Imperial College London

Programme Specification 2023-24

Programme Information		
Programme Title	Programme Code	HECoS Code
Biological Sciences with Management (4 Years)	C1NG	For Registry Use Only

Award	Length of Study	Mode of Study	Entry Point(s)	Total Credits	
				ECTS	CATS
BSc	4 Years	Full-time	October	240	360
Dip HE	N/A	N/A	N/A	120	240
Cert HE	N/A	N/A	N/A	60	120
The Cert. HE / Dip. HE are exit awards and are not available for entry. All students must apply to and join the BSc					

Ownership			
Awarding Institution	Imperial College London	Faculty	Natural Sciences
Teaching Institution	Imperial College London	Department	Life Sciences
Associateship	Associateship of the Royal College of Science (ARCS)	Main Location(s) of Study	South Kensington
External Reference			
Relevant QAA Benchmark Statement(s) and/or other external reference points		Biosciences	
FHEQ Level		Level 6	
EHEA Level		1st cycle	
External Accreditor(s) (if applicable) Not applicable			
External Accreditor 1:	AMBA		
Accreditation received:	1987	Accreditation renewal:	2023
External Accreditor 2:	EQUIS		
Accreditation received:	2006	Accreditation renewal:	2025
External Accreditor 3:	AACSB International		

Accreditation received:	2012	Accreditation renewal:	2023
Collaborative Provision Not applicable			
Collaborative partner	Collaboration type	Agreement effective date	Agreement expiry date
N/A	N/A	N/A	N/A
Specification Details			
Programme Lead		Prof Huw Williams	
Student cohorts covered by specification		2023-24 entry	
Date of introduction of programme		October 2019	
Date of specification review		April 2023	

Programme Overview

The BSc Biological Sciences with Management programme is a four-year degree. In the first two years students will tackle core subjects to ensure that they receive a solid grounding in fundamentals.

Studying the Biological Sciences BSci programme you will be actively engaged in a curriculum that will be enriched from year 1 onwards by the Department of Life Sciences' research environment. The curriculum addresses the broad fundamental knowledge required to understanding the living organisms from their basic biochemistry, genetics and information flow in cells to detailed knowledge of the relationships, evolution, and key features of certain groups of organisms. You will gain understanding of the processes by which the diversity of life on earth has arisen, interacts with its environment.

All students on Biological Sciences programmes follow the same core modules in the first year of study, where the programme will range from biological chemistry to ecology and biodiversity. This will be complemented by a Life Science Skills programme that will provide training in quantitative skills, programming, statistics and scientific writing and presentation. You will develop a synoptic understanding of Biological Sciences before starting to specialise in year 2 by taking elective modules. By selecting modules from different areas a broad biological sciences training is possible or you can make selections leading to specialisation in a range of areas including Ecology, Environmental Science, Biodiversity, Microbiology, Immunology, Molecular Biology, Stem Cells, Neuroscience, Developmental Biology and Bioinformatics. Our third year specialised modules are based around our wide-ranging, world class research expertise and you will be brought to the edge of knowledge in your chosen specialised modules, taught by experts.

Through laboratory, computational and field work you will learn the skills you need to design, carry out and analyse the data from biological experiments

You will have the opportunity to contribute to the department's research by undertaking a 10 week, full time research project.

You will learn from the full range of academic staff in the department, including world leaders, as well as postgraduate students, your peers and visiting scientists to the department. You will develop into effective, independent Life Scientists; life-long learners with high self-efficacy; and rational and evidence-based decision makers.

The final year will be spent in the Imperial College Business School. This year aims to prepare students for a career in business management, management services or management consultancy in the private or public sectors in the UK, Europe or worldwide.

A high proportion of Graduates in Biological Sciences go onto further study including PhD study or enter a range of employments including, research and development in pharma, biotech, ecological consultancy, science policy, research and technical consultancy, business and finance.

Learning Outcomes

Please refer to the Teaching Toolkit for advice on the role and purpose of Intended Learning Outcomes (ILO): www.imperial.ac.uk/staff/educational-development/teaching-toolkit/intended-learning-outcomes

On completion of this programme, graduates will be able to:

On achieving the Cert HE:

1. Interpret and apply core terminology and key concepts used in life sciences;
2. Integrate fundamental biological and/or biochemical principles to explore biological complexity;
3. Integrate concepts from a range of disciplines, including physics, chemistry and maths, to solve problems in life sciences;
4. Demonstrate effective verbal, written communication and presentation skills;

On achieving the Dip HE, the ILOs (1-4) above and ….

5. Explore ethical and social issues in life sciences, and consider the potential impact of novel technologies;
6. Formulate hypotheses, design experiments, and apply lab and/or field skills to collect and critically evaluate relevant data;
7. Conduct statistical analyses using programming skills, adhering to publication standards;
8. Collaborate successfully in diverse, multicultural and international teams;

On achieving the BSc, all the ILOs (1-8) above and ….

9. Demonstrate excellent verbal, written communication and presentation skills across a range of academic and disciplinary activities, including research, assessment, dissemination and communication with diverse audiences;
10. Solve complex real-world problems within their degree specialisation, using a range of appropriate laboratory, computational or field skills;
11. Create independent, enquiry-based, extended and novel work that demonstrates critical analysis and evaluation.
12. Demonstrate an awareness of the outstanding research problems of their chosen Life Science specialities through exploring topics in the final year, research-led modules and be able to evaluate and understand how they are being or can be tackled.
13. Display a strong sense of personal and professional identity as a life scientist, and feel confident to apply the scientific method to real-world life science problems;
14. Demonstrate a foundation of knowledge in core business disciplines
15. Demonstrate the capability to apply this knowledge
16. Continue to develop their personal skill set

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

Entry Requirements	
Academic Requirement	A level AAA overall, to include: A in Biology A in Chemistry, Mathematics or Physics A in another subject General Studies and Critical Thinking are not accepted. International Baccalaureate (IB) Minimum **38** overall **6** in Biology at higher level **6** in Chemistry, Physics or Mathematics at higher level
Non-academic Requirements	None
English Language Requirement	Higher requirement Please check for other Accepted English Qualifications
Admissions Test/Interview	There is no admissions test associated with entry to this programme and applicants will not normally be interviewed.
The programme's competency standards documents are available from the department.	

Learning & Teaching Approach

Learning and Teaching Delivery Methods
Lectures and large group-teaching incorporating a range of active leaning approaches, laboratory practicals working as individuals, in pairs or small groups, field work, computational work, seminars, tutorials and problem classes, interactive online learning material, online concepts and skills videos and interactive group work, student presentations as individuals and small groups, team-based learning, dissertation and individual research projects.

Overall Workload
Your overall workload consists of face-to-face sessions and independent learning. While your actual contact hours may vary according to the optional modules you choose to study, the following gives an indication of how much time you will need to allocate to different activities at each level of the programme. At Imperial, each ECTS credit taken equates to an expected total study time of 25 hours. Therefore, the expected total study time is 1500 hours per year.

Typically in the first two years you will spend in the order of 30% of your time on lectures, laboratory work and small group teaching and seminars and similar (around 400 hours) and in the order of 70% of your time on independent study.

Assessment Strategy

Assessment Methods

Formative assessment.
Performance in problem classes, quizzes in lectures, digital resources for self-assessment including online quizzes and problems, by discussions in tutorials as well as written and or verbal feedback on a range of non-examined tasks, including the types of summatively assessed tasks listed below.

Summative Assessment
Written Examinations
Laboratory write-ups
Essays
Reports
Dissertations
Presentations
Individual research project report
Viva voce examination
Peer assessment
Poster presentations

Assessment Mode	Year 1	Year 2	Year 3	Year 4
Examination	60	48	56	60
Coursework	40	52	44	40

Academic Feedback Policy

Coursework submission is managed by our education office and in most cases coursework is submitted electronically via BlackBoard and feedback is provided electronically or by a feedback form attached to items of coursework. Feedback is also provided via Blackboard on formative quizzes. You will receive feedback normally within 10 working days, but this might be longer for some very substantial pieces of work, such as a dissertation. Personal tutors hold timetabled tutorials to give feedback on examination performance and can be approached by their tutees at any point in the year for further guidance. The education office manages the timely return of coursework feedback and the Director of Undergraduate Studies routinely monitors the quality and quantity of feedback provided. 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: 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: www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/

Additional Programme Costs

This section should outline any additional costs relevant to this programme which are not included in students' tuition fees.

Description	Mandatory/Optional	Approximate cost
Field Trips	Optional	£1500

Programme Structure

Year 1 – FHEQ Level 4
Students study all core modules.

Code	Module Title	Core/ Elective	Group*	Term	Credits
LIFE40005	Biological Chemistry and Microbiology	Core		Autumn-Summer	15
LIFE40008	Evolution and Diversity	Core		Autumn-Summer	15
LIFE40006	Cell Biology and Genetics	Core		Spring-Summer	15
LIFE40007	Ecology and Evolution	Core		Spring-Summer	15
				Credit Total	60

Year 2 - FHEQ Level 5
Students study all core modules. Students select three electives for study, one from each of Groups A, B and C.

Code	Module Title	Core/ Compulsory/ Elective	Group	Term	Credits
LIFE50016	Applied Molecular Biology	Core		Autumn	7.5
LIFE50011	Genetics	Core		Autumn	7.5
LIFE50025	Bioinformatics, Statistics and Programming (Biological Sciences)	Core		Autumn-Spring	5
LIFE50003	Tutored Dissertation	Core		Summer	7.5
LIFE50005	Cell and Developmental Biology	Elective	A	Spring	10
LIFE50017	Molecular Microbiology	Elective	A	Spring	10
LIFE50009	Essentials of Ecology: Theory and Practice	Elective	A	Spring	10
LIFE50006	Cellular and Molecular Neuroscience	Elective	B	Spring	10
LIFE50012	Immunology	Elective	B	Spring	10
LIFE50002	Behavioural Ecology	Elective	B	Spring	10
LIFE50024	Vertebrate Form and Evolution	Elective	C	Summer	7.5
LIFE50008	Ecological Field Skills	Elective	C	Summer	7.5
LIFE50014	Molecular and Cell Biology Skills	Elective	C	Summer	7.5
LIFE50018	Computational ‘Omics	Elective	C	Summer	7.5
	I-Explore	Compulsory		Autumn-Summer	5/7.5

	Credit Total	60/62.5

Year 3 - FHEQ Level 6
All year 3 modules are electives and students will select three electives for study, one from each of Groups A, B and C and a research project option from Group D. Elective modules in Groups A, B and C are capped normally at 40-45 students/module and students choose their top three choices from each group with final allocations being made by an algorithm that maximises the allocation of highest number of top choices across the cohort.

Code	Module Title	Core/ Elective	Group	Term	Credits
LIFE60061	Stem Cells, Regeneration and Ageing	Elective	A	Autumn	15
LIFE60056	Metabolic and Network Engineering	Elective	A	Autumn	15
LIFE60055	Medical Microbiology	Elective	A	Autumn	15
LIFE60057	Plant Biotechnology and Development	Elective	C	Spring	15
LIFE60059	Current Topics in Developmental Biology	Elective	A	Autumn	15
LIFE60044	African Biology Field Course	Elective	A	Autumn	15
LIFE60067	Bacterial Molecular Machines	Elective	B	Autumn	15
LIFE60052	Integrative Systems Biology	Elective	B	Autumn	15
LIFE60043	Advanced Topics in Parasitology and Vector Biology	Elective	B	Autumn	15
LIFE60063	Symbiosis, Plant Immunity and Disease	Elective	B	Autumn	15
LIFE60042	Advanced Topics in Immunity and Infection	Elective	A	Autumn	15
LIFE60065	The Microbiome	Elective	C	Spring	15
LIFE60050	Evolutionary Applications	Elective	B	Autumn	15
LIFE60045	Biodiversity and Conservation Biology	Elective	B	Autumn	15
LIFE60058	Molecular Basis of Bacterial Infection	Elective	C	Spring-Summer	15
LIFE60047	Bioinformatics	Elective	C	Spring	15
LIFE60060	Synthetic Biology	Elective	C	Spring	15
LIFE60064	Systems Neuroscience	Elective	C	Spring-Summer	15
LIFE60046	Biodiversity Genomics	Elective	A	Autumn	15
LIFE60041	Advanced Immunology	Elective	C	Spring	15

LIFE60051	Global Change Biology	Elective	C	Spring	15
LIFE60049	Disease Ecology and Epidemiology	Elective	B	Autumn	15
LIFE60040	Science Communications plus Dissertation	Elective	D	Spring-Summer	15
LIFE60066	Research Project (Lab, Data, Field)	Elective	D	Spring-Summer	15
				Credit Total	60

Year 4 FHEQ Level 6
Students study all compulsory modules.

Code	Module Title	Core/ Compulsory Elective/	Group	Term	Credits
BUSI97178	Plagiarism Awareness	Compulsory	N/A	Autumn	0
BUSI60023	Accounting	Compulsory	N/A	Autumn	5
BUSI60033	Business Economics	Compulsory	N/A	Autumn	5
BUSI60025	Global Strategy	Compulsory	N/A	Autumn	5
BUSI60026	Organisational Behaviour and Human Resource Management	Compulsory	N/A	Autumn	5
BUSI60028	Marketing	Compulsory	N/A	Spring-Summer	5
BUSI60034	Innovation Management	Compulsory	N/A	Spring	5
BUSI60035	Finance and Financial Management	Compulsory	N/A	Spring-Summer	5
BUSI60027	Sustainable Business	Compulsory	N/A	Spring-Summer	5
BUSI60031	Entrepreneurship	Compulsory	N/A	Spring-Summer	5
BUSI60032	Research Methods and Practice	Compulsory	N/A	Autumn-Summer	15
				Credit Total	60

* ‘Group’ refers to module grouping (e.g. a group of electives from which one/two module(s) must be chosen).

Progression and Classification

Progression

In order to progress to the next level of study, you must have passed all modules (equivalent to 60 ECTS) in the current level of study at first attempt, at resit or by a compensated pass.

The overall weighted average for each year must be 40%, including where a module(s) has been compensated, in order for you to progress to the next year of the programme.

Classification

The marks from modules in each year contribute towards the final degree classification.

In order to be considered for an award, you must have achieved the minimum number of credits at the required levels prescribed for that award and met any programme specific requirements as set out in the Programme Specification.

Your classification will be determined through:

i) Aggregate Module marks for all modules
ii) Year Weightings

For this award, Year One is weighted at 7.50%, Year Two at 20.00%, Year Three at 36.25% and Year 4 at 36.25%.

The College sets the class of undergraduate degree that may be awarded as follows:

i)	First	70% or above for the average weighted module results
ii)	Upper Second	60% or above for the average weighted module results
iii)	Lower Second	50% or above for the average weighted module results
iv)	Third	40% or above for the average weighted module results

Programme Specific Regulations

N/A

Supporting Information
The Programme Handbook is available from the department.
The Module Handbook is available from the department.
The College's entry requirements for postgraduate programmes can be found at: www.imperial.ac.uk/study/pg/apply/requirements
The College's Quality & Enhancement Framework is available at: www.imperial.ac.uk/registry/proceduresandregulations/qualityassurance
The College's Academic and Examination Regulations can be found at: www.imperial.ac.uk/about/governance/academic-governance/regulations
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". www.imperial.ac.uk/admin-services/secretariat/college-governance/charters/
Imperial College London is regulated by the Office for Students (OfS) www.officeforstudents.org.uk/advice-and-guidance/the-register/
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 primarily intended as a reference point for prospective and current students, academic and support staff involved in delivering the programme and enabling student development and achievement, for its assessment by internal and external examiners, and in subsequent monitoring and review.

Modifications			
Description	**Approved**	**Date**	**Paper Reference**
N/A	N/A	N/A	N/A