



UNIVERSITY OF  
**BATH**



**Natural Sciences Courses  
Choices and Options  
2018/9**

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# Subject Choices for the Natural Sciences

The Natural Sciences degrees are built around a set of **subject streams** for both the BSc and MSci courses. The subject streams are built from a string of **subject blocks** that progress through the years of the course. Each subject block is composed of a number of **units** taught at the University. The details of the units and blocks are given in the BSc and MSci flowcharts [[bath.ac.uk/nat-sci/](http://bath.ac.uk/nat-sci/)].

The BSc and MSci degrees are built as collations of subject streams. Each collation has a **major science subject** which is ultimately the primary focus of study, and a **minor science stream**. Your major subject is the subject in which you ultimately perform your final year research project and that final year choice is enabled by double blocks of units in earlier years.

All permitted collations for year one enable two possible major subjects for later years. Your course can adapt to your developing interest and abilities in the Natural Sciences subjects. The units and the collations are on the University catalogue: [www.bath.ac.uk/catalogues/other.html](http://www.bath.ac.uk/catalogues/other.html)

The MSci and BSc subject streams and collations are identical for years one and two, but diverge after that. There is no advantage in starting on either MSci or BSc, and with suitable examination results you can switch between them, **except for BSc only** collations, which cannot be taken to the master's level. Note these collations are not prescribed named degrees like *Physics with Astrophysics* that enforce a single path through the course. You may switch between collations as you wish if your block choices allow it, e.g. it is trivial in years one and two to swap from *Chemistry major with Physics* to *Physics major with Chemistry*. Taking the single block of pharmacology in year 1 of the *Biochemistry with Chemistry* collation can lead to majoring in Pharmacology later in the course.

*Your selection of units in Year 1 and Year 2 must be drawn from a selection available in one of these named collations.*

## MASTER'S OR BSc COLLATIONS:

<b>Biochemistry major</b> with Chemistry and Molecular Biology	<a href="#">MSci</a>	<a href="#">BSc</a>
<b>Biochemistry major</b> with Pharmacology	<a href="#">MSci</a>	<a href="#">BSc</a>
<b>Biology major</b> with Chemistry	<a href="#">MSci</a>	<a href="#">BSc</a>
<b>Biology major</b> with Pharmacology	<a href="#">MSci</a>	<a href="#">BSc</a>
<b>Biology major</b> with Physics	<a href="#">MSci</a>	<a href="#">BSc</a>
<b>Chemistry major</b> with Biochemistry	<a href="#">MSci</a>	<a href="#">BSc</a>
<b>Chemistry major</b> with Biology	<a href="#">MSci</a>	<a href="#">BSc</a>
<b>Chemistry major</b> with Pharmacology	<a href="#">MSci</a>	<a href="#">BSc</a>
<b>Chemistry major</b> with Physics	<a href="#">MSci</a>	<a href="#">BSc</a>
<b>Physics major</b> with Biology	<a href="#">MSci</a>	<a href="#">BSc</a>
<b>Physics major</b> with Chemistry	<a href="#">MSci</a>	<a href="#">BSc</a>

## BSc ONLY COLLATIONS:

<b>Environmental Science major</b> with Biochemistry	<a href="#">BSc</a>
<b>Environmental Science major</b> with Biology	<a href="#">BSc</a>
<b>Environmental Science major</b> with Chemistry	<a href="#">BSc</a>
<b>Pharmacology major</b> with Biochemistry	<a href="#">BSc</a>
<b>Pharmacology major</b> with Biology	<a href="#">BSc</a>
<b>Pharmacology major</b> with Chemistry	<a href="#">BSc</a>

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Each academic year consists of two 15 week semesters each of which will have 11 weeks of teaching and then revision and exams on that semester. In each year you have to take 60 credits of material, which is usually 5 blocks such as the biology block B2.1 or the chemistry block C1.3 (although some final year projects are 18 or 24 credits as they are significant pieces of work). Each block is composed of units from the contributing department, often with a choice, so for example B2.1 takes *BB20040 Concepts in Evolution* and a choice of *BB20041 Gower field course*, *BB20226 Portugal field trip* or *BB20173 Behaviour and Ecology*.

## PRE-REQUISITES

One of the keys to understanding the Bath Natural Sciences course is the idea of **pre-requisites**. In order to progress on most courses, you have to show you have some required prior knowledge. That could be taking particular A Levels, or for example passing a year two biology course to get onto a 3rd year project. The pre-requisites ensure that you will get **depth** to match the **breadth** of the course. Some non-science courses have no pre-requisites – this can be useful for trying new subjects and interests later in the course.

## MAKEUP OF COLLATIONS

The major subject stream must consist of two **blocks** of units each year (with the exception of Environmental Sciences), and a final year practical or dissertation. The remaining three blocks of each year are taken up by minor science strands and choices of science and non-science units. Once blocks are chosen in year one, they set up **requisites** for further study that may constrain which blocks can be chosen in subsequent years.

Major and minor first year blocks				
Major/minor block name	First year blocks	Requires	Forbidden with	A Level requirements
Biochemistry	Bc1.1	LS1.1	Physics, some Biology	Chemistry; Biology preferred
Biology	B1.1	LS1.1	Biochemistry	Biology
Chemistry	C1.1, C1.2, C1.3		Maximum two Chemistry blocks per year	Chemistry
Pharmacology	Pc1.1	LS1.1	Physics	Chemistry, Biology preferred
Physics	P1.1, P1.2	M1.1	Biochemistry, Pharmacology	Physics, Maths
Environmental Science	ENV1.1		Physics	Chemistry

Once major and minor streams have been chosen, there will *usually* be space for optional blocks (see details in collations). There are also some forbidden combinations that have been introduced to aid with the academic coherence of the permitted collations and with timetabling.

## FLEXIBILITY

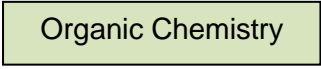
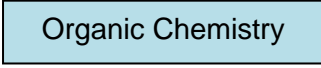
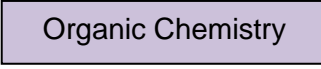
ALL final year blocks of the MSci have to be taken at master's level and within science, which reduces flexibility, but there is *usually* room for manoeuvre within the streams later in the course. Many streams have choices between units within them. In addition one of the minor science streams in the BSc final year can usually be replaced by an optional slot, for example to continue the third year of a non-science option.

The ZZ block, the Director of Studies Approved Units, may allow the selection of units from other departments or the mixing of units between blocks.

See the examples at the end of the document.

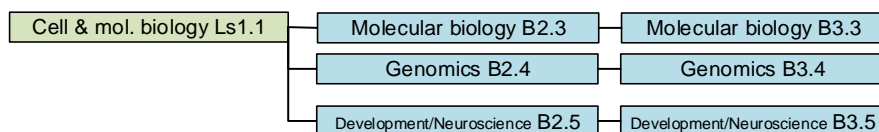
# Help with the detailed options

The following pages show the outlines of streams that should be the basis of your choices, along with the options available. They are colour coded as follows:

Mandatory Streams:		You <b>HAVE</b> to take these.
Mandatory Choices:		You <b>HAVE</b> to choose one or more.
Optional Choices:		You can choose between several.

## PRE-REQUISITES

The charts show how studying one block allows the study of a subsequent block, or conversely how a block requires blocks to be studied in a previous year by linking lines. So from this example,



Taking the block Ls1.1 enables B2.3 or B2.4 or B2.5 to be taken in year two. To take B3.5 in year 3, you must take B2.5 in year two and have taken Ls1.1 in year one.

## HELP WITH MAKING YOUR CHOICES

The charts in the following pages show in detail the default make-up of the collations for BSc and MSci majors.

You can tweak these using the Natural Sciences Web Tool at [www.bath.ac.uk/nat-sci/mycourse](http://www.bath.ac.uk/nat-sci/mycourse) to experiment with other routes through the course. Please note that a number of final years can branch from one first year selection of blocks. Experiment to find the best starting point for you.

See details of the teaching units making up the stream blocks on flowcharts at:

[www.bath.ac.uk/nat-sci/admissions/BSc\\_2018-19.pdf](http://www.bath.ac.uk/nat-sci/admissions/BSc_2018-19.pdf)

[www.bath.ac.uk/nat-sci/admissions/MSci\\_2018-19.pdf](http://www.bath.ac.uk/nat-sci/admissions/MSci_2018-19.pdf)

There may be rare occasions where due to unforeseen or unavoidable circumstances it becomes necessary to make significant changes to a course or to withdraw it or part of it (e.g. a particular unit/module). Visit: [www.bath.ac.uk/study/ug/apply/admissions/changes-withdrawal](http://www.bath.ac.uk/study/ug/apply/admissions/changes-withdrawal)

Find out more about this and other important University terms and conditions:

<http://go.bath.ac.uk/ugp-important-terms>

# BIOCHEMISTRY

## BIOCHEMISTRY MAJOR WITH CHEMISTRY MSci

	Year One	Year Two	Year Three	Final Year
<b>Biochemistry Major with chemistry</b>	Mandatory			
	Biochemistry BC1.1	Biochemistry BC2.1	Biochemistry BC3.1	Biochemistry BC4.1
				Biochemistry Project
	Each year choose AT LEAST 1 from the options, following pre-requisites			
	Mol. & cell biology Ls1.1	Cell biology B2.3	Cell biology B3.3	Cell biology B4.3
		Developmental & neuro B2.5	Developmental & neuro B3.5	Developmental & neuro B4.5
	Choose two streams from the options			
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1	Organic chemistry C4.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2	Inorganic chemistry C4.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3	Physical chemistry C4.3
	Choose 1 free option to give five blocks in each year			

## OPTIONS

	Year One	Year Two	Year Three
<b>Options for Biology major with Chemistry</b>	Physiology Pc1.1	Pharmacology Pc2.1	Pharmacology Pc3.1
		Pharmacology Pc2.2	Pharmacology Pc3.2
	Introduction Env1.1	Energy/Sustain Env2.1	State of Planet Env3.1
			Water Cycle Env3.2
	Maths for life sciences 1	Maths for life sciences 2	Maths for life sciences 3
	Education 1	Education 2	Education 3
	Management 1	Management 2	Management 3
	Psychology 1	Psychology 2	Psychology 3

## BIOCHEMISTRY MAJOR WITH CHEMISTRY BSc

	Year One	Year Two	Year Three
<b>Biochemistry Major</b> with chemistry	Mandatory		
	Biochemistry BC1.1	Biochemistry BC2.1	Biochemistry BC3.1
			Biochemistry Project
	Mol. & cell biology Ls1.1	Choose AT LEAST 1 following pre-requisites	
		Cell biology B2.3	Cell biology B3.3
		Developmental & neuro B2.5	Developmental & neuro B3.5
	Choose two streams from the options		
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3
	choose 1 free option		

## OPTIONS

	Year One	Year Two
<b>OPTIONS FOR Biochemistry Major</b> with chemistry	Introduction Env1.1	Energy/Sustain Env2.1
	Maths for life science1	Maths for life sciences 2
	Physiology Pc1.1	Pharmacology Pc2.1
		Pharmacology Pc2.2
	Education 1	Education 2
	Management 1	Management 2
	Psychology 1	Psychology 2

## BIOCHEMISTRY MAJOR WITH PHARMACOLOGY MSci

	Year One	Year Two	Year Three	Final Year
<b>Biochemistry Major with pharmacology</b>	Mandatory			
	Biochemistry BC1.1	Biochemistry BC2.1	Biochemistry BC3.1	Biochemistry BC4.1
	Physiology Pc1.1	Pharmacology Pc2.1 Pharmacology Pc2.2	Pharmacology Pc3.1 Pharmacology Pc3.2	Biochemistry Project Pharmacology Pc4.1 Pharmacology Pc4.2
	Each year choose 1 subject to prerequisites			
	Mol. & cell biology Ls1.1	Cell biology B2.3 Development/Neuroscience B2.5	Cell biology B3.3 Development/Neuroscience B3.5	Cell biology B4.3 Development/Neuroscience B4.5
	Choose two options – at least one science	Continue 1 option		

## OPTIONS

	Year One	Year Two	Year Three
<b>Options for Biochemistry Major with pharmacology</b>	Science options		
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3
	Introduction Env1.1	Energy/Sustain Env2.1	State of Planet Env3.1 Water Cycle Env3.2
	Maths for life sciences 1	Maths for life sciences 2	Maths for life sciences 3
	Non-Science options		
	Psychology 1	Psychology 2	Psychology 3
	Education 1	Education 2	Education 3
	Management 1	Management 2	Management 3



## BIOCHEMISTRY MAJOR WITH PHARMACOLOGY BSc

	Year One	Year Two	Year Three
<b>Biochemistry Major with pharmacology</b>	Mandatory		
	Biochemistry BC1.1	Biochemistry BC2.1	Biochemistry BC3.1
			Biochemistry Project
	Physiology Pc1.1	Pharmacology Pc2.1	Pharmacology Pc3.1
		Pharmacology Pc2.2	Pharmacology Pc3.2
	Mol. & cell biology Ls1.1	Choose 1 subject to pre-requisites	
		Cell biology B2.3	Cell biology B3.3
		Development/Neuroscience B2.5	Development/Neuroscience B3.5
	Choose two options – at least one science	Continue 1 option	

## OPTIONS

	Year One	Year Two
<b>Options for Biochemistry Major with pharmacology</b>	Science options	
	Organic chemistry C1.1	Organic chemistry C2.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2
	Physical chemistry C1.3	Physical chemistry C2.3
	Introduction Env1.1	Energy/Sustain Env2.1
	Maths for life sciences 1	Maths for life sciences 2
	Non-Science options	
	Education 1	Education 2
	Management 1	Management 2
	Psychology 1	Psychology 2

# BIOLOGY

## BIOLOGY MAJOR WITH CHEMISTRY MSci

	Year One	Year Two	Year Three	Final Year	
<b>Biology major with Chemistry</b>				Mandatory	
				Biology Project	
	Mandatory	Each year choose 2 from the biology options, following pre-requisites			
	Cell & mol. biology Ls1.1	Genomics B2.4	Genomics B3.4	Genomics B4.4	
		Molecular biology B2.3	Molecular biology B3.3	Molecular biology B4.3	
		Development/Neuroscience B2.5	Development/Neuroscience B3.5	Development/Neuroscience B4.5	
	Choose 1				
	Evolution and Ecology B1.1	Evolution and Ecology B2.1	Evolution and Ecology B3.1	Evolution and Ecology B4.1	
	Plant Science B1.2	Plant Science B2.2	Plant Science B3.2	Plant Science B4.2	
		Choose 2 streams from the chemistry options			
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1	Organic chemistry C4.1	
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2	Inorganic chemistry C4.2	
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3	Physical chemistry C4.3	
	Each year choose 1 free option				

## OPTIONS

	Year One	Year Two	Year Three
<b>Options for Biology major with Chemistry</b>	Physiology Pc1.1	Pharmacology Pc2.1	Pharmacology Pc3.1
		Pharmacology Pc2.2	Pharmacology Pc3.2
	Introduction Env1.1	Energy/Sustain Env2.1	State of Planet Env3.1
			Water Cycle Env3.2
	Maths for life sciences 1	Maths for life sciences 2	Maths for life sciences 2
	Education 1	Education 2	Education 3
	Management 1	Management 2	Management 3
	Psychology 1	Psychology 2	Psychology 3

## BIOLOGY MAJOR WITH CHEMISTRY BSc

	Year One	Year Two	Year Three
<b>Biology major with Chemistry</b>	Mandatory		Biology Project
	Cell & mol. biology Ls1.1	Choose 2 from the biology options, following pre-requisites	
		Molecular biology B2.3	Molecular biology B3.3
		Genomics B2.4	Genomics B3.4
		Development/Neuroscience B2.5	Development/Neuroscience B3.5
	Choose 1		
	Evolution & Ecology B1.1	Evolution & Ecology B2.1	Evolution & Ecology B3.1
	Plant Science B1.2	Plant Science B2.2	Plant Science B3.2
	Choose 2 streams from the options		
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3
Each year choose 1 free option			

## OPTIONS

	Year One	Year Two
<b>Options for Biology major with Chemistry</b>	Physiology Pc1.1	Pharmacology Pc2.1
		Pharmacology Pc2.2
	Introduction Env1.1	Energy/Sustain Env2.1
	Maths for life sciences 1	Maths for life sciences 2
	Education 1	Education 2
	Management 1	Management 2
	Psychology 1	Psychology 2

## BIOLOGY MAJOR WITH PHARMACOLOGY MSci

	Year One	Year Two	Year Three	Final Year
<b>Biology major with Pharmacology</b>	Mandatory			
	Physiology Pc1.1	Pharmacology Pc2.1 Pharmacology Pc2.2	Pharmacology Pc3.1 Pharmacology Pc3.2	Pharmacology Pc4.1 Pharmacology Pc4.2
	Organic chemistry C1.1			Biology Project
	Mol. & cell biology Ls1.1	Molecular biology B2.3	Molecular biology B3.3	Molecular biology B4.3
		Each year choose 1 biology stream following pre-requisites		
		Genomics B2.4	Genomics B3.4	Genomics B4.4
		Development/Neuroscience B2.5	Development/Neuroscience B3.5	Development/Neuroscience B4.5
	Choose 1			
	Evolution and Ecology B1.1	Evolution and Ecology B2.1	Evolution and Ecology B3.1	Evolution and Ecology B4.1
	Plant Science B1.2	Plant Science B2.2	Plant Science B3.2	Plant Science B4.2
		Each year choose 1 free option		

## OPTIONS

	Year One	Year Two	Year Three
<b>Options for Biology major with Pharmacology</b>		Organic chemistry C2.1	Organic chemistry C3.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3
	Introduction Env1.1	Energy/Sustain Env2.1	State of Planet Env3.1 Water Cycle Env3.2
	Maths for life sciences 1	Maths for life sciences 2	Maths for life sciences 3
	Education 1	Education 2	Education 3
	Management 1	Management 2	Management 3
	Psychology 1	Psychology 2	Psychology 3

## BIOLOGY MAJOR WITH PHARMACOLOGY BSc

	Year One	Year Two	Year Three
<b>Biology major with Pharmacology</b>	Mandatory		
	Physiology Pc1.1	Pharmacology Pc2.1	Pharmacology Pc3.1
		Pharmacology Pc2.2	Pharmacology Pc3.2
	Organic chemistry C1.1		Biology Project
	Mol. & cell biology Ls1.1	Molecular biology B2.3	Molecular biology B3.3
		Choose 1 biology stream subject to pre-requisites	
		Genomics B2.4	Genomics B3.4
		Development/Neuroscience B2.5	Development/Neuroscience B3.5
	Choose 1		
	Evolution and Ecology B1.1	Evolution and Ecology B2.1	Evolution and Ecology B3.1
	Plant Science B1.2	Plant Science B2.2	Plant Science B3.2
	Each year choose 1 free option subject to pre-reqs		

## OPTIONS

	Year One	Year Two
<b>Options for Biology major with Pharmacology</b>	Organic chemistry C1.1	Organic chemistry C2.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2
	Physical chemistry C1.3	Physical chemistry C2.3
	Introduction Env1.1	Energy/Sustain Env2.1
	Maths for life sciences 1	Maths for life sciences 2
	Education 1	Education 2
	Management 1	Management 2
	Psychology 1	Psychology 2

## BIOLOGY MAJOR WITH PHYSICS MSci

	Year One	Year Two	Year Three	Final Year
<b>Biology major with Physics</b>	Mandatory			
	Physics P1.1	Physics P2.1	Physics P3.1	Physics P4.1
	Physics P1.2	Physics P2.2	Physics P3.2	Physics P4.2
	Maths for physics M1.1	Maths for physics M2.1	Maths for physics M3.1	Biology Project
	Each year choose 2 biology streams following pre-requisites			
	Cell & mol. biology Ls1.1	Molecular biology B2.3	Molecular biology B3.3	Molecular biology B4.3
		Genomics B2.4	Genomics B3.4	Genomics B4.4
		Development/Neuroscience B2.5	Development/Neuroscience B3.5	Development/Neuroscience B4.5
	Choose 1			
	Evolution and Ecology B1.1	Evolution and Ecology B2.1	Evolution and Ecology B3.1	Evolution and Ecology B4.1
	Plant Science B1.2	Plant Science B2.2	Plant Science B3.2	Plant Science B4.2

## OPTIONS

There are no optional streams on these courses.

## BIOLOGY MAJOR WITH PHYSICS BSc

	Year One	Year Two	Year Three
<b>Biology major with Physics</b>	Mandatory		
	Physics P1.1	Physics P2.1	Physics P3.1
	Physics P1.2	Physics P2.2	Physics P3.2
	Maths for scientists M1.1	Maths for scientists M2.1	Biology Project
	Each year choose 2 subject to pre-requisites		
	Cell & mol. biology Ls1.1	Molecular biology B2.3	Molecular biology B3.3
		Genomics B2.4	Genomics B3.4
		Development/Neuroscience B2.5	Development/Neuroscience B3.5
	Choose 1		
	Evolution & Ecology B1.1	Evolution & Ecology B2.1	Evolution & Ecology B3.1
	Plant Science B1.2	Plant Science B2.2	Plant Science B3.2

## OPTIONS

There are no optional streams on these courses.

# CHEMISTRY

## CHEMISTRY MAJOR WITH BIOCHEMISTRY MSci

	Year One	Year Two	Year Three	Final Year
<b>Chemistry Major with Biochemistry</b>	Choose 2 streams from the options			
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1	Organic chemistry C4.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2	Inorganic chemistry C4.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3	Physical chemistry C4.3
	Mandatory			
			Laboratory chemistry C3.4	Chemistry project C4.5
	Biochemistry BC1.1	Biochemistry BC2.1	Biochemistry BC3.1	Biochemistry 4.1
	Cell & mol. biology Ls1.1	Each year choose 1 subject to pre-requisites		
		Molecular biology B2.3	Molecular biology B3.3	Molecular biology B4.3
		Development/Neuroscience B2.5	Development/Neuroscience B3.5	Development/Neuroscience B4.5
	Each year choose 1 free option			

## OPTIONS

	Year One	Year Two
<b>Options for Chemistry major with Biochemistry</b>	Introduction Env1.1	Energy/Sustain Env2.1
	Maths for life sciences 1	Maths for life sciences 2
	Physiology Pc1.1	Pharmacology Pc2.1
		Pharmacology Pc2.2
	Education 1	Education 2
	Management 1	Management 2
	Psychology 1	Psychology 2



## CHEMISTRY MAJOR WITH BIOCHEMISTRY BSc

	Year One	Year Two	Year Three
<b>Chemistry Major with Biochemistry</b>	Choose 2 streams from the options		
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3
	Mandatory		
			Chemistry project
	Biochemistry BC1.1	Biochemistry BC2.1	Biochemistry BC3.3
	Cell & mol. biology Ls1.1	Choose 1 subject to pre-requisites	
		Molecular biology B2.3	Molecular biology B3.3
		Development/Neuroscience B2.5	Development/Neuroscience B3.5
	Each year choose 1 free option		

## OPTIONS

	Year One	Year Two
<b>Options for Chemistry major with Biochemistry</b>	Introduction Env1.1	Energy/Sustain Env2.1
	Maths for life sciences 1	Maths for life sciences 2
	Physiology Pc1.1	Pharmacology Pc2.1
		Pharmacology Pc2.2
	Education 1	Education 2
	Management 1	Management 2
	Psychology 1	Psychology 2

## CHEMISTRY MAJOR WITH BIOLOGY MSci

	Year One	Year Two	Year Three	Final Year
<b>Chemistry major with Biology</b>	Choose 2 streams from the options			
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1	Organic chemistry C4.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2	Inorganic chemistry C4.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3	Physical chemistry C4.3
	Mandatory			
			Laboratory chemistry C3.4	Chemistry project C4.5
	Cell & mol. biology Ls1.1	Each year choose 2 biology streams subject to pre-requisites		
		Molecular biology B2.3	Molecular biology B3.3	Molecular biology B4.3
		Genomics B2.4	Genomics B3.4	Genomics B4.4
		Development/Neuroscience B2.5	Development/Neuroscience B3.5	Development/Neuroscience B4.5
	Choose 1			
	Evolution & Ecology B1.1	Evolution & Ecology B2.1	Evolution & Ecology B3.1	Evolution & Ecology B4.1
	Plant Science B1.2	Plant Science B2.2	Plant Science B3.2	Plant Science B4.2
	Each year choose 1 free option			

## OPTIONS

	Year One	Year Two
<b>Options for Chemistry major with Biology</b>	Introduction Env1.1	Energy/Sustain Env2.1
	Maths for life sciences 1	Maths for life sciences 2
	Physiology Pc1.1	Pharmacology Pc2.1
		Pharmacology Pc2.2
	Education 1	Education 2
	Management 1	Management 2
	Psychology 1	Psychology 2

## CHEMISTRY MAJOR WITH BIOLOGY BSc

	Year One	Year Two	Year Three
<b>Chemistry major with Biology</b>	Choose 2 streams from the options		
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3
	Mandatory		
			Chemistry project
	Cell & mol. biology Ls1.1	Choose 2 biology stream subject to pre-requisites	
	Choose 1	Molecular biology B2.3	Molecular biology B3.3
		Genomics B2.4	Genomics B3.4
		Development/Neuroscience B2.5	Development/Neuroscience B3.5
	Evolution and Ecology B1.1	Evolution and Ecology B2.1	Evolution and Ecology B3.1
	Plant Science B1.2	Plant Science B2.2	Plant Science B3.2
	Each year choose 1 free option		

## OPTIONS

	Year One	Year Two
<b>Options for Chemistry major with Biology</b>	Introduction Env1.1	Energy/Sustain Env2.1
	Maths for life sciences 1	Maths for life sciences 2
	Physiology Pc1.1	Pharmacology Pc2.1
		Pharmacology Pc2.2
	Education 1	Education 2
	Management 1	Management 2
	Psychology 1	Psychology 2

## CHEMISTRY MAJOR WITH PHARMACOLOGY MSci

	Year One	Year Two	Year Three	Final Year
<b>Chemistry major with Pharmacology</b>	Choose 2 streams from the options			
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1	Organic chemistry C4.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2	Inorganic chemistry C4.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3	Physical chemistry C4.3
	Mandatory			
	Physiology Pc1.1	Pharmacology Pc2.1	Laboratory chemistry C3.4	Chemistry project C4.5
		Pharmacology Pc2.2	Pharmacology Pc3.1	Pharmacology Pc4.1
	Mol. & cell biology Ls1.1		Pharmacology Pc3.2	Pharmacology Pc4.2
	Each year choose 1 free option			

## OPTIONS

	Year One	Year Two
<b>Options for Chemistry major with Pharmacology</b>		Molecular biology B2.3
		Genomics B2.4
		Development/Neuroscience B2.5
	Evolution & Ecology B1.1	Evolution & Ecology B2.1
	Plant Science B1.2	Plant Science B2.2
	Biochemistry BC1.1	Biochemistry BC2.1
	Introduction Env1.1	Energy/Sustain Env2.1
	Maths for life sciences 1	Maths for life sciences 2
	Education 1	Education 2
	Management 1	Management 2
Psychology 1	Psychology 2	

## CHEMISTRY MAJOR WITH PHARMACOLOGY BSc

	Year One	Year Two	Year Three
<b>Chemistry major with Pharmacology</b>	Choose 2 streams from the options		
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3
	Mandatory		
			Chemistry project
	Physiology Pc1.1	Pharmacology Pc2.1 Pharmacology Pc2.2	Pharmacology Pc3.1 Pharmacology Pc3.2
	Mol. & cell biology Ls1.1		
	Each year choose 1 free option		

## OPTIONS

	Year One	Year Two
<b>Options for Chemistry major with Pharmacology</b>		Molecular biology B2.3
		Genomics B2.4
		Development/Neuroscience B2.5
	Evolution & Ecology B1.1	Evolution & Ecology B2.1
	Plant Science B1.2	Plant Science B2.2
	Biochemistry BC1.1	Biochemistry BC2.1
	Introduction Env1.1	Energy/Sustain Env2.1
	Maths for life sciences 1	Maths for life sciences 2
	Education 1	Education 2
	Management 1	Management 2
Psychology 1	Psychology 2	

## CHEMISTRY MAJOR WITH PHYSICS MSci

	Year One	Year Two	Year Three	Final Year
Chemistry major with Physics	Choose 2 streams from the options			
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1	Organic chemistry C4.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2	Inorganic chemistry C4.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3	Physical chemistry C4.3
	Mandatory			
			Laboratory chemistry C3.4	Chemistry project C4.5
	Physics P1.1	Physics P2.1	Physics P3.1	Physics P4.1
	Physics P1.2	Physics P2.2	Physics P3.2	Physics P4.2
	Maths for physics M1.1	Maths for physics M2.1		

## CHEMISTRY MAJOR WITH PHYSICS BSc

	Year One	Year Two	Year Three
Chemistry major with Physics	Choose 2 streams from the options		
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3
	Mandatory		
			Chemistry project
	Physics P1.1	Physics P2.1	Physics P3.1
	Physics P1.2	Physics P2.2	Physics P3.2
	Maths for physics M1.1	Maths for physics M2.1	

## OPTIONS

There are no optional streams on these courses.

# PHYSICS

## PHYSICS MAJOR WITH BIOLOGY MSci

	Year One	Year Two	Year Three	Final Year
<b>Physics major with Biology</b>	Mandatory			
	Physics P1.1	Physics P2.1	Physics P3.1	Physics P4.1
	Physics P1.2	Physics P2.2	Physics P3.2	Physics P4.2
			Physics P3.3	Physics project P4.3
	Maths for physics M1.1	Maths for physics M2.1		
	Cell & mol. biology Ls1.1	Each year choose 2 biology streams subject to pre-requisites		
		Molecular biology B2.3	Molecular biology B3.3	Molecular biology B4.3
		Genomics B2.4	Genomics B3.4	Genomics B4.4
		Development/Neuroscience B2.5	Development/Neuroscience B3.5	Development/Neuroscience B4.5
	Choose 1			
	Evolution & Ecology B1.1	Evolution & Ecology B2.1	Evolution & Ecology B3.1	Evolution & Ecology B4.1
	Plant Science B1.2	Plant Science B2.2	Plant Science B3.2	Plant Science B4.2

## PHYSICS MAJOR WITH BIOLOGY BSc

	Year One	Year Two	Year Three
<b>Physics major with Biology</b>	Mandatory		
	Physics P1.1	Physics P2.1	Physics P3.1
	Physics P1.2	Physics P2.2	Physics P3.2
			Physics project
	Maths for physics M1.1	Maths for physics M2.1	
	Cell & mol. biology Ls1.1	Choose 2 biology streams subject to pre-requisites	
		Molecular biology B2.3	Molecular biology B3.3
		Genomics B2.4	Genomics B3.4
		Development/Neuroscience B2.5	Development/Neuroscience B3.5
	Choose 1		
	Evolution and Ecology B1.1	Evolution and Ecology B2.1	Evolution and Ecology B3.1
	Plant Science B1.2	Plant Science B2.2	Plant Science B3.2

## OPTIONS

There are no optional streams on these courses.





## PHYSICS MAJOR WITH CHEMISTRY MSci

	Year One	Year Two	Year Three	Final Year
<b>Physics Major with Chemistry</b>	Mandatory			
	Physics P1.1	Physics P2.1	Physics P3.1	Physics P4.1
	Physics P1.2	Physics P2.2	Physics P3.2	Physics P4.2
			Physics P3.3	Physics project P4.3
	Maths for physics M1.1	Maths for physics M2.1		
	Choose 2 streams from the options			
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1	Organic chemistry C4.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2	Inorganic chemistry C4.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3	Physical chemistry C4.3

## PHYSICS MAJOR WITH CHEMISTRY BSc

	Year One	Year Two	Year Three
<b>Physics Major with Chemistry</b>	Mandatory		
	Physics P1.1	Physics P2.1	Physics P3.1
	Physics P1.2	Physics P2.2	Physics P3.2
			Physics project
	Maths for physics M1.1	Maths for physics M2.1	
	Choose 2 streams from the options		
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3

## OPTIONS

There are no optional streams in these choices.

# ENVIRONMENTAL SCIENCE

## ENVIRONMENTAL SCIENCE MAJOR WITH BIOCHEMISTRY BSc

	Year One	Year Two	Year Three
<b>Environmental Science with Biochemistry</b>	Mandatory		
	Introduction Env1.1	Energy/Sustain Env2.1	State of Planet Env3.1
			Water Cycle Env3.2
			Environm Dissertation
	Biochemistry BC1.1	Biochemistry BC2.1	Biochemistry BC3.3
	Mol. & cell biology Ls1.1	Choose one following pre-requisites	
		Cell biology B2.3	Cell biology B3.3
		Developmental & neuro B2.5	Developmental & neuro B3.5
	Take two chemistry streams or Physiology (PC1.1) and one option	Take options to give 5 blocks total – only 1 non-science	

## OPTIONS

	Year One	Year Two
<b>Choices: Environmental Science with Biochemistry</b>	Organic chemistry C1.1	Organic chemistry C2.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2
	Physical chemistry C1.3	Physical chemistry C2.3
	Physiology Pc1.1	Pharmacology Pc2.1
		Pharmacology Pc2.2
	Maths for life sciences 1	Maths for life sciences 2
	Education 1	Education 2
	Management 1	Management 2
	Psychology 1	Psychology 2

## ENVIRONMENTAL SCIENCE MAJOR WITH BIOLOGY BSc

	Year One	Year Two	Year Three
<b>Environmental Science with Biology</b>	Mandatory		
	Introduction Env1.1	Energy/Sustain Env2.1	State of Planet Env3.1
			Water Cycle Env3.2
			Environm Dissertation
	Mol. & cell biology Ls1.1	Choose two biology streams subject to pre-requisites	
		Molecular biology B2.3	Molecular biology B3.3
		Genomics B2.4	Genomics B3.4
		Development/Neuroscience B2.5	Development/Neuroscience B3.5
	Choose 1		
	Evolution & Ecology B1.1	Evolution & Ecology B2.1	Evolution & Ecology B3.1
Plant Science B1.2	Plant Science B2.2	Plant Science B3.2	
Take two chemistry streams or Physiology (Pc1.1) and one option	Take options to 5 blocks total – only 1 non-science		

## OPTIONS

	Year One	Year Two
<b>Choices: Environmental Science with Biology</b>	Organic chemistry C1.1	Organic chemistry C2.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2
	Physical chemistry C1.3	Physical chemistry C2.3
	Physiology Pc1.1	Pharmacology Pc2.1
		Pharmacology Pc2.2
	Maths for life sciences 1	Maths for life sciences 2
	Education 1	Education 2
	Management 1	Management 2
	Psychology 1	Psychology 2

## ENVIRONMENTAL SCIENCE MAJOR WITH CHEMISTRY BSc

	Year One	Year Two	Year Three
<b>Environmental Science with Chemistry</b>	Mandatory		
	Introduction Env1.1	Energy/Sustain Env2.1	State of Planet Env3.1
			Water Cycle Env3.2
			Environm Dissertation
	Cell & mol. biology Ls1.1		
	Choose 2 streams from the options		
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3
	Choose one option for Year 1 to pair with Ls1.1	Take 2 options following pre-requisites	

### OPTIONS

	Year One	Year Two
<b>Choices: Environmental Science with Chemistry</b>		Molecular biology B2.3
		Genomics B2.4
		Development/Neuroscience B2.5
	Evolution & Ecology B1.1	Evolution & Ecology B2.1
	Plant Science B1.2	Plant Science B2.2
	Biochemistry BC1.1	Biochemistry BC2.1
	Physiology Pc1.1	Pharmacology Pc2.1
		Pharmacology Pc2.2

**Note:** You cannot take both BC2.1 and B2.4 in Year 2.

# PHARMACOLOGY

## PHARMACOLOGY MAJOR WITH BIOCHEMISTRY BSc

	Year One	Year Two	Year Three
<b>Pharmacology Major with biochemistry</b>	Mandatory		
	Physiology Pc1.1	Pharmacology Pc2.1	Pharmacology Pc3.1
		Pharmacology Pc2.2	Pharmacology Pc3.2
			Pharmacology Dissertation
	Biochemistry BC1.1	Biochemistry BC2.1	Biochemistry BC3.3
	Mol. & cell biology Ls1.1	Choose 1 subject to pre-requisites	
		Cell biology B2.3	Cell biology B3.3
		Development/Neuroscience B2.5	Development/Neuroscience B3.5
	Choose two options including 1 or 2 sciences	Continue 1 option	

## OPTIONS

	Year One	Year Two
<b>Pharmacology Major with biochemistry</b>	Organic chemistry C1.1	Organic chemistry C2.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2
	Physical chemistry C1.3	Physical chemistry C2.3
	Introduction Env1.1	Energy/Sustain Env2.1
	Maths for life sciences 1	Maths for life sciences 2
	Education 1	Education 2
	Management 1	Management 2
	Psychology 1	Psychology 2

## PHARMACOLOGY MAJOR WITH BIOLOGY BSc

	Year One	Year Two	Year Three
<b>Pharmacology major with Biology</b>	Mandatory		
	Physiology Pc1.1	Pharmacology Pc2.1	Pharmacology Pc3.1
		Pharmacology Pc2.2	Pharmacology Pc3.2
	Organic chemistry C1.1		Pharmacology Dissertation
	Mol. & cell biology Ls1.1	Choose 2 biology streams subject to pre-requisites	
		Molecular biology B2.3	Molecular biology B3.3
		Genomics B2.4	Genomics B3.4
		Development/Neuroscience B2.5	Development/Neuroscience B3.5
	Choose 1		
	Evolution & Ecology B1.1	Evolution & Ecology B2.1	Evolution & Ecology B3.1
	Plant Science B1.2	Plant Science B2.2	Plant Science B3.2
	Each year choose 1 free option		

## OPTIONS

	Year One	Year Two
<b>Choices: Pharmacology major with Biology</b>		Organic chemistry C2.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2
	Physical chemistry C1.3	Physical chemistry C2.3
	Introduction Env1.1	Energy/Sustain Env2.1
	Maths for life sciences 1	Maths for life sciences 2
	Education 1	Education 2
	Management 1	Management 2
	Psychology 1	Psychology 2

## PHARMACOLOGY MAJOR WITH CHEMISTRY BSc

	Year One	Year Two	Year Three
<b>Pharmacology major with Chemistry</b>	Mandatory		
	Physiology Pc1.1	Pharmacology Pc2.1	Pharmacology Pc3.1
		Pharmacology Pc2.2	Pharmacology Pc3.2
			Pharmacology Dissertation
	Mol. & cell biology Ls1.1		
	Choose 2 streams from the chemistry options		
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3
	Each year choose 1 free option		

## OPTIONS

	Year One	Year Two
<b>Options for Pharmacology major with Chemistry</b>		Molecular biology B2.3
		Development/Neuroscience B2.5
	Evolution and Ecology B1.1	Evolution and Ecology B2.1
	Plant Science B1.2	Plant Science B2.2
	Biochemistry BC1.1	Biochemistry BC2.1
	Introduction Env1.1	Energy/Sustain Env2.1
	Maths for life sciences 1	Maths for life sciences 2
	Education 1	Education 2
	Management 1	Management 2
	Psychology 1	Psychology 2

# Examples of easy modifications

In the final year of a BSc degree, a block of the minor science can be replaced with a block from the non-science options. Education or Management can always be selected for this block. Psychology can only be selected if it has already been studied in years 1 and 2.

- (i) Drop BSc Final Year Minor: *“I have decided I want to be a teacher”*

	Year One	Year Two	Year Three
<b>Chemistry Major with Biochemistry</b>	Two streams selected		
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2
	Mandatory		
	Biochemistry BC1.1	Biochemistry BC2.1	Biochemistry BC3.3
	Cell & mol. biology Ls1.1	One stream selected	
		Molecular biology B2.3	Molecular biology B3.3
	Maths for life sciences 1	Education 2	
			Chemistry project

	Year One	Year Two	Year Three
<b>Chemistry Major with Biochemistry</b>	Two streams selected		
	Organic chemistry C1.1	Organic chemistry C2.1	Organic chemistry C3.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2
	Mandatory		
	Biochemistry BC1.1	Biochemistry BC2.1	Biochemistry BC3.3
	Cell & mol. biology Ls1.1	One subject selected	
		Molecular biology B2.3	
	Maths for life sciences 1	Education 2	Education 3
			Chemistry project

Education can replace either Biology or Biochemistry in the final year as they are both minor subjects – only in the BSc.



(ii) Changing Major: “I just love physics after all”

This is quite a common dilemma for double-double choices, and it is a straightforward swap. You can change your declared major and minor when progressing to a new year of study. The courses below, with the same chemistry options selected, are identical in years 1 and 2

	Year One	Year Two	Year Three
<b>Chemistry major with Physics</b>	Two streams chosen		
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3
	Mandatory		
			Chemistry project
	Physics P1.1	Physics P2.1	Physics P3.1
	Physics P1.2	Physics P2.2	Physics P3.2
	Maths for physics M1.1	Maths for physics M2.1	

	Year One	Year Two	Year Three
<b>Physics Major with Chemistry</b>	Mandatory		
	Physics P1.1	Physics P2.1	Physics P3.1
	Physics P1.2	Physics P2.2	Physics P3.2
			Physics project
	Maths for physics M1.1	Maths for physics M2.1	
	Two streams chosen		
	Inorganic chemistry C1.2	Inorganic chemistry C2.2	Inorganic chemistry C3.2
	Physical chemistry C1.3	Physical chemistry C2.3	Physical chemistry C3.3

The first year choice below starting in the Biology with Chemistry collation gives the option to major in Biology, Chemistry or Pharmacology in year two. It also has six different combinations of biology blocks possible within double biology. So, after choosing the right five blocks for year two, you could now be on the collation of Pharmacology major with Biology, and with Chemistry as the supporting subject.

	Year One	Year Two
<b>Biology major with Chemistry</b>	Cell & mol. biology Ls1.1	Genomics B2.4
		Molecular biology B2.3
		Development/Neuroscience B2.5
	Evolution & Ecology B1.1	Evolution & Ecology B2.1
	Organic chemistry C1.1	Organic chemistry C2.1
	Inorganic chemistry C1.2	Inorganic chemistry C2.2
	Physiology Pc1.1	Pharmacology Pc2.1
		Pharmacology Pc2.2

(iii) Director of Studies Approved Units

	Year One	Year Two	Year Three	Final Year
			BSc DoS Approved Units	MSci DoS Approved Units

Not shown in these collations are the Director of Studies Approved Units blocks that are available in year 3 of the BSc degrees, and years 3 and 4 of the MSci degrees. These can be taken in place of the blocks named in the collations above, subjects to timetabling, and can be other blocks from the Natural Sciences selection, units mixed between the usual block structures or units taken from other courses. These must follow certain technical requirements to preserve the overall validity of the degree to be awarded and need approval for the Natural Sciences and the delivering department: hence – Director of Studies Approved Units.