# **IMPERIAL**

Programme Information						
Programme Title	Programme Code	HECoS Code				
BSc Biochemistry with Management (4 year)	C7NG	For Registry Use Only				

Association	Longth of Cturky	Made of Chudy	Entry Deint(e)	Total Credits		
Award	Length of Study	Mode of Study	Entry Point(s)	ECTS	CATS	
BSc	4 Years	Full-time	October	240	480	
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. You must apply to and join the BSc

Ownership					
Awarding Institution Imperial College London		Faculty	Natural Sciences Imperial College Business School		
Teaching Institution Imperial College London		Department	Life Sciences Imperial College Business School		
Associateship of the Royal College of Science (ARCS)		Main Location(s) of Study	South Kensington		
External Reference					
Relevant <u>QAA Benchmark Statement(s)</u> and/or other external reference points		Biosciences			
FHEQ Level		Level 6			
EHEA Level		1 <sup>st</sup> cycle			
External Accreditor(s) (if ap	plicable)				
External Accreditor 1:	EQUIS (Imperial Business S	School-wide accreditation)			
Accreditation received: 2006		Accreditation renewal: 2025			
External Accreditor 2:	AACSB International (Impe	perial Business School-wide accreditation)			
Accreditation received:	ation received: 2012 Accreditation renewal: 2028		2028		
Collaborative Provision					

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		2025-26 entry		
Date of introduction of programme		October 2019		
Date of specification revision		February 2025		

## **Programme Overview**

The BSc Biochemistry 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.

Students will then specialise in the third year, making their choice from a wide range of options and research projects.

Studying the Biochemistry with Management BSci programme you will be actively engaged in a curriculum that will be enriched from year 1 onwards by the Department of Life Science's research environment.

All students on Biochemistry programmes follow the same core modules in the first two years of study, where the programme will range from biological chemistry to cell biology and molecular biology. 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 Biochemistry before starting to specialise towards the end of year 2 by taking elective modules.

You will specialise in the final year by selecting modules leading to specialisation in a range of Biochemical and Life Science areas including Structural Biology, Infection and Immunology, Systems Biology, Stem Cells, Neuroscience, Metabolic Engineering and Synthetic Biology, Developmental Biology and Bioinformatics. Our final 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.

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.

Graduates in Life Sciences go onto range of employments and further study including PhD study, research and development, 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): <a href="https://www.imperial.ac.uk/staff/educational-development/teaching-toolkit/intended-learning-outcomes">www.imperial.ac.uk/staff/educational-development/teaching-toolkit/intended-learning-outcomes</a>

## 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 and an awareness of 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 life science problems;
- 14. Have developed into effective, independent Life Scientists; life-long learners with high self-efficacy; and rational and evidence-based decision makers.
- 15. Demonstrate a foundation of knowledge in core business disciplines
- 16. Demonstrate the capability to apply this knowledge
- 17. 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 degree programme. The Graduate Attributes are available at: <a href="https://www.imperial.ac.uk/about/education/our-graduates/">https://www.imperial.ac.uk/about/education/our-graduates/</a>

Entry Requirements	
Academic Requirement	Alevel  AAA overall, to include: A in Chemistry A in Biology, Mathematics or Physics A in another subject  General Studies and Critical Thinking are not accepted.  International Baccalaureate (IB)  Minimum 38 overall 6 in Chemistry at higher level

	<b>6</b> in Biology, 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 and 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, 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

Imperial's Policy on Re-sits is available at: <a href="https://www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/">www.imperial.ac.uk/about/governance/academic-governance/academic-governance/academic-policy/exams-and-assessment/</a>

### **Mitigating Circumstances Policy**

Imperial's Policy on Mitigating Circumstances is available at: <a href="https://www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/">www.imperial.ac.uk/about/governance/academic-governance/academic-governance/academic-policy/exams-and-assessment/</a>

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					
N/A	N/A	N/A			

# **Programme Structure**

# Year 1 – FHEQ Level 4 You will study all core modules.

Code	Module Title	Core/ Elective	Group*	Term	Credits
LIFE40001	Biological Chemistry	Core		Autumn and Summer	15
LIFE40002	Cell Biology	Core		Autumn- Summer	10
LIFE40003	Enzymes and Metabolism	Core		Spring- Summer	10
LIFE40004	Molecular Biology	Core		Spring- Summer	15
LIFE40009	Core Skills for Life Scientists	Core		Autumn- Summer	10
Credit Total			60		

# Year 2 - FHEQ Level 5 You will study all core modules and one elective module from Group A and one from Group B.

Code	Module Title	Core/ Elective	Group	Term	Credits
LIFE50022	Structural Biology	Core		Autumn	10
LIFE50010	Genes and Genomics	Core		Autumn	7.5
LIFE50026	Bioinformatics, Programming and Statistics (Biochemistry)	Core		Autumn- Spring	5
LIFE50003	Tutored Dissertation	Core		Spring - Summer	7.5
LIFE50019	Protein Science	Core		Spring	7.5
LIFE50013	Integrative Cell Biology	Core		Spring	10
LIFE50023	Topics in Biotechnology	Elective	Α	Summer	7.5
LIFE50007	Challenges in Cell Biology	Elective	Α	Summer	7.5
LIFE50001	Applied Molecular Biochemistry	Elective	Α	Summer	7.5
LIFE50018	Computational 'Omics	Elective	Α	Summer	7.5
	I-Explore	Elective	В	Autumn- Spring	5/7.5

60 or 62.5

#### Year 3 - FHEQ Level 6

All year 3 modules are electives and you 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.

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Code	Module Title	Core/ Elective	Group	Term	Credits
LIFE60061	Stem Cells, Regeneration and Ageing	Elective	Α	Autumn	15
LIFE60056	Biotechnology and Entrepreneurship	Elective	Α	Autumn	15
LIFE60055	Medical Microbiology	Elective	Α	Autumn	15
LIFE60057	Plant Biotechnology and Development	Elective	С	Spring	15
LIFE60059	Current Topics in Developmental Biology	Elective	Α	Autumn	15
LIFE60062	Structural Biology and Drug Design	Elective	Α	Autumn	15
LIFE60067	Bacterial Molecular Machines	Elective	Α	Autumn	15
LIFE60052	Integrative Systems Biology	Elective	В	Autumn	15
LIFE60050	Evolutionary Applications	Elective	В	Autumn	15
LIFE60043	Advanced Topics in Parasitology and Vector Biology	Elective	В	Autumn	15
LIFE60063	Symbiosis, Plant Immunity and Disease	Elective	В	Autumn	15
LIFE60042	Advanced Topics in Immunity and Infection	Elective	Α	Autumn	15
LIFE60065	The Microbiome	Elective	С	Autumn	15
LIFE60048	Cancer	Elective	В	Autumn	15
LIFE60053	Mechanisms of Gene Expression	Elective	В	Autumn	15
LIFE60058	Molecular Basis of Bacterial Infection	Elective	С	Spring	15
LIFE60047	Bioinformatics	Elective	С	Spring	15
LIFE60060	Synthetic Biology	Elective	С	Spring	15
LIFE60064	Systems Neuroscience	Elective	С	Spring	15
LIFE60046	Biodiversity Genomics	Elective	А	Autumn	15
LIFE60041	Advanced Immunology	Elective	В	Autumn	15

LIFE60054	Medical Glycobiology (not running in 2025-26)	Elective	С	Spring	15
LIFE60049	Disease Ecology and Epidemiology	Elective	В	Spring	15
LIFE60040	Science Communications plus Research Proposal Project	Elective	D	Spring. Summer	15
LIFE60066	Research Project (Lab, Data, Field)	Elective	D	Spring. Summer	15
LIFE60069	Vaccinology	Elective	С	Spring	15
LIFE60068	Cellular Biophysics	Elective	С	Spring	15
Credit Total				60	

Year 4 FHEQ Level 6 You will 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	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	5
BUSI60031	Entrepreneurship	Compulsory	N/A	Spring	5
BUSI60032	Research Methods and Practice	Compulsory	N/A	Autumn- Summer	15
Credit Total					60

<sup>\* &#</sup>x27;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 university 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.

Imperial's entry requirements for postgraduate programmes can be found at: <a href="https://www.imperial.ac.uk/study/pg/apply/requirements">www.imperial.ac.uk/study/pg/apply/requirements</a>

Imperial's Quality and Enhancement Framework is available at: www.imperial.ac.uk/registry/proceduresandregulations/qualityassurance

Imperial's Academic and Examination Regulations can be found at: <a href="https://www.imperial.ac.uk/about/governance/academic-governance/regulations">www.imperial.ac.uk/about/governance/academic-governance/regulations</a>

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www.imperial.ac.uk/admin-services/secretariat/university-governance-structure/charters/

Imperial College London is regulated by the Office for Students (OfS) <a href="https://www.officeforstudents.org.uk/advice-and-guidance/the-register/">www.officeforstudents.org.uk/advice-and-guidance/the-register/</a>

This document provides a definitive record of the main features of the programme and the learning outcomes that you may reasonably be expected to achieve and demonstrate if you take 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.