University of Birmingham

Natural Sciences with Study in Continental Europe BSc (Hons)

The Natural Sciences programme is designed for students who like to explore different ways of thinking, who prefer to take a broader view on science, and who aim to become graduates with interdisciplinary skills, an asset that employers increasingly value. Students follow two Major subjects throughout the course, complemented by a Minor that may vary from year to year. A year of study at a European university (Spain, Germany or France) is intercalated between the second and final years of the course.

Study here and find out why the University of Birmingham was awarded The Times and The Sunday Times University of the Year 2013-14 (http://www.birmingham.ac.uk/news/latest/2013/09/20-sep-Birmingham-announced-as-University-of-the-Year.aspx)

Course fact file

UCAS code: FCG0

Duration: 4 years

Places Available: 50 (Individual major subjects have limits on the maximum number of Natural Sciences students they can accommodate)

Applications in 2014: 268

Typical Offer: A*AA (**More detailed entry requirements and the international qualifications accepted can be found in the course details (?OpenSection=EntryRequirements)**)

Start date: September

Related courses

Liberal Arts & Sciences (/undergraduate/courses/govsoc/arts-science.aspx)

Natural Sciences MSci (Hons) (/undergraduate/courses/biosciences/natural-sciences-msci.aspx)

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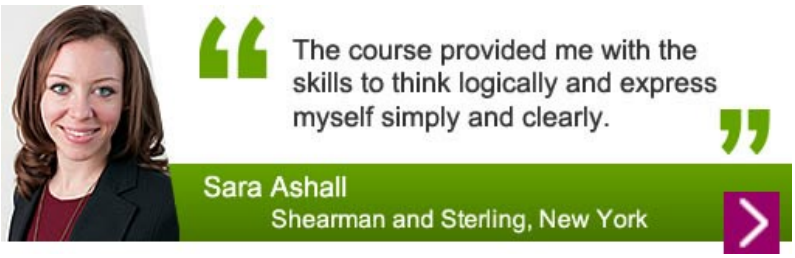
Web: **www.birmingham.ac.uk/biosciences (http://www.birmingham.ac.uk/biosciences)**

School of Biosciences (/schools/biosciences/index.aspx)

Details

Transcend the traditional boundaries of science



(/schools/biosciences/our-students/ashall-sara.aspx)

Do you have an interest in science but more than one favourite scientific discipline?
Perhaps you don't want to over-specialise too soon.
Or maybe, you just don't know which subjects to study.

Dr Roisin Madigan, Natural Sciences Programme Director

"In the modern world, the chance to combine more than one of the Natural Sciences is a golden opportunity to exploit the exciting developments at the interface between scientific disciplines."

More than ever, science today transcends the traditional boundaries between physics, chemistry, the biological sciences and mathematics. Increasingly, employers are looking for graduates with broad experience and expertise in a number of disciplines, along with the vital transferable skills of communication, IT and teamwork. The Natural Sciences programme is for students whose interests encompass more than one discipline of science or who are not quite sure yet which area to pursue in depth.

The Natural Sciences programme is hosted by the School of Biosciences but draws on the academic expertise of several other Schools in the Colleges of Life and Environmental Sciences and of Engineering and Physical Sciences. In combining two Major subjects, you can choose from the following disciplines:

Major	Contributing School/Department
Biochemistry	School of Biosciences (http://www.birmingham.ac.uk/schools/biosciences/index.aspx)
Biology	School of Biosciences (http://www.birmingham.ac.uk/schools/biosciences/index.aspx)
Chemistry	School of Chemistry (http://www.birmingham.ac.uk/schools/chemistry/index.aspx)
Earth Sciences	School of Geography, Earth and Environmental Sciences (http://www.birmingham.ac.uk/schools/gees/index.aspx)
Geography	School of Geography, Earth and Environmental Sciences (http://www.birmingham.ac.uk/schools/gees/index.aspx)
Physics	School of Physics and Astronomy (http://www.birmingham.ac.uk/schools/physics/index.aspx)
Psychology	School of Psychology (http://www.birmingham.ac.uk/schools/psychology/index.aspx)
Sport and Exercise Science	School of Sport, Exercise and Rehabilitation Sciences (http://www.birmingham.ac.uk/schools/sport-exercise/index.aspx)

Because Natural Science students study in many different parts of the campus, they enjoy the benefit of a Base Room in the central Aston Webb Building. Here they meet up with their peers studying different major combinations and with Natural Sciences students from other year groups.

Martin Day, Natural Sciences graduate now studying for his PhD
"For me, the opportunity to study both chemistry and biochemistry allowed me to focus my interests on the interface between the two subjects. This helped me move into my chosen field of research."

The course

You will study two Major subjects throughout the course, and complement these with Minor subjects that can vary year to year. Both Majors are studied to degree level. The programme encourages you to pursue topics at the interface between those subjects. In the final year, the Natural Sciences programme provides the flexibility to retain breadth or to opt for more specialised study in one of the two Major subjects.

This flexible programme allows you to retain breadth into the final year or to opt for more specialised study in one of your Major subjects. You are also supported by a tutor for each of the Major subjects.

The Major subjects

Major subject combinations

Major	Combination offered
Biology	Biochemistry, Earth Sciences, Geography, Mathematics, Physics or Psychology
Biochemistry	Biology, Chemistry, Earth Sciences, Mathematics or Sport and Exercise Sciences

Chemistry	Biochemistry, Earth Sciences, Geography, Mathematics, Physics or Psychology
Earth Sciences	Biochemistry, Biology, Chemistry, Geography, Physics, Psychology or Sport and Exercise Sciences
Geography	Biology, Chemistry, Earth Sciences, Mathematics or Sport and Exercise Sciences
Mathematics	Biochemistry, Biology, Chemistry, Geography, Psychology or Sport and Exercise Sciences
Physics	Biology, Chemistry, Earth Sciences or Sport and Exercise Sciences
Psychology	Biology, Chemistry, Earth Sciences, Mathematics or Sport and Exercise Sciences
Sport and Exercise Sciences	Biochemistry, Earth Sciences, Geography, Mathematics, Physics or Psychology

Excluded Combinations

The following combinations are incompatible with the University timetable and cannot be offered.

Major	*cannot* be combined with
Biology	Chemistry or Sports and Exercise Sciences
Biochemistry	Geography, Physics or Psychology
Chemistry	Sports and Exercise Sciences, Biology
Earth Sciences	Mathematics
Geography	Biochemistry, Physics, Psychology
Mathematics	Earth Sciences
Physics	Geography, Mathematics*, Psychology
Psychology	Physics
Sport and Exercise Sciences	Biochemistry, Earth Sciences, Geography, Mathematics, Physics or Psychology

*The University offers a BSc course in Theoretical Physics and Applied Mathematics for students interested in combining Mathematics and Physics.

Minors

The Minors programme builds on stand-alone-modules offered within Birmingham's Modules Outside the Main Discipline (MOMD) programme. A complete list of modules on offer is available **here (https://intranet.birmingham.ac.uk/as/registry/momd/index.aspx)** :
A selection of possible choices includes:

- Creative Writing
- Drama and Theatre Arts
- Early Civilisation
- Economics
- Engineering
- Geography
- History of Art
- Languages
- Mathematics
- Music
- Pharmacology
- Philosophy
- Politics
- Psychology
- Theology

Why study this course

The structure of the Natural Sciences course at Birmingham is unique in combining two major subjects in the natural sciences with a high level of built-in flexibility to compose an individual programme of study. In many ways, the course becomes what you want it to be. In this course in particular, learning is a conversation, not simply a lecture. We welcome students who are keen to be challenged and encourage them to think independently. We nurture natural curiosity and enable original ideas to flourish through dialogue between different disciplines.

Research and teaching

Research at Birmingham has been making an impact on the world for over 100 years. From world-class cancer research to the development of a new generation of fuels, our academic expertise continues to address today's key national and global challenges.

Most academic staff work concurrently as teachers and researchers. The passion that drives our research makes a direct impact on teaching, keeps our programmes up-to-date, stimulating and relevant for tomorrow's graduates.

Dr Dirk Hermans, School of Mathematics
"Combining Mathematics with other Natural Science disciplines makes a lot of sense because maths underpins all areas of science. Research has shown that 'thinking mathematically' promotes success in a wide range of careers."

Modules

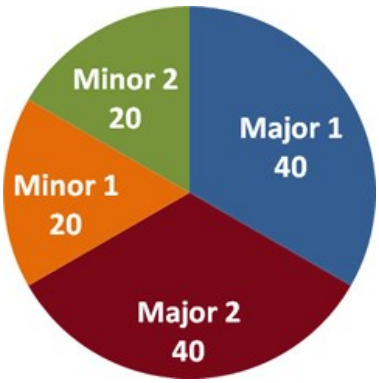
The Natural sciences course is designed to give you flexibility in composing a programme of study that matches your interests. Each module you are studying is part of the syllabus of the corresponding single honours course. Hence, you will study each topic to the same level of depth as students who are focussing on one subject alone.

To make the combination of two major subjects work, Natural Sciences students will focus on core modules of each subject. Some elective modules run by one of the six Schools contributing to Natural Sciences may occupy timetable slots that are not compatible with your personal timetable, and, as a result, may not be available. As you can allocate credits flexibly between your two majors in 2nd and final year, availability of particular modules depends on your particular combination of majors and on how you split your study effort between the two majors in Years 2 and 3. The Natural Sciences course leader and your personal tutor will be able to assist you in compiling a workable timetable that accommodates your study preferences.

A guide to modules available for each major is available here (PDF 291Kb) (/Documents/college-les/biosciences/NaturalSciencesModuleInformation.pdf) . Note that this information is subject to change without notice.

Year 1

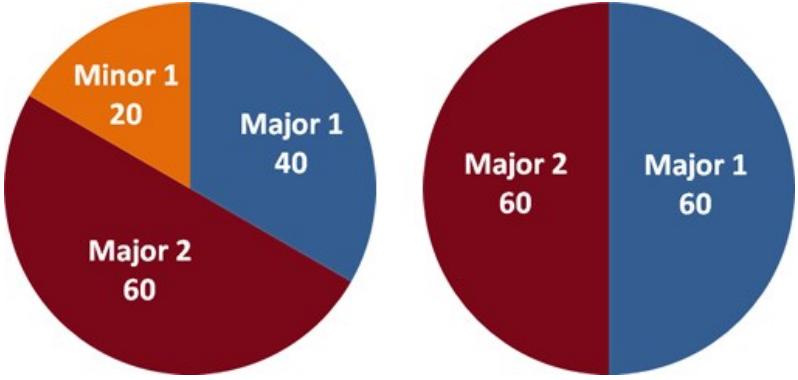
The first year has a fixed split between the majors, as illustrated by the pie chart. Of 120 credits for the academic year, 40 will be allocated to each of the major subjects, and 20 each to the two minors. Minor 1 will be devoted to skills training, while Minor 2 can be chosen freely among modules offered as part of the Modules Outside the Main Discipline (**MOMD (https://intranet.birmingham.ac.uk/as/registry/momd/about.aspx)**) programme. The minors run in non-overlapping timetable slots, hence, will not interfere with your major modules. The Minor may be a modern language, may be related to one of your majors or be from a completely different discipline.



Split of credits between major subjects and minors in Year 1 of the Natural Sciences course

Year 2

In the second year, you have the two options of splitting credits. You can either allocate an equal number of credits to both majors, or you can allocate 20 credits to a Minor subject, and study the majors with a 60 to 40 credit split. The Minor can be module related to the minor you studied in the first year, or it can be something completely different.



Two alternative ways to split credits in Year 2 of the Natural Sciences course

Year 3 (year abroad)

You will study one of your Major subjects at University in Continental Europe. Classes are given in the language of the host country. You will have to sit some examinations at the host university, but the mark for your year abroad is determined by a 2-component language assessment set by your language tutor at Birmingham.

Year 4 (final year)

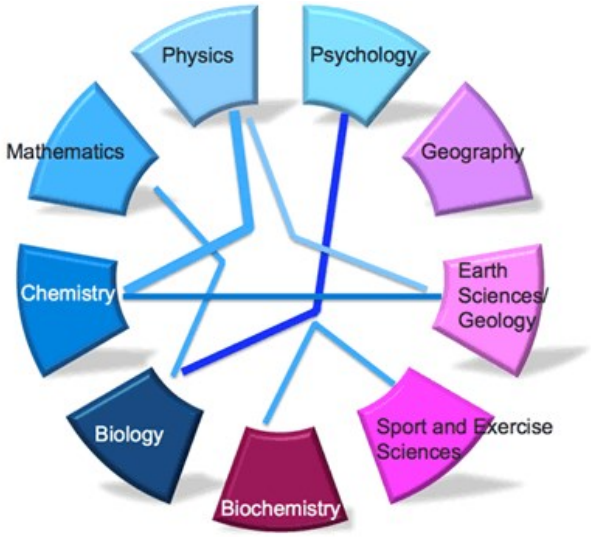
A core ingredient of your final year is a research project that you will do in one of your Major subjects. In the final year, you can focus entirely on one of your Major subjects, or retain breadth in studying both with flexible weighting. You can continue with your language as a Minor if you wish.

Choosing all credits in one major will give you maximum flexibility in terms of module choice in that particular major, while continuing with two majors will deepen you training in an interdisciplinary fashion – one of the key advantages of the Natural Sciences course.

> James Dacey, Natural Sciences student
> "I didn't want to take a conventional degree course where you are committed to one subject throughout the 3 years. I wanted a more open style of degree which would give me the room to develop my interests over time. In this respect Natural Sciences has the advantage over combined honours courses."

Popular combinations of major subjects

The motivations for choosing particular major combinations vary greatly among our Natural Sciences students. Some choose closely related subjects, for instance Chemistry with Biochemistry, some prefer contrasting subjects such as Physics with Geology. The graph below illustrates some popular combinations, but student preference changes with each year, and the graph should not prejudice your personal preference or choice.



The combinations of Chemistry with Physics or Chemistry with Biochemistry are complementary in many respects. Biology in combination with Psychology is an equally attractive combination, as is studying Biochemistry alongside Sports and Exercise Science. You will find fluid boundaries between disciplines as well as sharp contrasts in how, say, biochemists or geologists approach particular problems. The training in two distinct schools of thought is an integral feature of the Natural Sciences course, making it challenging and attractive at the same time.

Fees and funding

Standard fees (http://www.birmingham.ac.uk/students/ug/courses/fees/standard) apply - a standard fee for year abroad is set for 2012/13 new entrants at £2,500.
Learn more about **fees and funding (/undergraduate/fees/loans.aspx)**

Scholarships
Learn more about our **scholarships and awards (/undergraduate/fees/funding/index.aspx)**

Entry requirements

Number of A levels required: 3

Typical offer: A*AA

Required subjects and grades: at least two science subjects from Biology, Chemistry, Physics and Mathematics but see also Major subject admissions requirements. Five GCSEs at grade B (minimum) in Double Award/Integrated Science, English and Mathematics, and grade B in a language (French, German or Spanish).

General Studies: We do not accept General Studies, Critical Thinking, Citizenship Studies, Applied Science, Communication and Culture, Critical Studies, Global Perspectives, Science in Society and World Development.

Additional information:

Major subject admissions requirements (minimum):

- Biochemistry – A level Chemistry grade A
- Biology – A level Biology grade A
- Chemistry – A level Chemistry grade A
- Mathematics – A level Mathematics grade A
- Physics - A level Mathematics, Further Mathematics or Physics grade A*
- Geography – A level Geography grade A

We will ask you to specify your preferred majors before making an offer. You can change your major selection prior to entering the course, provided that there is capacity available in that major and that you meet major-specific requirements listed above.

Natural Sciences Undergraduate booklet (PDF 1.15Mb) (/Documents/college-les/biosciences/NaturalSciencesUGLeaflet.pdf)

Other qualifications are considered, except for BTEC and Access to HE – learn more about **entry requirements (http://www.birmingham.ac.uk/students/ug/requirements)** .

International students:

International Baccalaureate Diploma: 36-38 points excluding bonus points from TOK and Extended Essay. 6, 6, 6 at HL to include two science subjects. 5 points in each of SL English and Maths if not offered at GCSE or equivalent.

Standard English language requirements apply
Learn more about **international entry requirements (http://www.birmingham.ac.uk/students/ug/requirements/international)**

Depending on your chosen course of study, you may also be interested in the Birmingham Foundation Academy, a specially structured programme for international students whose qualifications are not accepted for direct entry to UK universities. Further details can be found on the **foundation academy web pages (http://www.birmingham.ac.uk/students/foundation-academy/Pathways/index.aspx)** .

How to apply

Apply through UCAS at **www.ucas.com (http://www.ucas.com/)**
Learn more about **applying (http://www.birmingham.ac.uk/students/ug/courses/apply)**

Key Information Set (KIS)

Key Information Sets (KIS) are comparable sets of information about full- or part-time undergraduate courses and are designed to meet the information needs of prospective students.

All KIS information has been published on the Unistats website and can also be accessed via the small advert, or 'widget', below. On the **Unistats website (http://unistats.direct.gov.uk)** you are able to compare all the KIS data for each course with data for other courses.

The development of Key Information Sets (KIS) formed part of HEFCE's work to enhance the information that is available about higher education. They give you access to reliable and comparable information in order to help you make informed decisions about what and where to study.

The KIS contains information which prospective students have identified as useful, such as student satisfaction, graduate outcomes, learning and teaching activities, assessment methods, tuition fees and student finance, accommodation and professional accreditation.

Related links

Natural Sciences courses - School of Biosciences - Study here for your Bsc degree (/schools/biosciences/courses/undergraduate/natural-sciences.aspx)

Natural Sciences Module Choices (PDF 291Kb) (/Documents/college-les/biosciences/NaturalSciencesModuleInformation.pdf)

Natural Sciences Undergraduate Leaflet (/Documents/college-les/biosciences/NaturalSciencesUGLeaflet.pdf)

Liberal Arts & Sciences (/undergraduate/courses/govsoc/arts-science.aspx)

Learning and teaching

To begin with you may find university level education challenging, but we will support you to enable you to make this transition. You will have access to a comprehensive support system in the School, including personal tutors and welfare tutors, who can help with both academic and welfare issues throughout your course. You will have a formal transition review during your first year to check on your progress and identify areas where you may need some additional support, and the School's academic small group tutorial system will provide you with skills based support throughout the course.

Study Facilities

You will be taught in lectures, tutorials, laboratory and computer classes – as appropriate for your chosen disciplines. Tutorials and laboratory classes offer you plenty of opportunity to mix with staff and other students and you will have a personal tutor as well as an academic in both of your Major subjects. We assess your progress through assignments, essays and examinations.

Base Room

Natural Science students have a special "home" on the campus in the form of the Base Room. Situated in the historic Aston Webb building this is a place for you to meet up with other Natural Sciences students

The room has computers for you to use and textbooks to help support your studies. One of the nice things about this facility is that you will meet up with students who study different subjects, and students from other year groups.

There is an active Natural Science Society; in addition to arranging a host of social events this group fields mixed teams in the Intra Mural Sports leagues.

Tutorial Support

The University places priority on direct contact between staff and students throughout the period of study.

Each student is assigned an Academic Tutor in each of the two main subjects taken. This tutor will normally oversee the students specific progress in that subject.

You will have a personal tutor based in the School of Biosciences. You will meet with your personal tutor regularly and he or she will be responsible for guiding you to a suitable study programme that combines, as far as possible, those subjects of particular interest to you.

Assessment methods

Studying at degree-level is likely to be very different from your previous experience of learning and teaching. You will be expected to think, discuss and engage critically with the subject and find things out for yourself. We will enable you to make this transition to a new style of learning, and the way that you are assessed during your studies will help you develop the essential skills you need to make a success of your time at Birmingham.

You'll be assessed in a variety of ways, and these may be different with each module that you take. Your progress will be assessed through assignments, essays and examinations.

Employability

Thinking outside the box is key to creativity and originality. The multi-disciplinary approach of the Natural Science programme stimulates lateral thinking and is arguably one of the greatest assets graduates of this course will bring to bear in any organisation. Employers are looking for graduates with broad experience and expertise in more than one discipline, along with the vital transferable skills of communication, IT and teamwork developed during the course.

Former students have moved on to careers in professions such as scientific consultancy, marketing, IT, and in the business sector. A significant number pursue a PhD, as the interdisciplinary nature of the degree prepares them well for a research career.

What can I do with a degree in Natural Sciences?

Employers really like Natural Science graduates because they are so versatile. Because of the way in which the Natural Sciences programme is structured you will be used to making connections between different areas of science, this is an important skill in the modern workplace. By combining more than one area of study you will graduate with a greater breadth of subject knowledge than single honours students.

Some of our recent Natural Science graduates have gone straight from the University of Birmingham into jobs as varied as Laboratory work, Chartered Accountancy, Language Tuition, Librarian, and Conservation work. Which just goes to show the what a wide range of different occupations are open to Natural Scientists.

Like many other Science graduates, Natural Scientists often choose to go on to study for a postgraduate qualification. This may be because they have a love of the subject, and wish to research it further or because most posts in research require further study.

Applicants often ask whether, by studying Natural Sciences, they will have sufficient depth of knowledge to be able to study for a PhD. The Natural Sciences programme at Birmingham is structured so that you study your chosen parts of your subjects to the same depth as Single honours students. And yes many of our graduates do go on to do research for a PhD.

The career that you are interested may require a further qualification. In the past few years our students have gone on to study to be Teachers, Lawyers and Doctors. Others have taken Masters degrees in areas as diverse as Business and Communications Management, Oceanography, Control of Infectious diseases, Petroleum Engineering, Materials Science and Operations Management, Bioinformatics and Science communication.

Eirin O'Sullivan, Natural Sciences graduate

"My PhD research follows on directly from the chemistry project I undertook during my final undergraduate year. At present, I am synthesising and characterising novel materials displaying fascinating electromagnetic properties such as superconductors and ordered magnetic materials.

During the 2nd and 3rd year of Natural Sciences, I carefully selected my module choices to hone in on my particular interests. For my current specialism, my strong background in both chemistry and physics has been vital to my understanding and has better equipped me to communicate the fundamental underlying principles of my work to others. Possessing a broad base of knowledge has been an invaluable asset to my postgraduate studies as the ability to connect and apply different concepts is vital for today's interdisciplinary research environment."

80% Students agreed staff are good at explaining things

BSc (Hons) Natural Sciences with Study in Continental Eu.
Full time
Year abroad

To see more details and compare with other courses
Visit UNISTATS
Official data collected by HEFCE

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