

Course Summary: November 25, 2020

## Biology (Cellular and Molecular Biology)

BSc Honours

- UCAS code: **C1C7**
- Full time
- 3 years
- Next start date: **September 2020**

This degree focuses on biomolecules, organelles and cells, and how they all contribute to the function of organisms as a whole.

### Fees (per year)

- Home: **£9250**
- International: **£22800**

### Entry requirements

- A Level: **AAB-BBB**
- IB: **32-34 points**

### UCAS Institution name and code:

- NEWC / N21

## Course overview

This degree covers plants, animals and micro-organisms. After studying our core biology curriculum in your first year, you go on to study specialist topics including:

- cell biology
- plant biology
- microbiology

Teaching in later Stages is strongly informed by our research expertise and includes topics such as:

- biotechnology and bioprospecting
- genomics

You also have the opportunity to select a module that focuses on development of ideas for a business. You'll develop scientific skills required by professional biologists through lab-based sessions and a specialist week-long laboratory workshop on molecular techniques.

### BSc or MBiol?

Some of our degrees are offered at two levels:

- three-year Bachelor of Science (BSc)
- four-year Master of Biology (MBiol)

Our MBiol degrees involve an additional year of advanced study at master's level, during which you will gain significant research experience to increase your employability.

### COVID-19

Please rest assured we make all reasonable efforts to provide you with the courses, services and facilities described. However, it may be necessary to make changes due to significant disruption, for example in response to COVID-19.

[See our terms and conditions for more information](#)

[View our Frequently Asked Questions](#)

## Your course during COVID-19

Whilst things will not be the same when you join us in September, this course page is intended to give you insight into what to expect from your course and your learning experience for the duration of your degree.

We have updated all course information where there are specific changes in the first semester.

### Facilities

Most of our student services are now available online. As COVID-19 restrictions lift, we'll be opening up our on-campus facilities as soon as it is safe to do so, so that you can get the best out of your studies.

### Your learning experience

Your teaching will be a mixture of online and in-person on-campus teaching. In semester one, as a result of physical distancing requirements, all lecture materials will be delivered online along with many tutorials, workshops and labs.

Our aim, if Government guidance allows us, is to deliver up to three hours of labs, seminars and tutorial teaching in-person on campus where this is possible and safe to do so. We'll review this regularly and plan to return to full in-person, on-campus teaching in semester two if restrictions allow.

### Assessment

In semester one, we will not be running face-to-face, on-campus examinations. We will instead use different approaches to assessment. These will test and support your learning.

## Field trips

We will be running some but not all of our planned field trips. Some of those that do run, will be run virtually. For those that do not run, we will be offering alternative learning activities. These learning activities will give you the opportunity to achieve the same learning.

## Terms and conditions and student complaints

The University has [terms and conditions](#) which create a positive environment for learning and academic achievement.

## Further information

Our [COVID-19 Study page](#) gives more information about your Newcastle University 2020 study experience.

Given the changing nature of the COVID-19 pandemic, the commitments outlined are subject to the guidelines that may be in place at the time.

## Quality and ranking

Biology at Newcastle ranks in the top 150 in the world in the Life Sciences category, Times Higher Education World University Rankings by Subject 2020.

## 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](#).

The first year of this degree is shared with other degrees in the School. This provides all students with a thorough knowledge of the fundamentals of biology. You can transfer to one of our other Biology degrees before the second year should your interests change (subject to achieving the appropriate grades).

## Modules

Compulsory Modules	Credits
<a href="#">Genetics and Evolution</a>	20
<a href="#">Diversity of Life: Form and Function</a>	20
<a href="#">Ecology and Conservation</a>	20
<a href="#">Cells and Biomolecules</a>	20
<a href="#">Academic and Professional Skills for the Biosciences</a>	20
Optional Modules	Credits
<a href="#">Crop Pests</a>	10

Principles of animal physiology and health	20
Natural Science Research Impact	10
Sedimentology and Stratigraphy	10
Introduction to Scientific Computing for Chemists	10
The Marine Environment	20
Marine Microbiology and Primary Producers	20

You may have the flexibility to choose an alternative optional module from the wider University with approval of the Degree Programme Director.

In Stage 2, you'll start to specialise in cellular and molecular biology, studying topics such as plant biology, microbiology, cellular biochemistry, and methods in biotechnology.

## Modules

Compulsory Modules	Credits
Experimental Design and Statistics	10
Cellular Biochemistry	20
Biotechnology: Principles and Practice	20
Bioprospecting: chemical and biological diversity of endophytic bacteria	20
Optional Modules	Credits
Animal Parasitology	10
Sustainable Solutions	10
Microbiology	10
Pollution of Air, Water & Soil	10

Animal Function (Physiology and Development)	20
Plant Biology	20
Molecular Evolution and Systematics	20
Applied Marine Biology	20
Career Development for second year students	20
Developing Enterprise, Entrepreneurship and Employability	20

In your final year, you'll enhance your knowledge further, with modules covering genomics, cellular systems, and biotechnology applications.

You'll also have the choice between a biological literature review, a biological research project, or a biological information project.

### Modules

Compulsory Modules	Credits
Biotechnology: Applications	20
Optional Modules	Credits
Molecular Evolution and Systematics	20
Cellular Systems	10
Current Research in Plant and Microbial Biology	10
Biological Modelling	20
Microbial Genomics	20
Global challenges in plant science research	20
Biological Literature Review	40
Biological Information Project	40

Biological Research Project	40
Creativity, Innovation and Market Research in Science and Engineering UG	10

## Teaching and assessment

### Teaching methods

You'll be taught through a combination of:

- lectures
- seminars
- lab work
- tutorials
- fieldwork

### Assessment methods

You'll be assessed through a combination of:

- Assignments – written or fieldwork
- Case studies
- Dissertation or research project
- Essays
- Examinations – practical or online
- Presentations
- Projects

## Skills and experience

### Research skills



Throughout your studies, you'll develop key research skills, conduct your own research, and also learning from the research of your lecturers.

In Stage 2, you'll complete a bioprospecting module, where you'll carry out independent research looking at bacteria with novel properties.

In your final year, you'll have the option to complete a biological research project.

### Business skills

This course has been designed to equip you with real-world skills and experience.

Between stages 2 and 3, you'll be able to complete an optional work placement – many of our students secure placements in biotech companies.

You'll also have the opportunity to take a module that focusses on the development of ideas for business, as well as an employability skills module.

### Practical skills

This is a practical course and you'll spend time in labs and off campus on field trips. You'll develop practical skills by observing and experimenting in the lab and the field, using scientific apparatus.

## 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 any organisation in the world, and 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. Placements are subject to availability.

[Find out more about work placements](#)

## Facilities and environment

### Facilities

As a Biology and Zoology student, you'll be based in [the School of Natural and Environmental Sciences](#) at our city-centre campus.

During your studies, you'll have access to two commercial farms near Newcastle. These are used as demonstration facilities as well as a field station with glasshouse and dedicated teaching facilities.

You'll have the opportunity to access purpose-built laboratories. You can also visit the Great North Museum, where there's a range of important biological collections. We also have our controlled-environment aquaria situated in the Ridley 2 Building.

## Support

As a new student, you'll receive a tablet, so you can download online learning resources, helping to make our campus more sustainable.

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.

## Your future

Upon completion of your degree, you'll be a highly employable graduate with opportunities within bio-science and bio-tech or the broader sciences sector.

Our graduates often move on to roles in biotech companies, including FUJIFILM Diosynth Biotechnologies and Helena Biosciences.

Alternatively, you might choose to move on to a Masters degree, or complete further study in Law, Medicine, or Education.

## Industry links

The faculty has strong industry links, which will allow you to benefit from the very latest research and developments, as well as placement, volunteering, and networking opportunities. We have close links with the Centre for Product Innovation in Teeside, GENEIUS, National Parks Authority, and more.

## 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](#)

## Find out more...

- Go online for information about our full range of degrees:  
**[www.ncl.ac.uk/undergraduate](http://www.ncl.ac.uk/undergraduate)**
- To watch videos about student life in Newcastle, visit  
**[www.ncl.ac.uk/lovenewcastle](http://www.ncl.ac.uk/lovenewcastle)**
- Visit **[www.ncl.ac.uk/tour](http://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](http://www.ncl.ac.uk/openday)**
- Contact us online at **[www.ncl.ac.uk/enquiries](http://www.ncl.ac.uk/enquiries)** or phone +44 (0)191 208 3333

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**[www.ncl.ac.uk/pre-arrival/regulations](http://www.ncl.ac.uk/pre-arrival/regulations)**

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