Imperial College London

Programme Specification (Undergraduate)

BSc Biological Sciences

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			
Award(s)	BSc			
Associateship	Associateship of the Royal College of Science (ARCS)			
Programme code	C100			
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	3 academic years full-time			
Cohort Entry Points	Annually in October			
Relevant QAA Benchmark Statement(s) and/or other external reference points	Biosciences			
Total Credits	ECTS:	180	CATS:	360
FHEQ Level	Level 6			
EHEA Level	1st cycle			
External Accreditor(s)	None			
Specification Details				
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			

Programme Overview

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.

All students have the opportunity to attend field courses, including the popular African Biology Field Course which takes place in South Africa.

Students on the BSc Biological Sciences (C100) programme have a wide range of course choices on cell biology, whole-organism biology, and ecology. By selecting courses from different areas, a broad biological training is possible.

The timetable alternatively permits a high level of specialising in particular disciplines, as may be required for certain jobs or for research.

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

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 of **AAA** overall
	Subject Requirements	**A** in Biology **A** in Physics, Chemistry or Mathematics
	Excluded Subjects	Key Skills Critical Thinking General Studies
International Baccalaureate (IB)	Grade Requirement	Minimum **38** overall
	Subject Requirements	**6** in Biology at higher level **6** in Chemistry, Physics or Mathematics at higher level
GCSE Requirements		**B** in Mathematics, Chemistry and Biology (or Combined Sciences)
English Language Requirement		Higher requirement
Admissions Tests		None
Interview		No

The programme's competency standards documents can be found at:
http://www.imperial.ac.uk/students/academic-support/graduate-attributes/

Learning & Teaching Strategy	
Scheduled Learning & Teaching Methods	• Laboratory • Lectures • Tutorials • Seminars
E-learning & Blended Learning Methods	• Computer-based work • Fieldwork
Project and Placement Learning Methods	• Group project • Research project/dissertation

	• Site visits
Assessment Strategy	
Assessment Methods	• Written Examinations • Coursework • Laboratory write-ups • Essays • Reports • Dissertations • Presentations • Individual research project report • Viva
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.	
Resit Policy	
The College's Policy on Re-sits is available at: http://www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/	
Mitigating Circumstances Policy	
The College's Policy on Mitigating Circumstances is available at: http://www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/	

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	0	0	0	0	0
Elective Modules	0	2	1	0	0
Projects	0	0	1		0

Assessment Dates & Deadlines	
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	January and February
Coursework Assessments	Continuous
Project Deadlines	June
Practical Assessments	Continuous

Assessment Structure

Marking Scheme

Regulation of Assessment

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.

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.

The final degree mark is calculated from the mean mark achieved in Years 1, 2 and 3. For students admitted in or after October 2013 weighted 11.1: 33.3: 55.6, respectively. For students admitted before October 2013 weighted 5: 35: 60.

To qualify for the award of BSc Honours, students must pass all courses.

Assessment Rules and Degree Classification:

For undergraduate programmes classification of degrees will be according to the following range of marks:

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%

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%
		One module from elective group (A)	14%
		One module from elective group (B)	14%
		One module from elective group (C)	14%
		One module from elective group (D)	10%
Year Three	55.6%	***EITHER:*** Laboratory Based Research Project ***OR*** Literature Based Dissertation ***AND*** Science Communication	35%
		One module from elective group (E)	21.66r%
		One module from elective group (F)	21.66r%
		One module from elective group (G)	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
LS3-FYRP	Lab Based Research Project	CORE*	3	360	165	0	525	0%	100%	0%	6	21.00
LS3-FYRD	Literature Based Dissertation	CORE*	3	10	315	0	325	0%	100%	0%	6	13.00
LS3-SCICOMM	Science Communication	CORE*	3	31	169	0	200	0%	100%	0%	6	8.00
LS3-ATPMB	Plant Biotechnology and Development	ELECTIVE (E)	3	56	269	0	325	75%	9%	16%	6	13.00
LS3-DRIBS	Damage and Repair in Biological Systems	ELECTIVE (E)	3	58.5	266.5	0	325	75%	17%	8%	6	13.00
LS3-SBDD	Structural Biology & Drug Design	ELECTIVE (E)	3	73	252	0	325	75%	20%	5%	6	13.00
LS3-MM	Medical Microbiology	ELECTIVE (E)	3	52	273	0	325	75%	5%	20%	6	13.00
LS3-SCRA	Stem Cells, Regeneration and Ageing	ELECTIVE (E)	3	50	275	0	325	75%	0%	25%	6	13.00
LS3-PCE	Population and Community Ecology	ELECTIVE (E)	3	38	287	0	325	75%	10%	15%	6	13.00
LS3-NR	Neuroscience Research	ELECTIVE (E)	3	46	279	0	325	75%	5%	20%	6	13.00
LS3-TBFC	African Biology Field Course	ELECTIVE (E)	3	99	226	0	325	33%	67%	0%	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-MNE	Metabolic and Network Engineering	ELECTIVE (E)	3	62	263	0	325	75%	9%	16%	6	13.00
LS3-PDB	Principles of Development	ELECTIVE (E)	2	45	280	0	325	75%	20%	5%	6	13.00
LS3-ATII	Advanced Topics in Immunity and Infection	ELECTIVE (F)	3	57	268	0	325	75%	25%	0%	6	13.00
LS3-MPMI	Symbiosis, Plant Immunity and Disease	ELECTIVE (F)	3	48	277	0	325	75%	17.50%	7.50%	6	13.00
LS3-BCB	Biodiversity and Conservation Biology	ELECTIVE (F)	3	52	273	0	325	75%	22%	3%	6	13.00
LS3-ATPVB	Advanced Topics in Parasitology and Vector Biology	ELECTIVE (F)	3	43.5	281.5	0	325	75%	22%	3%	6	13.00
LS3-EB	Evolutionary Genetics	ELECTIVE (F)	3	51	274	0	325	75%	14%	11%	6	13.00
LS3-ISB	Integrative Systems Biology	ELECTIVE (F)	3	73	252	0	325	75%	5%	20%	6	13.00
LS3-MGE	Mechanisms of Gene Expression	ELECTIVE (F)	3	38	287	0	325	75%	10%	15%	6	13.00
LS3-CANCER	Cancer	ELECTIVE (F)	3	56	269	0	325	75%	5%	20%	6	13.00
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)	2	45	280	0	325	75%	20%	5%	6	13.00
LS3-EPI	Epidemiology	ELECTIVE (G)	3	44.5	280.5	0	325	75%	12.50%	12.50%	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-SB	Synthetic Biology	ELECTIVE (G)	3	52	273	0	325	75%	10%	15%	6	13.00
LS3-BDG	Biodiversity Genomics	ELECTIVE (G)	3	40	285	0	325	75%	10%	15%	6	13.00
LS3-MBBI	Molecular Basis of Bacterial Infection	ELECTIVE (G)	3	53	272	0	325	75%	0%	25%	6	13.00
LS3-BAP	Biotechnology Applications of Proteins	ELECTIVE (G)	3	62	263	0	325	75%	5%	20%	6	13.00
LS3-GCB	Global Change Biology	ELECTIVE (G)	3	44	281	0	325	75%	17%	8%	6	13.00
LS3-BIOINF	Bioinformatics	ELECTIVE (G)	3	61	264	0	325	75%	20%	5%	6	13.00
LS3-MG	Medical Glycobiology	ELECTIVE (G)	3	63	262	0	325	75%	16.50%	8.50%	6	13.00
LS3-SN	Systems Neuroscience	ELECTIVE (G)	3	44	281	0	325	75%	12.50%	12.50%	6	13.00
LS3-AI	Advanced Immunology	ELECTIVE (G)	2	54	271	0	325	75%	17.5%	7.5%	6	13.00

*See Y3 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/
The College's Quality & Enhancement Framework is available at: 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-statutes-ordinances-and-regulations
Imperial College London is regulated by the Higher Education Funding Council for England (HEFCE) http://www.hefce.ac.uk/reg/register/

Modifications

Modification	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	