Imperial College London

Programme Specification (Undergraduate)

BSc Chemical Sciences and 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				
Award(s)	BSc			
Programme Title	Chemical Sciences and Management			
Programme Code	F1N2			
Awarding Institution	Imperial College London			
Teaching Institution	Imperial College London			
Faculty	Faculty of Natural Sciences			
Department	Department of Chemistry			
Associateship	Royal College of Science			
Mode and Period of Study	3 academic years, full-time			
Cohort Entry Points	Internal transfer only			
Relevant QAA Benchmark Statement(s) and/or other external reference points	Honours Degree in Chemistry			
Total Credits	ECTS:	180	CATS:	360
FHEQ Level	Level 6			
EHEA Level	1st cycle			
External Accreditor(s)	Royal Society of Chemistry			
Specification Details				
Student cohorts covered by specification	2016/17 entry			
Person responsible for the specification	Dr. Bridgette Duncombe			
Date of introduction of programme	-			
Date of programme specification/revision	March 2017			

Description of Programme Contents

This is a 3 year programme that ensures students acquire a systematic and broad understanding of key chemical concepts, develop an in-depth knowledge and critical awareness of a substantial area of chemistry, and be suitably prepared for contemporary professional practice in the chemical sciences. It has a high practical teaching content. Year 3 is spent in the Business School.

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

Upon successful completion of the programme students should be able to demonstrate:

Intellectual Skills:

- The ability to demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to the subject areas identified;
- The ability to apply such knowledge and understanding to the solution of qualitative and quantitative problems mostly of a familiar nature;
- The ability to recognise and analyse problems and plan strategies for their solution;
- Skills in the evaluation, interpretation and synthesis of chemical information and data;
- Skills in the practical application of theory using computer software and models;
- Skills in communicating scientific material and arguments;
- Information technology (IT) and data-processing skills, relating to chemical information and data.

Practical Skills:

- Skills in the safe-handling of chemical materials, taking into account their physical and chemical properties including any specific hazards associated with their use and the ability to conduct risk assessments;
- Skills required for the conduct of documented laboratory procedures involved in synthetic and analytical work, in relation to both inorganic and organic systems;
- Skills in the monitoring, by observation and measurement, of chemical properties, events or changes, and the systematic and reliable recording and documentation thereof;
- Skills in the operation of standard chemical instrumentation;
- The ability to interpret and explain the limits of accuracy of their own experimental data in terms of significance and underlying theory.

Transferable Skills:

- Communication skills, covering both written and oral communication;
- Problem-solving skills, relating to qualitative and quantitative information;
- Numeracy and mathematical skills, including such aspects as error analysis order-of-magnitude estimations, correct use of units and modes of data presentation;
- Information retrieval skills, in relation to primary and secondary information sources, including information retrieval through online computer searches;
- IT skills;

- Interpersonal skills, relating to the ability to interact with other people and to engage in team working;
- Time management and organisational skills, as evidenced by the ability to plan and implement efficient and effective modes of working;
- Skills needed to undertake appropriate further training of a professional nature.

<table>
<tr><th colspan="3">Entry Requirements</th></tr>
<tr><td rowspan="3">Academic Requirement</td><td>Grade Requirement</td><td rowspan="8">Internal transfer only</td></tr>
<tr><td>Subject Requirements</td></tr>
<tr><td>Excluded Subjects</td></tr>
<tr><td rowspan="2">International Baccalaureate (IB)</td><td>Grade Requirement</td></tr>
<tr><td>Subject Requirements</td></tr>
<tr><td colspan="2">GCSE Requirements</td></tr>
<tr><td colspan="2">English Language Requirement</td></tr>
<tr><td colspan="2">Admissions Tests</td></tr>
<tr><td colspan="2">Interview</td></tr>
<tr><td colspan="3">The programme's competency standards document can be found at:
http://www.imperial.ac.uk/chemistry/undergraduate/course-structure-and-content/</td></tr>
<tr><th colspan="3">Learning & Teaching Strategy</th></tr>
<tr><td colspan="2">Scheduled Learning & Teaching Methods</td><td>• Lectures
• Tutorials
• Practical workshops
• Guided laboratory work</td></tr>
<tr><td colspan="2">E-learning & Blended Learning Methods</td><td>• Virtual Learning Environment is used extensively and includes:
• Lecture material and lecture recordings
• Pre-laboratory work including competency quizzes
• On-line quizzes and material to support lecture material
• Plagiarism and safety awareness materials imbedded in online lecture and lab modules</td></tr>
<tr><td colspan="2">Project and Placement Learning Methods</td><td>• Group project work
• Literature Report
• Research Project</td></tr>
</table>

Assessment Strategy	
Assessment Methods	• Written examinations • Oral presentation • Written reports • Coursework • Academic posters
Academic Feedback Policy	

Department of Chemistry

Students can expect to receive the academic feedback in the following ways:

- Academic subject tutorials in small groups throughout Years 1 and 2.
- Scheduled meetings with personal tutors twice a term during Years 1 and 2.
- Feedback on lab scripts will be provided to students within two weeks of submission.
- Provisional exam results are posted to Blackboard as soon as possible.
- A brief commentary on the cohort's performance on each exam paper including a histogram of the cohort's performance is posted on Blackboard.

Business School

The Business School aims to provide feedback to students on coursework within two weeks and to provide provisional examination grades six weeks from the examination date. With each returned coursework assignment, a written evaluation will be provided. General feedback to the cohort is provided on examination performance. Students are encouraged to discuss any issues connected with the individual course directly with the relevant faculty member or through the staff/student committee. Students will not receive individual examination feedback, students will be provided with an alpha grade. The numerical mark will only be available after the Board of Examiners and will be released by Registry. Grades received during the year are deemed provisional until confirmed by the Final Board of Examiners.

Re-sit Policy
The College's Policy on Re-sits is available at: www.imperial.ac.uk/registry/exams/resit
Mitigating Circumstances Policy
The College's Policy on Mitigating Circumstances is available at: www.imperial.ac.uk/registry/exams

Assessment Structure
Marking Scheme

The pass mark for each assessment is 40%. The pass mark for each module is 40%.

Year One
A student must:

- Achieve an aggregate mark of at least 40% in each module
- Achieve a 'pass' in the 'Maths' module

Year Two
A student must:

- Achieve an aggregate mark of at least 40% in each module

Year Three
A student must:

- Achieve an aggregate mark of at least 40% in each module

Final Degree Classifications

Third– a student must achieve an aggregate mark of 40%
Lower Second – a student must achieve an aggregate mark of 50%
Upper Second – a student must achieve an aggregate mark of 60%
First - a student must achieve an aggregate mark of 70%

Module Weightings			
Year	**% Year Weighting**	**Module**	**% Module Weighting**
Year One	14.3%	Introduction to Chemistry	13.3r%
		Inorganic Chemistry 1	13.3r%
		Organic Chemistry 1	13.3r%
		Physical Chemistry 1	13.3r%
		Chemistry Coursework 1	36.7r%
		1 x module from elective group (A)	10%
Year Two	42.85%	Inorganic Chemistry 2	18.3r%
		Organic Chemistry 2	18.3r%
		Physical Chemistry 2	18.3r%
		Chemistry Coursework 2	35%
		1 x module from elective group (B)	10%
Year Three	42.85%	Accounting	7.5%
		Business Economics	7.5%
		Business Strategy	7.5%
		Organisational Behaviour & Human Resource Management	7.5%
		Global Business Management	7.5%
		Marketing	7.5%
		Innovation Management	7.5%
		Finance & Financial Management	7.5%
		Sustainable Business Development	7.5%
		Entrepreneurship	7.5%
		Group Project	25%

Indicative 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
CHEM40001	Introduction to Chemistry	CORE	1	73	127	0	200	100%	0%	0%	4	8
CHEM40002	Inorganic Chemistry 1	CORE	1	36	164	0	200	100%	0%	0%	4	8
CHEM40003	Organic Chemistry 1	CORE	1	37	163	0	200	100%	0%	0%	4	8
CHEM40004	Physical Chemistry 1	CORE	1	56	144	0	200	100%	0%	0%	4	8
CHEM40005	Chemistry Coursework 1	CORE	1	160	390	0	550	0%	68.53%	31.47%	4	22
CHEM40007	Medicinal Chemistry	ELECTIVE (A)	1	27	123	0	150	100%	0%	0%	4	6
CHEM40008	Maths and Physics for Chemists 1	ELECTIVE (A)	1	55	95	0	150	85%	15%	0%	4	6
-	Horizons (Languages only)	ELECTIVE (A)	1	Variable			150	Variable				6
CHEM50001	Inorganic Chemistry 2	CORE	2	67	208	0	275	100%	0%	0%	5	11
CHEM50002	Organic Chemistry 2	CORE	2	79	196	0	275	100%	0%	0%	5	11
CHEM50003	Physical Chemistry 2	CORE	2	75	200	0	275	100%	0%	0%	5	11
CHEM50004	Chemistry Coursework 2	CORE	2	219	308	0	525	0%	39.8%	60.2%	5	21
CHEM50007	Maths and Physics for Chemists 2	ELECTIVE (B)	2	60	90	0	150	100%	0%	0%	5	6
CHEM50008	Medicinal Chemistry 2	ELECTIVE (B)	2	32	118	0	150	100%	0%	0%	5	6

Indicative 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
BS0806	Entrepreneurship Business Plan Competition	ELECTIVE (B)	2	21	129	0	150	30%	70%	0%	6	6
BS0815	Business Economics	ELECTIVE (B)	2	32	118	0	150	70%	30%	0%	6	6
BS0850	Managerial Economics	ELECTIVE (B)	2	82	105.5	0	187.5	70%	30%	0%	6	7.5
BS0808	Finance and Financial Management	ELECTIVE (B)	2	32	118	0	150	70%	30%	0%	6	6
BS0851	Corporate Finance	ELECTIVE (B)	2	82	105.5	0	187.5	70%	30%	0%	6	7.5
BS0821	Project Management	ELECTIVE (B)	2	22	128	0	150	50%	50%	0%	6	6
BS0845	Strategic Management	ELECTIVE (B)	2	22	128	0	150	70%	30%	0%	6	6
-	Horizons (Languages only)	ELECTIVE (B)	2	Variable			150	Variable				6
HSCS2001	Communicating Science	ELECTIVE (B)	2	40	110	0	150	0%	80%	20%	5	6
HSCS2010	Science and Policy	ELECTIVE (B)	2	40	110	0	150	0%	80%	20%	5	6
HSCS2002	Creativity, Innovation and Invention	ELECTIVE (B)	2	40	110	0	150	0%	60%	40%	5	6
CHEM50009	Undergraduate Ambassadors Scheme	ELECTIVE (B)	2	12	87	51	150	0%	90%	10%	5	6
-	Induction	CORE	3	35	0	0	35	Not assessed				
BS0690	Accounting Primer	CORE	3	10	15	0	25	Not assessed				

Indicative 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
BS0691	Pre-Programme Maths	CORE	3	10	15	0	25	Not assessed				
BS1317	Plagiarism Awareness	CORE	3	10	15	0	25	Not assessed				
BS1314	Study Skills	CORE	3	10	15	0	25	Not assessed				
BS0601	Accounting	CORE	3	32	93	0	125	70%	30%	0%	6	5
BS0602	Business Economics	CORE	3	27	98	0	125	70%	30%	0%	6	5
BS0603	Business Strategy	CORE	3	22	103	0	125	70%	30%	0%	6	5
BS0612	Organisational Behaviour & Human Resource Management	CORE	3	22	103	0	125	70%	30%	0%	6	5
BS0609	Global Business Management	CORE	3	22	103	0	125	70%	30%	0%	6	5
BS0611	Marketing	CORE	3	22	103	0	125	70%	30%	0%	6	5
BS0616	Innovation Management	CORE	3	22	103	0	125	60%	20%	20%	6	5
BS0607	Finance & Financial Management	CORE	3	27	98	0	125	70%	30%	0%	6	5
BS0618	Sustainable Business	CORE	3	22	103	0	125	70%	30%	0%	6	5
BS0606	Entrepreneurship	CORE	3	22	103	0	125	30%	70%	0%	6	5
BS0600	Group Project	CORE	3	0	250	0	250	0%	70%	30%	6	10

Supporting Information
The Chemistry Programme Handbooks is available at: http://www.imperial.ac.uk/chemistry/undergraduate/course-structure-and-content/ The Business Programme Handbooks is available at: http://wwwf.imperial.ac.uk/business-school/programmes/programme-information/
The Chemistry Module Handbook is available through the Virtual Learning Environment module "Course Summaries 2017/18" The Business Module Handbook is available at: http://wwwf.imperial.ac.uk/business-school/programmes/programme-information/
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://www3.imperial.ac.uk/registry/proceduresandregulations/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-statutes-ordinances-and-regulations/
Imperial College London is regulated by the Higher Education Funding Council for England (HEFCE) http://www.hefce.ac.uk/reg/of/

Modification			
Changes to the assessment of module CHEM40008 'Maths and Physics for Chemists Year 1'	Programmes Committee	21 March 2017	PC.2016.75