

**BSc Biological Sciences with Research Abroad  
BSc Biological Sciences with a Year in Industry/Research**

This document provides a definitive record of the main features of the programme and the learning outcomes that a typical student may reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities provided. This programme specification is intended as a reference point for prospective students, current students, external examiners and academic and support staff involved in delivering the programme and enabling student development and achievement.

**Programme Information**

Programme Title	Biological Sciences with Research Abroad, Biological Sciences with a Year in Industry/Research			
Award(s)	BSc			
Programme Code	C102 C110			
Associateship	Associateship of the Royal College of Science (ARCS)			
Awarding Institution	Imperial College London			
Teaching Institution	Imperial College London			
Faculty	Faculty of Natural Sciences			
Department	Department of Life Sciences			
Main Location of Study	South Kensington Campus			
Mode and Period of Study	4 academic years full-time			
Cohort Entry Points	Annually in October			
Relevant QAA Benchmark Statement(s) and/or other external reference points	<a href="#">Biosciences</a>			
Total Credits	ECTS:	240	CATS:	480
FHEQ Level	Level 6			
EHEA Level	1 <sup>st</sup> cycle			
External Accreditor(s)	None			
<b>Specification Details</b>				
Student cohorts covered by specification	2017/18 entry			

Person responsible for the specification	Dr Huw Williams
Date of introduction of programme	
Date of programme specification/revision	August 2017
<b>Programme Overview</b>	
<p>All students on Biological Sciences programmes follow the same core modules in the first year of study. As the years progress, you will begin to specialise further according to your chosen degree programme or individual optional module choices.</p> <p>All students have the opportunity to attend field courses, including the popular African Biology Field Course which takes place in South Africa.</p> <p>The four-year <b>BSc in Biological Sciences with a Year in Industry/Research (C110)</b> is for those who wish to integrate their academic work with periods of practical experience and employment in industry or research institutes. Because of the wide range of approved courses offered in plant, microbiological and animal subjects, you can choose either a specialised or a broader approach to this degree.</p> <p>Placements are in a variety of areas, such as the pharmaceutical industry, medical research, parasitology, ecology, conservation biology, marine biology, food science and agricultural research. Some students will have the chance to work overseas during their placement year. In their fourth year, they take the normal third year curriculum and project.</p> <p>The four-year <b>BSc in Biological Sciences with Research Abroad (C102)</b> includes training in the chosen language using language labs in the first (optional) and second year. You spend the third year attending taught courses and conducting a research project at an approved educational institute in another European country. Courses in other years are as for our other degrees.</p> <p>This European placement broadens your horizons, helps develop linguistic skills and provides an opportunity for you to study in a different educational and cultural environment as well developing your laboratory and other research skills. SOCRATES-ERASMUS funding is usually available for these placements.</p> <p>The first year course covers the basic core areas of biology. In the first term, there are also classes in key scientific skills such as information retrieval, literature referencing, and statistics. In the second and third years, we organise courses for those who wish to study for the flexible, broadly based suite of degrees in biology and specialisms in ecology and environmental biology, microbiology, and zoology.</p> <p>To encourage a wider outlook, in the second year you will be asked to choose one of the humanities courses offered by the <a href="#">Centre for Languages, Culture and Communication</a>, which includes a wide range of language options; or you can choose a management course in <a href="#">Imperial College Business School</a>.</p> <p>The last term of the final year is devoted to a full-time individual research project. Your project is often the most exciting and rewarding part of your degree. You are allowed considerable freedom in choosing a project and may suggest your own line of research. An academic staff member will supervise your work.</p>	

## Learning Outcomes

The Imperial Graduate Attributes are a set of core competencies which we expect students to achieve through completion of any Imperial College degree programme. The Graduate Attributes are available at: [www.imperial.ac.uk/students/academic-support/graduate-attributes](http://www.imperial.ac.uk/students/academic-support/graduate-attributes)

### Knowledge and Understanding of:

- Basic biological chemistry; cell biology and genetics; organismal biology; ecology, and evolution (Year 1);
- Applied molecular biology, including bioinformatics; genetics statistics; and chosen subject areas (Year 2);
- Advanced knowledge and understanding of three specialist modules.

### Intellectual Skills (thinking) skills - able to:

- Analyse and solve biology-based problems;
- Integrate and evaluate information;
- Formulate and test hypotheses using appropriate experimental design and statistical analysis of data;
- Plan, conduct and write-up a programme of original research.

### Practical Skills – able to:

- Plan and execute safely a series of experiments;
- Use laboratory and field-based methods to generate data;
- Analyse experimental results and determine their strength and validity;
- Prepare technical reports;
- Give technical presentations;
- Use the scientific literature effectively;
- Use computational tools and packages.

### Transferable Skills – able to:

- Communicate effectively through oral presentations, computer processing and presentations, written reports;
- Apply statistical skills;
- Work independently and as part of a team;
- Integrate and evaluate information from a variety of sources;
- Use Information and Communications Technology;
- Manage resources and time;
- Learn independently with open-mindedness and critical enquiry;
- Learn effectively for the purpose of continuing professional development.

Entry Requirements		
Academic Requirement	Grade Requirement	Normally a minimum <b>AAA</b> overall
	Subject Requirements	<b>A</b> in Biology <b>A</b> in Physics, Chemistry or Mathematics
	Excluded Subjects	Key Skills Critical Thinking General Studies
International Baccalaureate (IB)	Grade Requirement	Minimum <b>38</b> overall
	Subject Requirements	<b>6</b> in Biology at higher level <b>6</b> in Chemistry, Physics or Mathematics at higher level
GCSE Requirements		<b>B</b> in Mathematics, Chemistry and Biology (or Combined Sciences)
English Language Requirement		<a href="#">Higher requirement</a> IELTS score of 7.0 overall (minimum 6.5 in all elements)
Admissions Tests		None
Interview		No
The programme's competency standards documents can be found at: <a href="http://www.imperial.ac.uk/students/academic-support/graduate-attributes/">http://www.imperial.ac.uk/students/academic-support/graduate-attributes/</a>		
Learning & Teaching Strategy		
Scheduled Learning & Teaching Methods		<ul style="list-style-type: none"> <li>• Laboratory</li> <li>• Lectures</li> <li>• Tutorials</li> <li>• Seminars</li> </ul>
E-learning & Blended Learning Methods		<ul style="list-style-type: none"> <li>• Computer-based work</li> <li>• Fieldwork</li> </ul>
Project and Placement Learning Methods		<ul style="list-style-type: none"> <li>• Group project</li> <li>• Research project/dissertation</li> <li>• Site visits</li> </ul>
Assessment Strategy		
Assessment Methods		<ul style="list-style-type: none"> <li>• Written Examinations</li> <li>• Coursework</li> <li>• Laboratory write-ups</li> <li>• Essays</li> <li>• Reports</li> </ul>

	<ul style="list-style-type: none"> <li>• Dissertations</li> <li>• Presentations</li> <li>• Individual research project report</li> <li>• Viva</li> </ul>
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#### Academic Feedback Policy

Coursework feedback is provided by a feedback form attached to items of coursework. Feedback is also provided via Blackboard on automatically-assessed pieces of coursework and on formative MCQ quizzes. Personal tutors hold timetabled tutorials at the start of the academic year to give feedback on examination performance and can be approached by their tutees at any point in the year for further guidance. The undergraduate teaching office repeatedly informs individual staff via email when coursework is due back at the appropriate time. The Director of Undergraduate Studies routinely monitors the quality and quantity of feedback provided on marked coursework. In some instances, generic class feedback is returned to all students via email or a Blackboard announcement once coursework is marked.

#### Re-sit Policy

The College's Policy on Re-sits is available at: <http://www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/>

#### Mitigating Circumstances Policy

The College's Policy on Mitigating Circumstances is available at: <http://www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/>

#### Programme Structure

Year One	Pre-session	Term One	Term Two	Term Three	Term Four
Core Modules	0	2	2		0
Elective Modules	0	0	0	0	0
Projects	0	0	0	0	0
Year Two	Pre-session	Term One	Term Two	Term Three	Term Four
Core Modules	0	2	0	0	0
Elective Modules	0	0	2	1	0
Projects	0	0	1	0	0
Year Three	Pre-session	Term One	Term Two	Term Three	Term Four

Core Modules	Varies according to host institution				
Elective Modules					
Projects					
Year Four	Pre-session	Term One	Term Two	Term Three	Term Four
Core Modules	0	0	0	0	0
Elective Modules	0	2	1	0	0
Projects	0	0	1		0
<b>Assessment Dates &amp; Deadlines</b>					
Year One					
Written Examinations		January and June			
Coursework Assessments		Continuous			
Project Deadlines		N/A			
Practical Assessments		Continuous			
Year Two					
Written Examinations		January and June			
Coursework Assessments		Continuous			
Project Deadlines		May			
Practical Assessments		Continuous			
Year Three					
Written Examinations		Varies according to host institution			
Coursework Assessments					
Project Deadlines					
Practical Assessments					
Year Four					
Written Examinations		January and February			
Coursework Assessments		Continuous			
Project Deadlines		June			

Practical Assessments	Continuous
<b>Assessment Structure</b>	
Marking Scheme	
<b>Regulation of Assessment</b>	
<p>Minimum pass mark is 40% overall for each course module, which must include a mark of at least 35% in the coursework component and a mark of at least 35% in the examination.</p> <p>For course modules that include a written examination, coursework typically contributes 20- 25% of the total marks available. Assessment details are provided in the First, Second and Third Year Student Handbooks.</p> <p>The final degree mark is calculated from the mean mark achieved in Years 1, 2 and 4. For students admitted in or after October 2013 weighted 11.1: 33.3: 0: 55.6, respectively. For students admitted before October 2013 weighted 5: 35: 0: 60.</p> <p>To qualify for the award of BSc Honours, students must pass all courses.</p>	
<b>Assessment Rules and Degree Classification:</b>	
<p>For undergraduate programmes classification of degrees will be according to the following range of marks:</p> <p>First class 70 - 100%  Second class (upper division) 60 - 69.9%  Second class (lower division) 50 - 59.9%  Third class 40 - 49.9%  Fail 0-39%</p>	

Module Weightings			
Year	% Year Weighting	Module	% Module Weighting
Year One	11.1%	Cell Biology and Genetics	25%
		Ecology and Evolution	25%
		Biological Chemistry and Microbiology	25%
		Biology of Organisms	25%
Year Two	33.3%	Applied Molecular Biology	17%
		Genetics	17%
		Tutored Dissertation	14%
		<i>One module from elective group (A)</i>	14%
		<i>One module from elective group (B)</i>	14%
		<i>One module from elective group (C)</i>	14%
		<i>One module from elective group (D)</i>	10%
Year Three	0%	Year Abroad (C102 only) <b>OR</b> Year in Industry/Research (C110 only)	N/A
Year Four	55.6%	<b><i>EITHER:</i></b> Laboratory Based Research Project <b><i>OR</i></b> Literature Based Dissertation <b><i>AND</i></b> Science Communication	35%
		<i>One module from elective group (E)</i>	21.66r%
		<i>One module from elective group (F)</i>	21.66r%
		<i>One module from elective group (G)</i>	21.66r%



Module List												
Code	Title	Core/ Elective	Year	L&T Hours	Ind. Study Hours	Place- ment Hours	Total Hours	% Written Exam	% Course- work	% Practical	FHEQ Level	ECTS
LS1-BCM	Cell Biology and Genetics	CORE	1	62	313	0	375	75%	8%	17%	4	15.00
LS1-EE	Ecology and Evolution	CORE	1	49	326	0	375	75%	0%	25%	4	15.00
LS1-BCM	Biological Chemistry and Microbiology	CORE	1	67	308	0	375	75%	0%	25%	4	15.00
LS1-OB	Biology of Organisms	CORE	1	59	316	0	375	75%	0%	25%	4	15.00
LS2-TD	Tutored Dissertation	CORE	2	4	208.5	0	212.5	0%	100%	0%	5	8.50
LS2-AMB	Applied Molecular Biology	CORE	2	54	196	0	250	60%	36%	4%	5	10.00
LS2-GEN	Genetics	CORE	2	54.5	195.5	0	250	75%	10%	15%	5	10.00
LS2-BP	Bacterial Physiology	ELECTIVE (A)	2	68	144.5	0	212.5	75%	5%	20%	5	8.50
LS2-CDB	Cell and Developmental Biology	ELECTIVE (A)	2	48	164.5	0	212.5	75%	25%	0%	5	8.50
LS2-RM	Resource Management	ELECTIVE (A)	2	53	159.5	0	212.5	75%	18%	7%	5	8.50
LS2-BE	Behavioural Ecology	ELECTIVE (B)	2	65	147.5	0	212.5	75%	0%	25%	5	8.50
LS2-VIR	Virology	ELECTIVE (B)	2	38	174.5	0	212.5	75%	15%	10%	5	8.50
LS2-ECO	Ecology	ELECTIVE (C)	2	60	152.5	0	212.5	75%	13%	12%	5	8.50
LS2-IMMBIO	Immunology	ELECTIVE (C)	2	40	172.5	0	212.5	75%	7%	18%	5	8.50

Module List												
Code	Title	Core/ Elective	Year	L&T Hours	Ind. Study Hours	Place- ment Hours	Total Hours	% Written Exam	% Course- work	% Practical	FHEQ Level	ECTS
LS2-VFE	Vertebrate Form & Evolution	ELECTIVE (C)	2	42	170.5	0	212.5	70%	20%	10%	5	8.50
N/A	Horizons	ELECTIVE (D)	2	Various			150	Various			6.00	
N/A	Business for Professional Engineers & Scientists	ELECTIVE (D)	2	Various			150	Various			6.00	
N/A	Year Abroad	CORE	3	0	0	1500	1500	0%	100%	0%	6	60.00
N/A	Year in Industry/Research	CORE	3	0	0	1500	1500	0%	100%	0%	6	60.00
LS3-FYRP	Lab Based Research Project	CORE*	4	360	165	0	525	0%	100%	0%	6	21.00
LS3-FYRD	Literature Based Dissertation	CORE*	4	10	315	0	325	0%	100%	0%	6	13.00
LS3-SCICOMM	Science Communication	CORE*	4	31	169	0	200	0%	100%	0%	6	8.00
LS3-ATPMB	Plant Biotechnology and Development	ELECTIVE (E)	4	56	269	0	325	75%	9%	16%	6	13.00
LS3-DRIBS	Damage and Repair in Biological Systems	ELECTIVE (E)	4	58.5	266.5	0	325	75%	17%	8%	6	13.00
LS3- SBDD	Structural Biology & Drug Design	ELECTIVE (E)	4	73	252	0	325	75%	20%	5%	6	13.00
LS3-MM	Medical Microbiology	ELECTIVE (E)	4	52	273	0	325	75%	5%	20%	6	13.00
LS3-SCRA	Stem Cells, Regeneration and Ageing	ELECTIVE (E)	4	50	275	0	325	75%	0%	25%	6	13.00

Module List												
Code	Title	Core/ Elective	Year	L&T Hours	Ind. Study Hours	Place- ment Hours	Total Hours	% Written Exam	% Course- work	% Practical	FHEQ Level	ECTS
LS3-PCE	Population and Community Ecology	ELECTIVE (E)	4	38	287	0	325	75%	10%	15%	6	13.00
LS3-NR	Neuroscience Research	ELECTIVE (E)	4	46	279	0	325	75%	5%	20%	6	13.00
LS3-MNE	Metabolic and Network Engineering	ELECTIVE (E)	4	62	263	0	325	75%	9%	16%	6	13.00
LS3-TBFC	African Biology Field Course	ELECTIVE (E)	4	99	226	0	325	33%	67%	0%	6	13.00
LS3-PDB	Principles of Development	ELECTIVE (E)	4	45	280	0	325	75%	20%	5%	6	13.00
LS3-ATII	Advanced Topics in Immunity and Infection	ELECTIVE (F)	4	57	268	0	325	75%	25%	0%	6	13.00
LS3-MPMI	Symbiosis, Plant Immunity and Disease	ELECTIVE (F)	4	48	277	0	325	75%	17.50%	7.50%	6	13.00
LS3-BCB	Biodiversity and Conservation Biology	ELECTIVE (F)	4	52	273	0	325	75%	22%	3%	6	13.00
LS3-ATPVB	Advanced Topics in Parasitology and Vector Biology	ELECTIVE (F)	4	43.5	281.5	0	325	75%	22%	3%	6	13.00
LS3-EB	Evolutionary Genetics	ELECTIVE (F)	4	51	274	0	325	75%	14%	11%	6	13.00
LS3-ISB	Integrative Systems Biology	ELECTIVE (F)	4	73	252	0	325	75%	5%	20%	6	13.00
LS3-MGE	Mechanisms of Gene Expression	ELECTIVE (F)	4	38	287	0	325	75%	10%	15%	6	13.00
LS3-CANCER	Cancer	ELECTIVE (F)	4	56	269	0	325	75%	5%	20%	6	13.00

Module List												
Code	Title	Core/ Elective	Year	L&T Hours	Ind. Study Hours	Place- ment Hours	Total Hours	% Written Exam	% Course- work	% Practical	FHEQ Level	ECTS
LS3-ABECB	Advanced Bacterial and Eukaryotic Cell Biology	ELECTIVE (F)	3	43	282	0	325	75%	15%	10%	6	13.00
LS3-ME	Microbial Ecology	ELECTIVE (F)	4	45	280	0	325	75%	20%	5%	6	13.00
LS3-EPI	Epidemiology	ELECTIVE (G)	4	44.5	280.5	0	325	75%	12.50%	12.50%	6	13.00
LS3-SB	Synthetic Biology	ELECTIVE (G)	4	52	273	0	325	75%	10%	15%	6	13.00
LS3-BDG	Biodiversity Genomics	ELECTIVE (G)	4	40	285	0	325	75%	10%	15%	6	13.00
LS3-MBBI	Molecular Basis of Bacterial Infection	ELECTIVE (G)	4	53	272	0	325	75%	0%	25%	6	13.00
LS3-BAP	Biotechnology Applications of Proteins	ELECTIVE (G)	4	62	263	0	325	75%	5%	20%	6	13.00
LS3-GCB	Global Change Biology	ELECTIVE (G)	4	44	281	0	325	75%	17%	8%	6	13.00
LS3-BIOINF	Bioinformatics	ELECTIVE (G)	4	61	264	0	325	75%	20%	5%	6	13.00
LS3-MG	Medical Glycobiology	ELECTIVE (G)	4	63	262	0	325	75%	16.50%	8.50%	6	13.00
LS3-SN	Systems Neuroscience	ELECTIVE (G)	4	44	281	0	325	75%	12.50%	12.50%	6	13.00
LS3-AI	Advanced Immunology	ELECTIVE (G)	4	54	271	0	325	75%	17.5%	7.5%	6	13.00

\*See Y4 table on page 6 (above).

## Supporting Information

The Programme Handbook is available at:

<http://www.imperial.ac.uk/life-sciences/undergraduate/biology/>

The Module Handbook is available at:

<http://www.imperial.ac.uk/life-sciences/undergraduate/biology/>

The College's entry requirements for undergraduate programmes can be found at:

[www.imperial.ac.uk/study/ug/apply/requirements/](http://www.imperial.ac.uk/study/ug/apply/requirements/)

The College's Quality & Enhancement Framework is available at:

[www.imperial.ac.uk/registry/proceduresandregulations/qualityassurance](http://www.imperial.ac.uk/registry/proceduresandregulations/qualityassurance)

Imperial College is an independent corporation whose legal status derives from a Royal Charter granted under Letters Patent in 1907. In 2007 a Supplemental Charter and Statutes was granted by HM Queen Elizabeth II. This Supplemental Charter, which came into force on the date of the College's Centenary, 8th July 2007, established the College as a University with the name and style of "The Imperial College of Science, Technology and Medicine".

<http://www.imperial.ac.uk/admin-services/secretariat/college-governance/charters/>

Imperial College London is regulated by the Higher Education Funding Council for England (HEFCE)

<http://www.hefce.ac.uk/reg/register/>

## Modifications

Description	Committee	Date	Paper
Introduce new elective module LS3-AI (Advanced Immunology)	Programmes Committee	25 October 2016	PC.2016.35
Introduce new elective module LS3-DEE (Disease Ecology and Epidemiology)	Programmes Committee	25 October 2016	PC.2016.35
Introduce new elective module LS3-ME (Microbial Ecology)	Programmes Committee	25 October 2016	PC.2016.35
Introduce new elective module LS3-PDB (Principles of Development)	Programmes Committee	25 October 2016	PC.2016.35
Introduce new elective module LS3-QTEFC (Quantitative Tropical Ecology Field Course)	Programmes Committee	25 October 2016	PC.2016.35
Introduce new elective module LS3-ABECB	Departmental Teaching Committee	5 December 2016	
Introduce new elective module LS2-VFE	Departmental Teaching Committee	5 December 2016	

Suspend elective module LS3-QTEFC (Quantitative Tropical Ecology Field Course) for the academic year 2017/18	Departmental Teaching Committee	7 February 2017	
Suspend new elective module LS3-DEE (Disease Ecology and Epidemiology)	Departmental Teaching Committee	27 September 2017	
Macromolecules in 3 Dimensions name changed to Structural Biology & Drug Design	Departmental Teaching Committee	5 December 2016	
Evolutionary Biology name changed to Evolutionary Genetics	Departmental Teaching Committee	10 July 2017	