

**BSc Biochemistry with Management and a Year in Industry**

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**

Award(s)	BSc		
Associateship	Associateship of the Royal College of Science (ARCS)		
Programme Title	Biochemistry with Management and a Year in Industry		
Programme code	C7NF		
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		
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>		
	<a href="#">General Business and Management</a>		
Total Credits	ECTS:	240	CATS: 480
FHEQ Level	Level 6		
EHEA Level	1 <sup>st</sup> cycle		
External Accreditor(s)	<a href="#">AMBA</a> <a href="#">EQUIS</a> <a href="#">AACSB International</a>		

<b>Specification Details</b>	
Student cohorts covered by specification	2016/17 entry
Person responsible for the specification	Professor Anne Dell
	Ms Veronica Russell (Business School)
Date of introduction of programme	
Date of programme specification/revision	August 2016
<b>Description of Programme Contents</b>	
<p>The BSc Biochemistry with Management and a Year in Industry programme is a four-year degree.</p> <p>In the first two years students will tackle core subjects to ensure that they receive a solid grounding in fundamentals.</p> <p>In the third year students will undertake a one-year placement in an industrial laboratory carrying out a research project.</p> <p>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.</p>	
<b>Learning Outcomes</b>	
<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: <a href="http://www.imperial.ac.uk/students/academic-support/graduate-attributes">www.imperial.ac.uk/students/academic-support/graduate-attributes</a></p>	
<p><b>Knowledge and Understanding of:</b></p> <ul style="list-style-type: none"> <li>• Biological chemistry; molecular biology and genetics; cell biology; protein and enzyme structure and function; (Year 1)</li> <li>• Genes and genomics; macromolecular structure and function; integrative cell biology; (Year 2)</li> <li>• Advanced knowledge and understanding of three specialist modules; (Year 3)</li> <li>• The management of innovation in a modern organisation including the implications of technology</li> <li>• The roles and behaviour of people working in organisations;</li> <li>• The key issues in contemporary human resource management and an appreciation of the theory and research which underpins these issues;</li> <li>• The strategic decisions faced by the top management team of an organisation;</li> <li>• The operations and control of projects, production and service activities;</li> <li>• The techniques of financial and managerial accounting and their relevance to the broader issues of management decision-making and control;</li> <li>• A theoretical framework for analysing key financial markets and an understanding of how they interact with the key decisions of firms;</li> <li>• The business and economic environment including the ways in which the government responds and shapes the economic environment and how this can be anticipated;</li> <li>• The key marketing concepts and principles of marketing analysis;</li> </ul>	

- 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.

<b>Entry Requirements</b>	
Academic Requirement	<p>The minimum entry requirements for all Biochemistry courses are AAA overall at A2 level, to include:</p> <p>A in Chemistry  A in another science subject (Biology is preferred but not mandatory) or Mathematics  The ideal combinations would be Chemistry and two further science subjects or Chemistry and one further science subject and Mathematics, but other combinations are considered.</p> <p>Two AS levels may be acceptable in place of a third A level. This is in addition to Grade B or above in GCSE Mathematics, Chemistry, Biology (or Combined Sciences)</p>
Non-academic Requirements	None
Offers for our Biochemistry, Biotechnology and Biological Sciences courses are made based on information supplied on the UCAS form. Generally, we do not hold interviews.	
English Requirement	IELTS 6.5 with a minimum of 6.0 in each element or equivalent
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>	
<b>Learning &amp; Teaching Strategy</b>	
Scheduled Learning & Teaching Methods	<ul style="list-style-type: none"> <li>• Laboratory</li> <li>• Lectures</li> <li>• Tutorials</li> <li>• Seminars</li> <li>• Practical classes and field work</li> <li>• Equipment/technique demonstrations</li> <li>• Workshops</li> <li>• Case studies</li> <li>• Group work exercises</li> <li>• Formal presentations</li> </ul>
E-learning & Blended Learning Methods	<ul style="list-style-type: none"> <li>• Computer-based work</li> <li>• Pre-programme VLE modules</li> <li>• On-line discussion forums</li> <li>• On-line lecture materials</li> <li>• Interactive content including video and module quizzes</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>
<b>Assessment Strategy</b>	
Assessment Methods	<ul style="list-style-type: none"> <li>• Written Examinations</li> <li>• Coursework</li> <li>• Continuous assessments</li> <li>• Multiple Choice Tests</li> <li>• Case Studies Participation</li> <li>• Laboratory write-ups</li> <li>• Essays</li> <li>• Reports</li> <li>• Dissertations</li> <li>• Presentations</li> <li>• Individual research project report</li> <li>• Viva</li> </ul>
<b>Academic Feedback Policy</b>	
<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>	
<p>The College's Policy on Re-sits is available at: <a href="http://www.imperial.ac.uk/registry/exams/resit">www.imperial.ac.uk/registry/exams/resit</a></p>	
<p>The College's Policy on Mitigating Circumstances is available at: <a href="http://www.imperial.ac.uk/registry/exams">www.imperial.ac.uk/registry/exams</a></p>	
<b>Assessment Structure</b>	
<b>Marking Scheme</b>	
<p><b>Regulation of Assessment</b></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.</p> <p>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 4.</p> <p>The year weightings for students admitted in or after October 2013 are 14.2:42.9:0:42.9, respectively.</p> <p>The year weightings for students admitted before October 2013 are 5:45:0:50.</p> <p>To qualify for the award of BSc Honours, students must pass all courses.</p>	

**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	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	0%	Year in Industry/Research	N/A
Year Four	42.9%	Group Project	16.66r%
		Accounting, Business Economics, Business Strategy, Entrepreneurship, Finance and Financial Management, Global Business Management, Marketing, Organisational Behaviour and Human Resource Management, Innovation Management, Sustainable Business Development	8.33r% each
		Accounting, Business Economics	8.33r%
		Business Strategy	8.33r%
		Entrepreneurship	8.33r%
		Finance and Financial Management	8.33r%
		Global Business Management	8.33r%
		Marketing	8.33r%
		Organisational Behaviour and Human Resource Management	8.33r%
		Innovation Management	8.33r%
		Sustainable Business Development	8.33r%

**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
N/A	Business for Professional Engineers & Scientists	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	Year in Industry/Research	CORE	3	0	0	1500	1500	0%	100%	0%	6	60.00
BS0600	Group Project	CORE	4	0	250	0	250	0%	100%	0%	6	10.00
BS0601	Accounting	CORE	4	32	93	0	125	70%	30%	0%	6	5.00
BS0602	Business Economics	CORE	4	27	98	0	125	70%	30%	0%	6	5.00
BS0603	Business Strategy	CORE	4	22	103	0	125	70%	30%	0%	6	5.00
BS0606	Entrepreneurship	CORE	4	22	103	0	125	60%	40%	0%	6	5.00
BS0607	Finance and Financial Management	CORE	4	27	98	0	125	70%	30%	0%	6	5.00
BS0609	Global Business Management	CORE	4	22	103	0	125	70%	30%	0%	6	5.00
BS0611	Marketing	CORE	4	22	103	0	125	70%	30%	0%	6	5.00
BS0612	Organisational Behaviour and Human Resource Management	CORE	4	22	103	0	125	70%	30%	0%	6	5.00
BS0616	Innovation Management	CORE	4	22	103	0	125	70%	30%	0%	6	5.00
BS0618	Sustainable Business Development	CORE	4	22	103	0	125	70%	30%	0%	6	5.00
BS0690	Accounting Primer	CORE	4	10	15	0	25	N/A				
BS0691	Pre-Programme Maths	CORE	4	10	15	0	25	N/A				

**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
BS1314	Study Skills	CORE	4	10	15	0	25			N/A		
BS1317	Plagiarism Awareness	CORE	4	10	15	0	25			N/A		

## 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/](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)

The programme is consistent with the Qualifications Framework of the European Higher Education Area which is available at: <http://www.ehea.info/Uploads/qualification/QF-EHEA-May2005.pdf>