

**Programme Specification for Undergraduate Programme**  
**Leading to:**  
**BSc Biomedical Sciences (Biochemistry)**  
**BSc Biomedical Sciences (Biochemistry) with Professional Experience**

*Applicable for all undergraduate students starting at Level 1 on or after 1<sup>st</sup> September 2017*

<u>Version No.</u>	<u>Date</u>	<u>Notes – QA USE ONLY</u>	<u>QA</u>
1	Jul-17	Programme Specification for 2017-18 created. No changes to programme.	RDC

<b>Undergraduate Programme</b>	
1. Awarding institution	Brunel University London
2. Teaching institution(s)	Brunel University London
3. Home college/department/division	College of Health and Life Sciences, Dept of Life Sciences, Biosciences
4. Contributing college/department/division/ associated institution	None
5. Programme accredited by	The Royal Society of Biology
6. Final award(s) and FHEQ Level of Award	BSc (Hons) Biomedical Sciences (Biochemistry) (FHEQ Level 6) BSc (Hons) Biomedical Sciences (Biochemistry) with Professional Experience (FHEQ Level 6)
7. Programme title	BSc Biomedical Sciences (Biochemistry)
8. Programme type (Single honours/joint)	Single honours
9. Normal length of programme (in months) for each mode of study	36 months FT, 48 months sandwich
10. Maximum period of registration for each mode of study	Normal or standard duration plus 3 years
11. Variation(s) to September start	n/a
12. Modes of study	Standard
13. Modes of delivery	Full time and Thick Sandwich
14. Intermediate awards and titles with FHEQ Level of Award	Cert HE in Biomedical Sciences (FHEQ Level 4) Dip HE in Biomedical Sciences (FHEQ Level 5) Dip HE in Biomedical Sciences with Professional Experience (FHEQ Level 5) BSc (Ord) in Medical Biology (FHEQ Level 6) BSc (Ord) in Medical Biology with Professional Experience (FHEQ Level 6)
15. UCAS Code	C722: 3 year full time course / C723: 4 year sandwich course
16. JACS Code	C760
17. Route Code	C722UBIOMECH
18. Relevant subject benchmark statements and other external and internal reference points used to inform programme design.	<a href="#">QAA UK Quality Code for Higher Education</a> which includes the English Framework for Higher Education Qualifications within Part A on Setting and Maintaining Academic Standards  <a href="#">QAA Benchmark Statement</a> (Biomedical Science)

## UNDERGRADUATE HONOURS

	<p><a href="#">QAA Benchmark Statement</a> (Biosciences)</p> <p><a href="#">Brunel 2030</a></p> <p>Brunel Placement Learning Policy, as published under the 'Placements' section of the <a href="#">'Managing Higher Education Provision with Others'</a> page.</p>
19. Admission Requirements	<p>Details of <a href="#">entry requirements</a> are provided on the University's and College website.</p> <p>Levels of English for non-native speakers are outlined on Brunel International's <a href="#">language requirements</a> pages.</p>
20. Other relevant information (e.g. study abroad, additional information on placements)	<p>Optional work placement year is available after completion of level 2 (thick sandwich mode) leading to the award of BSc Biomedical Sciences (Biochemistry) with Professional Experience.</p>
21. Programme regulations not specified in Senate Regulation 2. Any departure from regulations specified in Senate Regulation 2 must be stated here and approved by Senate.	<p>The Board of Examiners may award students who are registered on the Professional Experience programmes the BSc Biomedical Sciences if they meet the requirements for the award, but have failed to meet the requirements for the award for which they are registered.</p>
22. Further information about the programme is available from the College website.	<p>Link to programme information on the College website.</p>

### 23. EDUCATIONAL AIMS OF THE PROGRAMME

The aim of the BSc Biomedical Sciences programme is to provide students with an understanding of the main subject areas in biosciences and medically related research. These subject areas include biochemistry, genetics, cell and molecular biology, immunology and anatomy and physiology as related to human health, disease and treatment. The programme also seeks to develop within graduates good practical, analytical and transferable skills applicable to a wide range of employment opportunities, including medicine, MSc and PhD, pharmaceutical research, pathology and diagnosis, clinical trials and data management. Students will be encouraged to exercise independence, initiative and responsibility and appreciate the need for continual professional development.

#### Level 1

We aim to give students a broad, core foundation of knowledge covering the major themes in biomedical sciences, including biochemistry, cell and molecular biology and physiology, with an emphasis on the underlying processes and functioning of the normal human body. Development of professional attributes is supported by a comprehensive skills programme.

#### Level 2

We aim to give students knowledge of the underlying principles of human health, and an advanced understanding of molecular -, cellular - and immuno-biology. They are able to develop their interests in biochemistry, genetics and microbiology. All pathways develop practical laboratory skills, critical thinking and problem solving skills, and strong emphasis is placed on developing employability and professional skills.

#### Level 3

We aim to give students in-depth knowledge of the underlying mechanisms of selected human pathologies, and to develop confident individuals able to critically analyse, evaluate, interpret and communicate science.

### 24. PROGRAMME AND INTERMEDIATE LEARNING OUTCOMES

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The programme provides opportunities for students to develop and demonstrate knowledge and understanding (K) cognitive (thinking) skills (C) and other skills and attributes (S) in the following areas:

Level	Category (K = knowledge and understanding, C = cognitive (thinking) skills, S = other skills and attributes)	Learning Outcome	Associated Assessment Blocks Code(s)	Associated Study Blocks Code(s)	Associated Modular Blocks Code(s)
<b>1</b>					
1	K	Demonstrate knowledge of core topics in biomedical sciences	BB1801 BB1802 BB1803 BB1804 BB1805 BB1806	BB1701 BB1702 Bb1703 BB1704 BB1705	
	K	Demonstrate knowledge of the complexity and interrelationship of scientific disciplines	BB1802 BB1806		
	C	Apply subject knowledge to address practical problems	BB1802 BB1803 BB1804	BB1701 BB1702 BB1704 BB1705 BB1706	
	C	Analyse and interpret data	BB1802 BB1803 BB1804		
	S	The ability to communicate basic scientific topics	BB1801 BB1802 BB1804	BB1701 BB1702 BB1703 BB1704 BB1705 BB1706	
	S	Demonstrate awareness of skills required for self managed professional and life-long learning (safe laboratory practice, working independently or in teams, time management, organisation, information retrieval, IT, critical thinking)	BB1801 BB1802 BB1803 BB1804		
<b>2</b>					
2	K	Demonstrate knowledge and understanding of the major themes in biomedical sciences	BB2802 BB2803 BB2804 BB2805 BB2806	BB2704 BB2705 BB2712 BB2710 BB2730	
	K	Demonstrate knowledge and understanding of topical scientific issues	BB2802 BB2806		
	C	Apply subject knowledge to address familiar and unfamiliar problems	BB2803 BB2804 BB2805	BB2704 BB2705 BB2712 BB2710 BB2730 BB2701 BB2702	
	C	Analyse and interpret data and scientific literature	BB2802 BB2803 BB2804		
	S	The ability to communicate scientific data and literature	BB2802 BB2803 BB2804	BB2704 BB2705 BB2712	

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				BB2710 BB2730 BB2701 BB2702	
	S	Demonstrate development of skills required for self managed professional and life-long learning (experimental techniques, working independently or in teams, time management, organisation, information retrieval, IT, critical thinking)	BB2802 BB2802 BB2803 BB2804		
<b>3</b>					
3	K	Demonstrate in-depth knowledge and understanding of selected topics in biomedical sciences	BB3801 BB3802 BB3803 BB3804	BB3703 BB3701 BB3704 BB3707 BB3714 BB3720 BB3733	BB3091
	K	Demonstrate engagement with current developments in biosciences and awareness of the wider implications, debate and controversies surrounding these topics	BB3801 BB3802 BB3804		BB3091
	C	Apply subject knowledge to address complex familiar and unfamiliar problems	BB3802 BB3803	BB3703 BB3701 BB3704 BB3707 BB3714 BB3720 BB3733	BB3091
	C	Critically analyse and interpret data, evaluating it in light of current literature	BB3801 BB3802		BB3091
	S	Effectively communicate complex scientific information	BB3801 BB3802 BB3803 BB3804	BB3703 BB3701 BB3704 BB3707 BB3714 BB3720 BB3733	BB3091
	S	Demonstrate skills required for self managed professional and life-long learning (experimental techniques, working independently or in teams, time management, organisation, information retrieval, IT, critical thinking)	BB3801 BB3802		BB3091

**Learning/teaching strategies and methods** to enable learning outcomes to be achieved, including formative assessments

The rapid change and development of knowledge in the biosciences necessitates a learning strategy that enables graduates to continue their self-education. We are therefore focussing on developing graduates who have a range of professional (including practical) and generic skills; who are capable of independent and life-long learning; who are able to apply their knowledge to unfamiliar problems and situations; who can critically analyse and interpret data and information; and who can communicate complex information with clarity. The separation of study and assessment allows us to pursue a holistic and over-arching teaching strategy, where topics are explored in lectures, seminars and laboratory sessions, and students' knowledge and understanding are tested through a range of formative activities. All learning outcomes are supported by activities in several study blocks at each level. Additionally, these activities develop the skills expected of bioscience graduates, including competence in basic experimental techniques, safe laboratory practice, working independently and in teams, time management and organisational ability.

**Summative assessment strategies and methods** to enable learning outcomes to be demonstrated

Students are assessed by in-year coursework, end-of-year examinations and a final year project. The coursework assignments and deadlines are set at the beginning of the academic year, encouraging students to see the relevance of the formative activities to the summative assessments. The assignments are challenging (requiring integration of information obtained from various sources) and relevant to employment and further study (analysis, interpretation and communication of data, evaluated in context of current knowledge). Examinations testing knowledge, understanding and problem solving in the main subject areas in biomedical sciences increase in complexity as students progress through the programme, and require students to demonstrate an appreciation of the complexity of biosciences and engagement with current issues. The final year project is the single most important assessment of the programme, requiring students to undertake and report on an extended, independent investigation. Each learning outcome is covered by more than one assessment.

## 25. Programme Structure, progression and award requirements

Programme structures and features: levels, assessment blocks, credit and progression and award requirements

- **Compulsory block:** one which all students registered for the award are required to take as part of their programme of study. These will be listed in the left hand column;
- **Optional block:** one which students choose from an 'option range'. These will be listed in the right hand column;
- A **core assessment** is an assessment identified within an assessment block or modular block (either compulsory or optional) which must be passed (at grade D- or better) in order to be eligible to progress and to be eligible for the final award. All core assessments must be specified on the programme specification next to the appropriate assessment or modular block:

Where students are expected to pass the block at D- or better, but not necessarily all elements, then the block itself is core.

e.g. AB3000 Project (40)  
Core: Block

Where only some elements of assessments are required to be passed at D- or better, these will be identified by listing each element that is core

e.g. ABXXX1 Title (XX credits)  
Core: 1 & 4

Where students are expected to pass all assessments in a block then this will be identified. By setting the assessment this way, students are also required to pass the block by default. This will be identified thus:

e.g. ABXXXX Title (XX credits)  
Core: All, Block

- A **non-core assessment** does not have to be passed at grade D- or better, but must be better than a grade F, in order to progress and to be eligible for the final award.

**UNDERGRADUATE HONOURS**

<p><b>Compulsory assessment block codes, titles and credit</b></p> <p><b>All L1 assessment blocks are core.</b></p> <p>BB1801_CB Research and Communication Skills (20)  BB1802_CB Practical Skills 1: Microscopy (20)  BB1803_CB Practical Skills 2: Biochemical Analysis (20)  BB1804_CB Practical Skills 3: Molecular Analysis (20)  BB1805_CB Biomedical Sciences Examinations 1 (20)  BB1806_CB Synoptic Examination 1 (20)</p>	<p><b>Optional assessment block codes, titles and credits</b></p>
<p><b>Compulsory study block codes, titles and credit volume</b></p> <p>BB1701 The Human Body: Principles of Anatomy and Physiology (20)  BB1702 Biochemistry: Structure and Function (20)  BB1703 Research Skills (15)  BB1704 Practical Skills in Biomedical Sciences (20)  BB1705 Biology of the Cell (40)  BB1706 Critical Thinking 1 (5)</p>	<p><b>Optional Study block codes, titles and credit volume</b></p>
<p><b>Compulsory modular block codes, titles and credits</b></p>	<p><b>Optional modular block codes, titles and credits</b></p>
<p><b>Level 1 Progression and Award Requirements</b></p> <p>As per <a href="#">Senate Regulation 2</a></p>	

<b>Level 2</b>	
<p><b>Compulsory assessment block codes, titles and credits</b></p> <p>BB2801_CN Professional Skills in Biomedical Sciences (20)  BB2802_CN Primary Literature Interrogation and Synthesis (20)  BB2803_CN Data Evaluation and Reporting (20)  BB2804_CN Data Analysis, Interpretation and Presentation (20)  BB2805_CN Biomedical Sciences Examinations 2 (20)  BB2806_CN Synoptic Examination 2 (20)</p>	<p><b>Optional assessment block codes, titles and credits</b></p>

**UNDERGRADUATE HONOURS**

<b>Compulsory study block codes, titles and credit volume</b>  BB2701 Career Skills (15) BB2702 Critical Thinking 2 (5) BB2704 Molecular and Cellular Biology (20) BB2705 Genetic Engineering and Immunobiology (20) BB2712 Principles of Human Disease (20) BB2710 Analytical Biochemistry (20) BB2730 Metabolic Regulation (20)	<b>Optional Study block codes, titles and credit volume</b>
<b>Compulsory modular block codes, titles and credits</b>	<b>Optional modular block codes, titles and credits</b>
<b>Level 2 Progression and Award Requirements</b>  As per <a href="#">Senate Regulation 2</a>	

<b>Level 2 – Sandwich Placement</b>	
<b>Compulsory assessment block codes, titles and credits</b>	<b>Optional assessment block codes, titles and credits</b>
<b>Compulsory study block codes, titles and credit volume</b>	<b>Optional study block codes, titles and credit volume</b>
<b>Compulsory modular block codes, titles and credits</b>  BB2555_CB Professional Experience (120)	<b>Optional modular block codes, titles and credits</b>
<b>Level 2 Placement Progression and Award Requirements</b>  As per <a href="#">Senate Regulation 2</a> For BSc Biomedical Sciences (Forensic) with Professional Experience, BB2555 will contribute 25% of the Level 2 profile and 8.33% of the overall degree calculation	

<b>Level 3</b>	
<b>Compulsory assessment block codes, titles and credits</b>  BB3801_CN Scientific Communication (20) BB3802_CN Problem Solving and Data Analysis (20) BB3803_CN Biomedical Sciences Examination 3 (20) BB3804_CN Synoptic Examination 2 (20)	<b>Optional assessment block codes, titles and credits</b>

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<b>Compulsory study block codes, titles and credit volume</b>  BB3703 Medical Biochemistry	<b>Optional study block codes, titles and credit volume</b>  <b>Choose 3:</b>  BB3701 Genomic Medicine (20) BB3704 The Biology and Treatment of Cancer (20) BB3707 Cellular Pathologies (20) BB3714 Endocrine Disorders (20) BB3720 Medical Immunology (20) BB3733 Molecular Pharmacology and Toxicology (20)
<b>Compulsory modular block codes, titles and credits</b> BB3091 Final Year Project (40)	<b>Optional modular block codes, titles and credits</b>

**Level 3 Progression and Award Requirements****As per [Senate Regulation 2](#)**

For BSc Biomedical Sciences (Biochemistry) with Professional Experience, BB2555 will contribute 25% of the Level 2 profile and 8.33% of the overall degree calculation.

If registered on the BSc Biomedical Sciences (Biochemistry) with Professional Experience programme and the work placement module BB2255\_CB is not passed at D- or above, the degree of BSc Biomedical Sciences (Biochemistry) may be awarded by the Board of Examiners.

**Intermediate Award**

Students achieving 320 credits, including 80 credits at level 3 (FHEQ 6), may be eligible for a BSc (Ord) in Medical Biology

Please note: this specification provides a concise summary of the main features of the programme and the learning outcomes that a student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning and assessment methods can be found in the modular block, assessment and study block outlines and other programme and block information. The accuracy of the information contained in this document is reviewed by the University from time to time and whenever a modification occurs.