FGC0: Chemistry and Physics

Undergraduate MSci 2021

Essentials

Please note: 2020-21 courses may be affected by Covid-19 and are therefore subject to change due to the ongoing impact of Covid-19. Summaries of course-specific changes resulting from the impact of Covid-19 will be provided to applicants during August 2020.

For the latest information on our plans for teaching in academic year 2020/21 in light of Covid-19, please see [www.durham.ac.uk/coronavirus](http://www.durham.ac.uk/coronavirus)

<table>
<thead>
<tr>
<th>UCAS code</th>
<th>FGC0</th>
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<tbody>
<tr>
<td>Degree</td>
<td>MSci</td>
</tr>
<tr>
<td>Mode of study</td>
<td>Full Time</td>
</tr>
<tr>
<td>Duration</td>
<td>4 years</td>
</tr>
<tr>
<td>Location</td>
<td>Durham City (<a href="http://www.durham.ac.uk/study/location/durham.city">www.durham.ac.uk/study/location/durham.city</a>)</td>
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<tr>
<td>A-Level</td>
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<tr>
<td>BTEC</td>
<td>D*DD</td>
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<tr>
<td>International Baccalaureate</td>
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Alternative qualifications

- Other UK qualifications ([www.dur.ac.uk/resources/undergraduate/apply/UK.pdf](http://www.dur.ac.uk/resources/undergraduate/apply/UK.pdf))
- EU qualifications ([www.dur.ac.uk/resources/undergraduate/apply/EU.pdf](http://www.dur.ac.uk/resources/undergraduate/apply/EU.pdf))
- International qualifications ([www.dur.ac.uk/international/country.information/](http://www.dur.ac.uk/international/country.information/))

Contextual Offers

You may be eligible for an offer which is one or two grades lower than our standard entry requirements. Find out more ([www.durham.ac.uk/study/ug/apply/contextualoffers/](http://www.durham.ac.uk/study/ug/apply/contextualoffers/)).

More information

Still have questions? ([www.durham.ac.uk/study/askus/](http://www.durham.ac.uk/study/askus/))

Department(s) Website

[www.durham.ac.uk/natural.sciences/](http://www.durham.ac.uk/natural.sciences/)
Course Summary

Description

MSci Degrees

The MSci degree offers you the chance to also take research-based study in your fourth year. There are two types of MSci degree available via the Natural Sciences route:

- The MSci in Natural Sciences allows you to take modules from a range of subjects, but you would normally specialise in at least one of the following subjects in your fourth year: Chemistry, Computer Science, Earth Sciences, Mathematics and Physics.

- The MSci Joint Honours degrees are available in the following combinations: Biology and Chemistry, Biology and Physics, Chemistry and Mathematics, Chemistry and Physics, Computer Science and Mathematics, and Mathematics and Physics.

- The two degrees above allows you the option of completing a replacement Year Abroad in Year 3. Note that the Year Abroad is competitive and so applicants cannot apply for these pathways through UCAS.

Flexibility and choice

It is possible to transfer into the second year of an MSci degree programme from a BSc, if you have successfully completed your first year of study and if you have taken the appropriate modules.

Pattern of study

The MSci degrees are four-year programmes with the emphasis on research-based study in your fourth year. In Chemistry, Computer Science, Earth Sciences, Mathematics and Physics it is possible to spend the final year studying modules from just one of these subjects, provided you have taken the appropriate modules in earlier years.

University academic timetable

The restrictions of the University’s academic timetable will mean that not all combinations of modules or subjects will be possible. Please contact the Natural Sciences Admissions Selector if you would like further information on combinations of modules or subjects.

Year 1

You must study at least two subjects, but no more than four, which give you a good progression into your second-year subjects. You can specialise by taking up to four modules in one subject from ‘Group 1’ which are the science subjects listed in the BSc course content. Other subjects are available to study but these could not be taken through to Year 4, see the BSc course content. Students who
intend to specialise in a single science subject in their final year, such as Earth Sciences, will typically need to take three or four core modules from that subject.

For instance, students who want to do the MSci Joint Honours degree in:

- Biology and Chemistry must do five core modules, which leaves them free to choose one optional module.
- Mathematics and Physics must do six compulsory modules.

MSci Natural Sciences students often take two modules from three subjects although other combinations are possible, but this combination would normally allow progression with any or all three of these subjects. The design of the programme is constrained by the limits of the University’s academic timetable and entry requirements, such as ensuring sufficient background knowledge for progression into a Year 4 subject.

Year 2

You must study at least two subjects, but no more than three, which gives you reasonable progression into your third-year subjects. You can specialise by taking up to four modules in one subject from Group 1, see the BSc course content.

For instance, students following the MSci Joint Honours degree in:

- Mathematics and Physics must do the five core modules leaving them free to choose one module from the Mathematics or Physics List to achieve an equal subject balance.
- Biology and Chemistry must do six core modules equally balanced between the two subjects.

Students who are following the MSci in Natural Sciences where they will specialise in a single science subject in their final year, such as Earth Sciences, typically:

- Need to take three or four core modules
- Have considerable freedom which is only limited by progression and the timetable
- Build on one or two subjects studied in the first year
- Have the option of starting a new subject by taking a first-year module.

Year 3

You must study at least two subjects, but no more than three. You can specialise by taking up to four modules in one subject from Group 1, see the BSc course content. You may also take a second-year module.

For example, students following the MSci Joint Honours degree in:

- Chemistry and Physics must do the six core modules.
- Chemistry and Mathematics must do five core modules and one module from the Mathematics list.
Students not taking the Joint Honours have considerable freedom; they are able to combine advanced modules in subjects already studied.

**Year 4**

In addition to the project module, students take a selection of taught modules. Module availability can change, but taught modules available to current students following the MSci Joint Honours degrees are:

- Biology and Chemistry: Bioactive Chemistry 4; Biomolecular Analysis
- Biology and Physics: Atomic and Optical Physics; Biological Imaging; Theoretical Physics 4
- Chemistry and Mathematics: Chemical Physics 4; Computational Chemical Physics 4; Modules from the Level 4 Mathematics List
- Chemistry and Physics: Chemical Physics 4; Computational Chemical Physics 4; Atomic and Optical Physics; Theoretical Physics 4;
- Mathematics and Physics: Modules chosen from the Level 4 Mathematics and Physics lists.

Students taking the MSci in Natural Sciences have continued freedom where the main subjects studied will be listed on the degree certificate.

Typically:

- They combine advanced modules in subjects already studied
- They can specialise in or combine: Chemistry; Computer Science; Earth Sciences; Mathematics; Physics.

**Please note** that Biology can only be studied in Year 4 as part of a Joint Honours degree.

*We review course structures and core content (in light of e.g. external and student feedback) every year, and will publish finalised core requirements for 2021 entry from September 2020.*

**Placement Year**

You may be able to take a work placement. Find out more [here](www.durham.ac.uk/placements/).
Admissions Process

Subject requirements, level and grade

Provisional subject preferences must be declared in decreasing order of interest (see here (www.dur.ac.uk/natural.sciences/prospective/mscixandy/) for further details of appropriate abbreviations). Using the first two subject preferences the offer is then augmented with specific grades as outlined above.

All applicants taking **A levels** will need three A levels with at least one Science (Biology; Human Biology; Chemistry; Mathematics; Physics.) The standard offer is A*AA and you will need specific A level grades to study:

- Biology: A in either Biology or Chemistry.
- Computer Science: A in Mathematics.
- Economics: A in Mathematics.
- Mathematics: Either A*A in any order in Maths and Further Maths at A level or A* in Maths plus A in AS Further Maths for students unable to take A2 Further Maths.
- Physics: A*A in any order in Maths and Physics.
- We do not include General Studies or Critical Thinking A levels as part of our offer.

All applicants wishing to study Psychology will need to have achieved Grade 5 (or grade B) in Mathematics at GCSE, or equivalent.

All applicants taking the **International Baccalaureate** will need a score of 38 points overall including either 766 or 666 at the Higher Level with at least one of these in a Science (Biology; Chemistry; Mathematics; Physics.) You will need specific Higher Level grades to study:

- Biology: 6 in either Biology or Chemistry.
- Chemistry: 76 in any order in Chemistry and Mathematics.
- Computer Science: 6 in Mathematics.
- Economics: 6 in Mathematics.
- Mathematics: 7 in Mathematics.
- Physics: 76 in any order in Mathematics and Physics.
- If the augmented offer includes a 7 at the Higher Level in any subject, then the offer will be 766 at the Higher Level, otherwise, it will be 666 at the Higher Level.

In addition to satisfying the University's general entry requirements, please note:

- We welcome applications from those with other qualifications equivalent to our standard entry requirements and from mature students with non-standard qualifications or who may have had a break in their study.
- There is no advantage in applying for both MSci and BSc degrees.
- Entry requirements are the same for both MSci and BSc degrees.
- We do not include General Studies or Critical Thinking as part of our offer.
- We are pleased to consider applications for deferred entry.

Entry requirements are the same for both Natural Sciences programmes.
We are pleased to consider applications for deferred entry.

**Science A levels**

Applicants taking Science A levels that include a practical component will be required to take and pass this as a condition of entry. This applies only to applicants sitting A levels with an English examination board.

**English Language requirements**

Please check requirements for your subject and level of study ([www.durham.ac.uk/learningandteaching.handbook/1/3/3/](http://www.durham.ac.uk/learningandteaching.handbook/1/3/3/)).

**How to apply**

[www.durham.ac.uk/undergraduate/apply](http://www.durham.ac.uk/undergraduate/apply)

**Information relevant to your country**

[www.durham.ac.uk/international/country.information/](http://www.durham.ac.uk/international/country.information/)
Fees and Funding

Full Time Fees

<table>
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<th>Student Type</th>
<th>Fee</th>
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<tr>
<td>EU Student</td>
<td>£27,350.00 per year</td>
</tr>
<tr>
<td>Home Student</td>
<td>£9,250.00 per year</td>
</tr>
<tr>
<td>Island Student</td>
<td>£9,250.00 per year</td>
</tr>
<tr>
<td>International non-EU Student</td>
<td>£27,350.00 per year</td>
</tr>
</tbody>
</table>

The tuition fees shown for home and EU students are for one complete academic year of full time study and are set according to the academic year of entry. Fees for subsequent years of your course may rise in line with an inflationary uplift as determined by the government.

The tuition fees shown for overseas students are for one complete academic year of full time study, are set according to the academic year of entry, and remain the same throughout the duration of the programme for that cohort (unless otherwise stated).

Please also check costs for colleges and accommodation (www.durham.ac.uk/undergraduate/accommodation/costs/).

Scholarships and funding

www.durham.ac.uk/undergraduate/finance
Career Opportunities

Natural Sciences

Durham has an excellent graduate employment record. You can open up a wide choice of careers with a Natural Sciences degree. Many employers prefer a broadly based multidisciplinary science degree rather than a specialism in a single field (see below for a fuller explanation). Recent graduates have gone into accountancy, administration, law, advertising, the armed forces, banking, the City, the civil service, financial management, general management, information technology, marketing, publishing, retailing, teaching, telecommunications, industrial and academic research. For a fuller picture, you can visit the University Careers website (www.dur.ac.uk/careers/s/careerplanning/des/).

A Natural Sciences degree gives students added qualities compared to the more usual single honours programmes. It appeals particularly to highly motivated students, as the degree allows and indeed encourages students to adapt their studies to their changing interests and to add to their employability. This creates responsibility in the student for their own learning and decision-making. They have to learn time management skills, caused by having to resolve timetabling issues, varying workloads and meeting conflicting deadlines. Academically the degree facilitates students adding breadth to their knowledge and understanding, whilst staff guidance ensures appropriate depth and academic progression to each student’s studies. By following at least two subjects, students embrace different study, research and analytical methodologies, varied assessment methods, and the need to develop different verbal and written presentation skills appropriate for the subjects. The result produces students who not only have breadth, but importantly a very good range of transferable skills for the workplace: time management, adaptability, self-directed working, reflectiveness, appreciation of diversity, application of different approaches to suit the situation or problem and presentation skills.

Of students that left in 2017:

- 85% are in employment or study six months after graduating

Of those in employment:

- 94% are in graduate level employment
- Median salary £28,000

(Source: Destinations of Leavers from Higher Education (DLHE) survey of 2016/17 graduates. The DLHE survey asks leavers from higher education what they are doing six months after graduation. Full definitions for the DLHE Record can be found here: www.hesa.ac.uk/support/definitions/destinations)

A significant number of Natural Science graduates progress onto higher level study following their degree. Several remain within their academic field of interest, notably at Durham but also other prestigious institutions including Oxford, Cambridge, York, Bath, Edinburgh to name a few. Others pursue vocational professional study such as teaching (PGCE) and Journalism. A small number take conversion courses in law (Graduate Diploma Law) in preparation for training as a solicitor or barrister.

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A huge percentage of trainees join KPMG from Durham University to the full range of graduate training schemes ranging we offer, from consulting to compliance. This demonstrates that Durham produces consistently high calibre candidates each year who possess a wide range of competencies both personal and technical. It’s only the skills and abilities of our people which enables KPMG to achieve its global leadership status so in turn; we are committed to engaging with and providing development opportunities to Durham students throughout the academic year.
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**Employment development opportunities**

Careers Advisers deliver regular talks to all undergraduate year groups

Year 1 focusing on developing employability skills, penultimate year on internships, work experience and final year on graduate employers/schemes, the recruitment cycle and making effective applications for jobs and further study.

Durham University Natural Sciences graduates progress into a diverse range of careers and employment sectors. The private, public and charitable sectors are all represented. Example roles include Nuclear Environmental Officer, Policy Adviser, Accountant, Research Analyst, Assistant Psychologist, Public Health Analyst, Investment Banking Analyst, Sports Trader, Assistant Scientific Commissioning Editor, Investment Consultant, Management, Recruitment Consultant, Auditor, Insurance Underwriter, Safety Policy and Environment Assistant Manager, Software Developer and Insurance Underwriter to name a few. Example high profile employers include Barclays, Deloitte, Dept for Business Innovations & Skills, Future Science Group, KPMG, NHS, Dstl, HM Treasury, Towers Watson, Bank of America, PwC, Deutsche Bank, Army, Casino Capital Management, JP Morgan, Natural History Museum, Sky News, RAF, United Nations World Conservation Centre

Natural Sciences
Faculty of Science Office
Level 3 Chemistry Building
Durham University
DH1 3LE
United Kingdom

External Enquiries? Get in touch using our enquiry form (www.dur.ac.uk/study/askus/). Have you seen our helpful FAQs (studyatdurham.microsoftcrmportals.com/en-US/knowledgebase/)?
Internal Enquiries (www.dur.ac.uk/natural.sciences/password/contacts/details/)

WWW: Natural Sciences home page (www.dur.ac.uk/natural.sciences/)

For an introduction to our Careers Service follow the link to https://www.dur.ac.uk/careers/
Open days and visits

Pre-application open day

Pre-application open days are the best way to discover all you need to know about Durham University. With representatives from all relevant academic and support service departments, and opportunities to explore college options, the open days provide our prospective undergraduates with the full experience of Durham University.

Please see the following page for further details and information on how to book a place:
www.durham.ac.uk/opendays

Discover Durham Tours

Discover Durham tours offer a brief introduction to the University. The tour begins at one of our undergraduate colleges, where you will receive an introductory talk from a member of college staff, followed by a tour of the college by current students.

www.durham.ac.uk/undergraduate/live/visit/discoverdurham

Overseas Visit Schedule

www.durham.ac.uk/international/office/meetus
Department Information

Natural Sciences

Overview

Studying a Combined degree at Durham can provide considerable flexibility and choice across Durham University’s breadth of world-renowned, research-led education. It allows you to create an academically ambitious degree, suited to your individual interests, strengths and career plans.

The key characteristics of the Natural Sciences degrees at Durham are choice, flexibility and depth. The Natural Sciences BSc (Hons) and MSci (Hons) courses have a wide choice of subjects not limited to the natural sciences, and within most subjects there is a choice of which pathway to follow. These are very flexible degrees, and you can even delay choosing your subjects until you get to Durham.

Rankings

- 90% of courses are in the UK Top 10 in *The Complete University Guide 2019*.
- Top 40 globally for employer reputation in the *QS World University Rankings 2019*.
- Top 100 in the *QS World University Rankings 2019*.

Staff

For a current list of staff, please see the Natural Sciences web pages (www.dur.ac.uk/natural.sciences/staff/).

Website

www.durham.ac.uk/natural.sciences/