

BSc Biochemistry with Management

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	Biochemistry with Management			
Award(s)	BSc			
Programme code	C7N2			
Associateship	Associateship of the Royal College of Science (ARCS)			
Awarding Institution	Imperial College London			
Teaching Institution	Imperial College London			
Faculty	Faculty of Natural Sciences			
	Imperial College Business School			
Department	Department of Life Sciences			
	Imperial College Business School			
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			
	General Business and Management			
Total Credits	ECTS:	180	CATS:	360
FHEQ Level	Level 6			
EHEA Level	1 st cycle			
External Accrator(s)	AMBA Accreditation received: 1987 Accreditation renewal: 2013 EQUIS			

	<p>Accreditation received: 2006 Accreditation renewal: 2015 AACSB International Accreditation received: 2012 Accreditation renewal: 2018</p>
Specification Details	
Student cohorts covered by specification	2017/18 entry
Person responsible for the specification	Dr Huw Williams
	Ms Veronica Russell (Business School)
Date of introduction of programme	
Date of programme specification/revision	August 2017
Programme Overview	
<p>The BSc Biochemistry with Management is a three-year degree. In the first two years students will tackle core subjects to ensure that they receive a solid grounding in the fundamentals.</p> <p>The third 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.</p> <p>Our biochemistry and biotechnology courses contain topics covering all aspects of the applied biochemistry and the biotechnology industry, such as intellectual property and patents, commercialising technology, and entrepreneurship, with lectures and case studies from biotechnology business leaders and academics.</p>	
Learning Outcomes	
<p>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</p>	
<p>Knowledge and Understanding of:</p> <ul style="list-style-type: none"> • Biological chemistry; molecular biology and genetics; cell biology; protein and enzyme structure and function; (Year 1) • Genes and genomics; macromolecular structure and function; integrative cell biology; (Year 2) • Advanced knowledge and understanding of three specialist modules; (Year 3) • The management of innovation in a modern organisation including the implications of technology • The roles and behaviour of people working in organisations; • The key issues in contemporary human resource management and an appreciation of the theory and research which underpins these issues; • The strategic decisions faced by the top management team of an organisation; • The operations and control of projects, production and service activities; 	

- The techniques of financial and managerial accounting and their relevance to the broader issues of management decision-making and control;
- A theoretical framework for analysing key financial markets and an understanding of how they interact with the key decisions of firms;
- The business and economic environment including the ways in which the government responds and shapes the economic environment and how this can be anticipated;
- The key marketing concepts and principles of marketing analysis;
- The management problems that are either unique to international business or arise in particular complex or acute forms in business that span national boundaries;
- The issues associated with evaluating the viability of new technologies, new products or services in the fields of medicine and science.

Intellectual Skills (thinking) skills - able to:

- Analyse and solve biochemistry-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;
- Analyse, interpret and evaluate new and/or abstract data and situations without guidance;
- Use a wide range of appropriate techniques and transform data and concepts into novel solutions;
- Read, interpret and analyse published accounts and to evaluate the well-being and potential of a company using ratio analysis;
- Anticipate likely changes in policy and economic conditions given the current economic and political environment.

Practical skills – able to:

- Plan and execute safely a series of experiments;
- Use laboratory 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;
- Give professional presentations;
- Seek, interpret, present and use data effectively in decision-making;
- Produce creative and realistic solutions to complex problems;
- Use a range of different perspectives to analyse an organisation;
- Identify key issues in human resource management and design a recruitment process and conduct a selection interview;
- Communicate competently with numerical data;
- Participate in managerial decision processes where accounting based information is an important input;
- Assess both the technological and market viability of an idea and select the most appropriate route to market;
- Effectively use Information Technology.

Transferable skills – able to:

- Communicate effectively through oral presentations, computer processing and presentations,

- and written reports;
- 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 AAA overall
	Subject Requirements	A in Chemistry A in another science subject (Biology is preferred but not mandatory) or Mathematics (or a comparable qualification recognised by the College)
	Excluded Subjects	Key Skills Critical Thinking General Studies
International Baccalaureate (IB)	Grade Requirement	Minimum 38 overall
	Subject Requirements	6 in Chemistry at higher level 6 in Biology or Mathematics at higher level (or a comparable qualification recognised by the College)
GCSE Requirements		B in Mathematics, Chemistry and Biology (or Combined Sciences)
English Language Requirement		Higher requirement 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:
<http://www.imperial.ac.uk/students/academic-support/graduate-attributes/>

Learning & Teaching Strategy

Scheduled Learning & Teaching Methods	<ul style="list-style-type: none"> • Laboratory • Lectures • Tutorials • Seminars • Practical classes and field work
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	<ul style="list-style-type: none"> • Equipment/technique demonstrations • Workshops, • Case studies • Group work exercises • Formal presentations
E-learning & Blended Learning Methods	<ul style="list-style-type: none"> • Computer-based work • Pre-programme VLE modules • On-line discussion forums • On-line lecture materials • Interactive content including video and module quizzes
Project Learning Methods	<ul style="list-style-type: none"> • Group project • Research project/dissertation
Placement Learning Methods	<ul style="list-style-type: none"> • Site visits
Assessment Strategy	
Assessment Methods	<ul style="list-style-type: none"> • Written Examinations • Coursework • Continuous assessments • Multiple Choice Tests • Case Studies Participation • Laboratory write-ups • Essays • Reports • Dissertations • Presentations • Individual research project report • Viva
Academic Feedback Policy	
<p>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.</p>	
Re-sit Policy	
<p>The College's Policy on Re-sits is available at: http://www.imperial.ac.uk/student-records-and-data/current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/</p>	

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	2	0	0
Elective Modules	0	0	0	1	0
Projects	0	0	1	0	0
Year Three	Pre-session	Term One	Term Two	Term Three	Term Four
Core Modules	3	5	5	0	0
Elective Modules	0	0	0	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	N/A
Practical Assessments	Continuous
Year Three	
Written Examinations	January and April
Coursework Assessments	Continuous
Project Deadlines	May
Practical Assessments	Continuous
Assessment Structure	
Marking Scheme	
<p>Regulation of Assessment</p> <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 Student Handbook.</p> <p>The final degree mark is calculated from the mean mark achieved in Years 1, 2 and 3. The year weightings for students admitted in or after October 2013 are 14.2:42.9:42.9, respectively. The year weightings for students admitted before October 2013 are 5:45:50. To qualify for the award of BSc Honours, students must pass all courses.</p> <p>Assessment Rules and Degree Classification:</p> <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	14.2%	Molecular Biology	25%
		Proteins and Enzymes	25%
		Biological Chemistry	25%
		Cell Biology	25%
Year Two	42.9%	Genes and Genomics	16.6r%
		Integrative Cell Biology	16.6r%
		Fundamentals of Molecular Biochemistry	16.6r%
		Protein Science	16.6r%
		Tutored Dissertation	11.6r%
		<i>One module from elective group (A)</i>	10%
		<i>One module from elective group (B)</i>	11.6r%
Year Three	42.9%	Group Project	25%
		Accounting	7.5%
		Business Economics	7.5%
		Business Strategy	7.5%
		Entrepreneurship	7.5%
		Finance and Financial Management	7.5%
		Global Business Management	7.5%
		Marketing	7.5%
		Organisational Behaviour and Human Resource Management	7.5%
		Sustainable Business	7.5%
		Innovation Management	7.5%

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-MB	Molecular Biology	CORE	1	96	279	0	375	75%	10%	15%	4	15.00
LS1-PE	Proteins and Enzymes	CORE	1	65	310	0	375	75%	13%	12%	4	15.00
LS1-BC	Biological Chemistry	CORE	1	74	301	0	375	75%	5%	20%	4	15.00
LS1-CB	Cell Biology	CORE	1	61	314	0	375	75%	8%	17%	4	15.00
LS2-GG	Genes and Genomics	CORE	2	49	201	0	250	75%	7%	18%	5	10.00
LS2-ICB	Integrative Cell Biology	CORE	2	41	209	0	250	75%	0%	25%	5	10.00
LS2-MSF1	Fundamentals of Molecular Biochemistry	CORE	2	56	194	0	250	75%	14%	11%	5	10.00
LS2-MSF2	Protein Science	CORE	2	52	198	0	250	75%	14%	11%	5	10.00
LS2-TDBC	Tutored Dissertation	CORE	2	4	171	0	175	0%	100%	0%	5	7.00
LS2-TB	Topics in Biotechnology	ELECTIVE (A)	2	44	129	0	175	75%	0%	25%	5	7.00
LS2-CCB	Challenges in Cell Biology	ELECTIVE (A)	2	42	133	0	175	75%	12.5%	12.5%	5	7.00
LS2-AMBC	Applied Molecular Biochemistry	ELECTIVE (A)	2	39	136	0	175	75%	0	25%	5	7.00
N/A	Horizons	ELECTIVE (B)	2	Various			150	Various			6.00	

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
N/A	Business for Professional Engineers & Scientists	ELECTIVE (B)	2	Various			150	Various			6.00	
BS0600	Group Project	CORE	3	0	250	0	250	0%	100%	0%	6	10.00
BS0601	Accounting	CORE	3	32	93	0	125	70%	30%	0%	6	5.00
BS0602	Business Economics	CORE	3	27	98	0	125	70%	30%	0%	6	5.00
BS0603	Business Strategy	CORE	3	22	103	0	125	70%	30%	0%	6	5.00
BS0606	Entrepreneurship	CORE	3	22	103	0	125	30%	70%	0%	6	5.00
BS0607	Finance and Financial Management	CORE	3	27	98	0	125	70%	30%	0%	6	5.00
BS0609	Global Business Management	CORE	3	22	103	0	125	70%	30%	0%	6	5.00
BS0611	Marketing	CORE	3	22	103	0	125	70%	30%	0%	6	5.00
BS0612	Organisational Behaviour and Human Resource Management	CORE	3	22	103	0	125	70%	30%	0%	6	5.00
BS0616	Innovation Management	CORE	3	22	103	0	125	60%	20%	20%	6	5.00
BS0618	Sustainable Business	CORE	3	22	103	0	125	70%	30%	0%	6	5.00

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
BS0693	Accounting Primer	CORE	3	10	15	0	25	Not assessed				
BS0692	Maths Primer	CORE	3	10	15	0	25	Not assessed				
BS1314	Study Skills	OPTIONAL	3	10	15	0	25	Not assessed				
BS1317	Plagiarism Awareness	CORE	3	10	15	0	25	Not assessed				

Supporting Information

The Programme Handbook is available at:

<http://www.imperial.ac.uk/life-sciences/undergraduate/biochemistry-and-biotechnology/>

The Module Handbook is available at:

<http://www.imperial.ac.uk/life-sciences/undergraduate/biochemistry-and-biotechnology/>

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

The College's Academic and Examination Regulations can be found at:

<http://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".

<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/>