Course Summary: May 23, 2025

Biochemistry MSci Honours

- UCAS code: **C701**
- Full time
- 4 years

This four-year Biochemistry MSci degree prepares you for a career at the forefront of life-saving medical developments with advanced knowledge and practical skills.

You are currently viewing course information for entry year: **2025**

Next start date:

- September 2025

Tuition fees (Year 1)

- Home: **£9,535**
- International: **£30000**

Entry requirements and offers

- A-Level: **AAB**
- IB: **34 points**

View contextual offers

UCAS Institution name and code:

- NEWC / N21

Course overview

Our Biochemistry integrated master's degree studies life at the molecular level. You'll develop an understanding of what causes diseases like cancer and how new technologies and drug treatments can help patients.

You'll explore the chemical processes that occur in cells of other living organisms, from bacteria to humans. You'll also gain knowledge and skills in molecular biology, biomedical sciences, biotechnology.

You'll learn how analytical techniques used by the industry – particularly the pharmaceutical or biotech companies – are used to discover or design new drugs or solve environmental problems.

The course includes topics such as:

- DNA replication, recombination and repair
- control of gene expression
- molecular basis of cancer and chronic diseases
- applications of biochemistry in real-world problems such as biofuels, drug-design, nano-circuits and bio-sensing

BSc or MSci?

Some of our degrees are offers at two levels:

- three-year Bachelor of Science (BSc)

- four-year Master in Science (MSci)

Our MSci degrees include an additional year of advanced study at master's level, where you will gain additional research and practical experience to increase your employability and have the opportunity to work alongside our world-leading experts.

Your course and study experience - disclaimers and terms and conditions
Please rest assured we make all reasonable efforts to provide you with the programmes, services and facilities described. However, it may be necessary to make changes due to significant disruption, for example in response to Covid-19.

View our Academic experience page, which gives information about your Newcastle University study experience for the academic year 2024-25.

See our terms and conditions and student complaints information, which gives details of circumstances that may lead to changes to programmes, modules or University services.

Additional information

Transfer to Medicine or Dentistry

There is flexibility to transfer between our degree programmes at the end of the first year if you find your interests change.

You can also apply to transfer to our Medicine or Dentistry degree. This opportunity is open to UK, EU and international students. It is competitive, with a limited number of places available. Students are selected on the basis of academic performance in the first year, a UKCAT score, a personal statement and, if shortlisted, an interview.

Quality and ranking

Professional accreditation and recognition

All professional accreditations are reviewed regularly by their professional body.

Modules and learning

Modules

The information below is intended to provide an example of what you will study.

Most degrees are divided into stages. Each stage lasts for one academic year, and you'll complete modules totalling 120 credits by the end of each stage.

Our teaching is informed by research. Course content may change periodically to reflect developments in the discipline, the requirements of external bodies and partners, and student feedback.

Optional module availability
Student demand for optional modules may affect availability.

Full details of the modules on offer will be published through the Programme Regulations and Specifications ahead of each academic year. This usually happens in May.

To find out more please see our terms and conditions

Our Biomedical and Biomolecular Sciences degrees are divided into two phases:

- phase 1 is shared by all degrees and provides a broad introduction to biomolecular sciences

- phase 2 provides specialist topics relating to your degree

This flexible structure gives you the chance to try a broad range of topics, helping you to see where your interests lie.

Phase 1 (Stage 1 and part of Stage 2)

You're introduced to biomolecular sciences through a series of modules.

Phase 2 (remainder of degree)

You'll study topics such as:

- DNA replication, recombination and repair
- cell signalling and cell cycle
- proteins, enzymes and analysis
- protein trafficking and membrane
- biochemistry of cancer, chronic diseases and gene expression
- applied and integrated biochemistry

You'll complete a research project in an area linked to your degree.

Modules

Compulsory Modules	Credits
Biochemistry	15
Genetics	15
Microbiology and Immunology	15
Cell Biology	15
Professional and Practical Skills for Bioscientists	30
Pharmacology	15
Physiology	15

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Modules

Compulsory Modules	Credits
Biochemistry and Genetics of Signalling and the Cell Cycle	20
DNA Replication, recombination and Repair	10
Proteins and Enzymes	20

Protein Trafficking and Biological Membranes	20
Advanced Protein Analysis	10
Essential Biomedical Research Skills	20
Control of Eukaryotic Gene Expression	10
Cell and Molecular Biology of the Immune System	10

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You'll complete a research project in an area linked to your degree.

You will undertake an extended individual research project which begins in the final semester of Stage 3 and continues throughout your final year.

Modules

Compulsory Modules	Credits
Integrated Biochemistry	10
Biochemistry of Gene Expression	20
Applied Biochemistry	20
Biochemistry of Cancer and Chronic Diseases	20

Additional compulsory module information

You also take one of the following modules (shown in the optional list below):

Research Project for Stage 3 MSci Students (40 credits)
OR
Research Project for Exchange Students (40 credits)

Optional Modules	Credits
Research in Biochemistry & Genetics	10
Business Enterprise for the Bioscientist	10
Health and Illness: Professional and Societal Perspectives	10
Science Communication	10
Bioethics	10
Bioinformatics	10
Research project for exchange students	40
Research Project for Stage 3 MSci Students	40

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Modules

Compulsory Modules	**Credits**
Research Project	80
Optional Modules	**Credits**

Comparative Cognition: Information Processing in Humans and Other Animals	20
Exercise in Health and Disease	20
Drug Delivery and Nanomedicine	20
Human Health and the Impact of Microbial Genomics	20
Therapeutic Applications of Cell Signalling Pathways	20
Bioinformatics for Biomedical Scientists	20
Human Nutrition Science	20
Mechanisms in Genetic Disease: from Genotype to Phenotype	20

Choose your remaining 40 credits from the range of Master's-level modules outlined above.

Information about these graphs

We base these figures and graphs on the most up-to-date information available to us. They are based on the modules chosen by our students in 2024-25.

Teaching time is made up of:

- scheduled learning and teaching activities. These are timetabled activities with a member of staff present.
- structured guided learning. These are activities developed by staff to support engagement with module learning. Students or groups of students undertake these activities without direct staff participation or supervision

Teaching and assessment

Teaching methods

You'll learn through a combination of lectures, practical laboratory classes, and small group seminars.

To support your learning, you will be able to access online resources such as lecture and teaching materials and recordings on our main Virtual Learning Environment.

You also have the chance to attend optional research talks, aimed especially at first-year students, as part of our biomedicine+ programme.

Assessment methods

You'll be assessed through a combination of:

- Assessments
- Assignments – written or fieldwork
- Case studies
- Coursework
- Dissertation or research project
- Essays
- Examinations – practical or online
- Group work
- Practical sessions
- Presentations
- Projects
- Reports
- Seminar tasks/exercises

Skills and experience

Research skills

In your third year, you complete a research project on a topic that interests you. This gives you practical experience of planning and conducting research, boosting your CV with desirable skills.

During your final year, you will undertake a 10-week research project, and work alongside research staff, in either one of our cutting-edge research laboratories or in one of our laboratory-based projects in different parts of Europe.

You'll plan, design and conduct your experiments under the supervision of a member of academic staff, learning advanced research technical skills.

Business skills

In your third year, you'll select a module, designed to boost your professional skills in an employment area that we know many of our graduates progress to, for example:

- microbiology
- healthcare organisation and practice
- science communication
- research in biochemistry
- bioethics
- bioinformatics

You'll have the chance to take a 6-to-8-week summer research placement in a research lab and develop strong professional skills, or a one-year professional placement in industry or in a research laboratory.

Practical skills

Biochemistry is a practical science. You'll have many opportunities to develop technical laboratory competencies, as well as essential professional skills.

You'll develop fundamental biochemistry techniques, bioinformatics knowledge and data analysis and problem-solving skills through practical laboratory sessions.

You'll also have opportunities to further develop your technical and transferable skills, by applying for a part-time laboratory assistant job during your second year working in one of our research labs, and contributing to the world-leading research carried in our institutes.

Opportunities

Study abroad

You can gain a global perspective and enhance your academic profile by studying abroad. This opens doors to exciting new experiences. Study abroad for one semester or a full academic year at one of our partner universities overseas.

Study abroad usually takes place in stage 3 of your studies and extends your degree by one year. You can also choose short-term global opportunities like summer schools, virtual exchanges or internships that usually take place over the summer months.

Find out more about study abroad.

Work placement

Apply your practical skills, increase your confidence and gain real-life work experience to accelerate your career. Take a 9-12-month industrial placement in the UK or abroad. Work placements usually take place in stage 3 of your studies and extend your degree by one year.

Find out more about work placements.

Facilities and environment

Facilities

You'll be based in the School of Biomedical, Nutritional and Sport Sciences in the Faculty of Medical Sciences at our city-centre campus. The Faculty is also home to Dentistry, Medicine, Psychology and Pharmacy, making it a vibrant environment for learning and research.

Our facilities include:

- a dedicated medical library with a wide range of specialist books and journals
- spacious modern teaching laboratories
- hi-tech computer clusters and study spaces
- cutting-edge research laboratories and equipment facilities
- flexible student social spaces
- being less than two minutes' walk of the sports centre

Find out about the School of Biomedical, Nutritional and Sport Sciences

Support

You'll have the support of an academic member of staff as a personal tutor throughout your degree to help with academic and personal issues.

Peer mentors will help you in your first year. They are fellow students who can help you settle in and answer any questions you have, when starting university.

We have study skills ambassadors; peers who can help you with your studies including maths support.

We also have Phase Advisors who monitor your academic progress, and in-school Wellbeing Advisors who can help you manage issues affecting you during your studies.

Your future

Graduates from our Biochemistry degrees have gone on to work in internationally recognised companies, such as:

- BUPA
- Helena Biosciences Europe
- Cellmark
- Fujifilm Diosynth Biotechnologies
- Quantum Pharmaceutical
- GlaxoSmithKline Plc

Make a difference

Careers support

Throughout your studies, there will be many opportunities to engage with industry including:

- site visits
- guest lectures
- employability fairs
- industrial placements
- internships
- advice from industry

Develop your employability with the support of the School through:

- summer placements
- internship opportunities
- SOLAR – a student-led outreach group teaching school children science
- opportunities to participate in clinical work shadowing
- becoming a student rep or ambassador
- mock interviews
- CV interviews
- careers clinics
- earning open badges
- enterprise challenge events
- assistance with applying to medicine/dentistry/postgraduate study

Our Careers Service is one of the largest and best in the country, and we have strong links with employers. We provide an extensive range of opportunities to all students through our ncl+ initiative.

Visit our Careers Service website

Recognition of professional qualifications outside of the UK

From 1 January 2021 there is an update to the way professional qualifications are recognised by countries outside of the UK

Check the government's website for more information.

Find out more...

- Go online for information about our full range of degrees: **www.ncl.ac.uk/undergraduate**
- To watch videos about student life in Newcastle, visit **www.ncl.ac.uk/lovenewcastle**
- Visit **www.ncl.ac.uk/tour** to take virtual tours of the campus and city
- Book for an Open Day to come and see us in person **www.ncl.ac.uk/openday**
- Contact us online at **www.ncl.ac.uk/enquiries** or phone +44 (0)191 208 3333

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