Course Summary: April 1, 2025

Chemistry with Medicinal Chemistry BSc Honours

- UCAS code: **F151**
- Full time
- 3 years

This professionally accredited BSc degree equips you with a thorough understanding of all the main areas of chemistry, alongside in-depth knowledge of those aspects of chemistry that are important to the pharmaceutical industry.

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

Next start date:

- September 2025

Tuition fees (Year 1)

- Home: **£9,535**
- International: **£30600**

Entry requirements and offers

- A-Level: **ABB**
- IB: **32 points**

View contextual offers

UCAS Institution name and code:

- NEWC / N21

Course overview

Chemistry touches every part of our lives. From food and medicine to biotechnology and renewable energy, its influence is endless. As a Chemist, you can have a great career and make a difference in the world.

Medicinal Chemistry is the discovery, design and synthesis of new clinical drugs. This exciting degree allows you to broaden your interests as you discover the subject. It includes the option to spend a year **studying abroad** or **working in industry**.

You'll explore the role of chemistry in:

- drug design
- cancer chemotherapy
- enzymology
- toxicology

You'll study organic, inorganic, physical and structural chemistry. You'll investigate modern analytical techniques and computational chemistry. You can create your own distinct learning experience at Newcastle. You'll explore your interests as you discover the subject.

The facilities are outstanding at Newcastle. You'll have the opportunity to study in modern research laboratories and synthetic chemistry teaching laboratories.

BSc or MChem?

The MChem programme is perfect for those pursuing a career within scientific research.

Our MChem degree follows the normal BSc curriculum, plus a further year of advanced study. You'll undertake a research project in the fourth year. You'll gain valuable experience of working in a research environment.

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

Flexible degree structure

Our chemistry degrees share a common first year. This ensures that you develop a solid foundation in chemistry and its many forms.

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 chemistry degrees share a common first year. This ensures that you develop a solid foundation in chemistry and its many forms. You'll explore the fundamentals of organic, inorganic and physical chemistry.

Modules

Compulsory Modules	Credits

Chemical Laboratory Skills 1	20
Chemical Skills and Professionalism	10
Fundamentals of Organic Chemistry	20
Fundamentals of Inorganic Chemistry	20
Fundamentals of Physical Chemistry	20
General Chemistry	10

Additional compulsory module information

If you have A Level Maths grade C or below you take the following compulsory module:
Mathematical Skills for Chemists (10 credits)

Optional Modules	Credits
Natural Science Research Impact	10
Climate Change and the Earth System	10
Mathematical Skills for Chemists	10
Introduction to Scientific Computing for Chemists	10
Fundamentals of Biological Chemistry	10

You'll explore concepts in medicinal chemistry including pharmacokinetics, pharmacodynamics, enzymes and drug design. You'll be introduced to structure-based drug design using CCP4 Molecular Graphics software.

You'll take an employability module that includes a Professional Awareness Event. You'll have the opportunity to interact with a range of companies.

Modules

Compulsory Modules	Credits
Sustainable Solutions	10

Chemical Laboratory Skills 2	20
Structural Chemistry	10
Organic Chemistry	20
Inorganic Chemistry	20
Physical Chemistry	20
Medicinal Chemistry	10
Optional Modules	**Credits**
Applied Computational Medicinal Chemistry	10
Chemistry of the Atmosphere	10

You'll discover more advanced concepts in medicinal chemistry including toxicology, enzymology, cancer chemotherapy and chemotherapy of infectious diseases.

You'll also study advanced organic and inorganic chemistry, exploring topics including chemical nanoscience, synthesis and bioinorganic chemistry.

You'll also complete an independent research literature project. This will help to develop your skills in reviewing, critiquing and presenting research material.

Modules

Compulsory Modules	**Credits**
Professional Development and Employability Skills for Chemists	10
Advanced Organic Chemistry	20
Advanced Inorganic Chemistry	20
Advanced Medicinal Chemistry	20
Advanced Structural Chemistry	10
Chemical Laboratory Skills 3M	20
Analytical Chemistry in Practice	20

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 2023-24.

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

Teaching is by a combination of lectures, tutorials and lab-based and computational experiments. You will have practical classes for two afternoons each week in Stage 1 and these increase in later years.

Assessment methods

You'll be assessed through a combination of:

- Assessments
- Examinations – practical or online
- Practical sessions

Skills and experience

Practical skills

You'll have the opportunity to develop professional laboratory skills through practical experience in our high-spec teaching labs.

You'll also develop strong analytical and problem-solving skills. These will enable you to pursue careers outside of Chemistry, including:

- accountancy
- patent law
- marketing

Business skills

You're able to develop business skills through:

- employability skills modules across all stages
- work placements
- study abroad opportunities
- industrial visits

You'll develop key skills, including:

- writing proposals
- writing scientific reports and papers
- delivering presentations

You'll also network with industry at our Professional Awareness Day, empowering you to make decisions about your career.

Research skills

Research is at the heart of what we do. Our latest research discoveries feed into your curriculum. You'll learn on the cutting-edge of Chemistry. Our discoveries include:

- discovery of new anti-cancer drugs
- development of battery technology
- creation of nanoscale electronics

Opportunities

Study abroad

Experience life in another country by choosing to study abroad as part of your degree. You'll be encouraged to embrace fun and challenging experiences, make connections with new communities and graduate as a globally aware professional, ready for your future.

You can choose to spend up to a year studying at a partner institution overseas.

If you choose to study abroad, it will extend your degree by a year.

Find out more about study abroad

Work placement

Get career ready with a work placement and leave as a confident professional in your field. You can apply to spend 9 to 12 months working in a chemistry-related role with any organisation in the world. You'll receive University support from our dedicated team to secure your dream placement. Work placements take place between stages 2 and 3.

You'll gain first-hand experience of working in the sector, putting your learning into practice and developing your professional expertise.

If you choose to take a work placement, it will extend your degree by a year. Your degree title will show you have achieved the placement year. Placements are subject to availability.

Find out more about work placements.

Facilities and environment

Facilities

During your studies, you'll be based in the School of Natural and Environmental Sciences at our city-centre campus.

You'll have the opportunity to study in well-resourced research laboratories and synthetic chemistry teaching laboratories. Our facilities also include:

- physical chemistry laboratory
- mechanical, glassblowing and electronic workshops, staffed by highly trained technicians
- facilities for the synthesis and characterisation of novel materials
- extensive computational resources for molecular modelling and dynamics
- a centralised NMR facility which includes 200, 300 and 500 MHz spectrometers

Support

To support you in your studies, all new students entering year 1 or year 2 will receive a lab coat for laboratory practicals.

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

Your future

Join a network of successful graduates

Employers hold our graduates in high regard. Our graduates go on to work in a wide variety of sectors, including:

- drug development
- pharmacologist
- data analyst
- laboratory technician

Benefit from strong industry links

You'll also benefit from our well-established links with organisations within the industry, such as:

- Astra Zeneca
- GlaxoSmithKline
- Proctor & Gamble

Enterprising students

Careers support

Our Enterprise Challenge gives students the opportunity to work with industry on a project that tackles real-world issues. Watch the above video to find out more.

Our award-winning 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

This brochure is created from web content and is up to date at the time of creation (see the first page for creation date). If you are on screen you are able to use the live links that are highlighted in blue. If reading in print, the URLs provided above will help you to navigate back online. Full details of the University's terms and conditions, including reference to all relevant policies, procedures, regulations and information provision, are available at: **www.ncl.ac.uk/pre-arrival/regulations**

© Newcastle University.
The University of Newcastle upon Tyne trading as Newcastle University.