Sciences (with a Foundation Year) leading to BSc (Hons)
GCSE	4/C in English and 4/C in Mathematics
Subject requirements	<p>Biology and Chemistry at A level.</p> <p>For applicants from England: Where a science has been taken at A level (Chemistry, Biology or Physics), a pass in the Science practical of each subject will be required.</p>
BTEC Level 3 National Extended Diploma	<p>D*DD in Applied Science with a selection of preferred units in Biology and Chemistry, to include Distinction in Units 1 and 5 (Principles and Applications of Science I and II).</p> <p>For previous BTEC (QCF) qualification:</p> <p>D*DD in Applied Science with a selection of preferred units in Biology and Chemistry, with at least 120 Level 3 credits at Distinction.</p>

Your qualification	Requirements About our typical entry requirements
	Please note alternative BTEC subjects are not acceptable for this programme.
BTEC Applied Science unit requirements	View the BTEC Applied Science unit requirements.
International Baccalaureate	33 including 6/5 at higher level in Biology/Chemistry
Irish Leaving Certificate	H1, H2, H2, H2, H3, H3 including grade H2 in both of Higher Level Biology and Higher Level Chemistry.
Scottish Higher/Advanced Higher	Not accepted without Advanced Highers at grades ABB
Welsh Baccalaureate Advanced	Accepted at grade B as equivalent to a third non-science A level at grade B.
Access	45 Level 3 credits in graded units in a relevant Diploma, including 30 at Distinction and a further 15 with at least Merit. 15 Distinctions are required in each of Biology and Chemistry. GCSE Mathematics and English grade C/4 also required.
International qualifications	Many countries have a different education system to that of the UK, meaning your qualifications may not meet our entry requirements. Completing your Foundation Certificate, such as that offered by the University of Liverpool International College , means you're guaranteed a place on your chosen course.

ALTERNATIVE ENTRY REQUIREMENTS

- If your qualification isn't listed here, or you're taking a combination of qualifications, [contact us](#) for advice
- [Applications from mature students](#) are welcome.

THE ORIGINAL

REDBRICK