

**Programme Specification for Undergraduate Programme
Leading to:
BSc Biomedical Sciences
BSc Biomedical Sciences with Placement**



Applicable for all undergraduate students starting at FHEQ Level 4 on or after 1st September 2020

Version No.	Date	Notes – QA USE ONLY	QA
1	April-2020	2020/21 version of the programme specification created with College name updated; 'with Professional Experience' replaced with 'with Placement'; BB1703 replaced with BB1718 and BB1719; BB1705 replaced with BB1720; BB2706 replaced by BB2708; BB2705 replaced by BB2709; BB2712 replaced by BB2711; BB2722 replaced by BB2713; BB2703 replaced by BB2707; and minor changes to learning outcomes, aims and summative assessments.	RJC
2	Sept-20	BB1700, BB2700 and BB3700 added	RJC

Honours programme	
1. Awarding institution	Brunel University London
2. Teaching institution(s)	Brunel University London
3. Home college/department/division	College of Health, Medicine 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 (FHEQ Level 6) BSc (Hons) Biomedical Sciences with Placement (FHEQ Level 6)
7. Programme title	BSc Biomedical Sciences
8. Programme type (Single honours/joint/major minor)	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	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 and 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 Placement (FHEQ Level 5) BSc (Ord) in Medical Biology (FHEQ Level 6) BSc (Ord) in Medical Biology with Placement (FHEQ Level 6)
15. UCAS Code	C900: 3-year full-time course/ C901: 4-year sandwich course
16. HECoS Code	100948 (Biomolecular Science)
17. Route Code	C900UBIOMED
18. Relevant subject benchmark statements and other external and internal reference points used to inform programme design.	QAA UK Quality Code for Higher Education QAA Benchmark Statement (Biomedical Science)

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	<p>QAA Benchmark Statement (Biosciences)</p> <p>Brunel 2030</p> <p>Brunel Placement Learning Policy, as published under the 'Placements' section of the 'Managing Higher Education Provision with Others' page.</p>
19. Admission Requirements	<p>Details of entry requirements are provided on the University's and College website.</p> <p>Levels of English for non-native speakers are outlined on Brunel International's language requirements pages.</p>
20. Other relevant information (e.g. study abroad, additional information on placements)	<p>Optional work placement year is available after completion of FHEQ level 5 (thick sandwich mode) leading to the award of BSc Biomedical Sciences with Placement.</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 Placement programmes the BSc Biomedical Science 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>http://www.brunel.ac.uk/courses/undergraduate/biomedical-sciences-human-health-bsc</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, anatomy and physiology as related to human health, disease and treatment. The programme also seeks to develop good practical, analytical and transferable skills within graduates, 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 continued professional development.

FHEQ Level 4

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.

FHEQ Level 5

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.

FHEQ Level 6

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.

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24. PROGRAMME AND INTERMEDIATE LEARNING OUTCOMES

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:

FHEQ 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)
4					
4	K	Demonstrate knowledge of core topics in biomedical sciences	BB1801 BB1802 BB1803 BB1804 BB1805 BB1806	BB1701 BB1702 BB1719 BB1704 BB1720	
	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 BB1720 BB1706	
	C	Analyse and interpret data	BB1802 BB1803 BB1804	BB1719	
	S	The ability to communicate basic scientific topics	BB1801 BB1802 BB1804	BB1701 BB1702 BB1718 BB1719 BB1704 BB1720 BB1706	
	S	Demonstrate awareness of skills required for self managed professional and life-long learning	BB1801	BB1718	
	S	Demonstrate awareness of IT skills and critical thinking	BB1802 BB1803 BB1804	BB1719 BB1706	
5					
5	K	Demonstrate knowledge and understanding of the major themes in biomedical sciences	BB2801 BB2802 BB2803 BB2804 BB2805 BB2806	BB2704 BB2705 BB2712 BB2710 BB2716 BB2722 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 BB2716 BB2722 BB2708	
	C	Analyse and interpret data and scientific literature	BB2802 BB2803	BB2707	

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			BB2804		
	S	The ability to communicate scientific data and literature	BB2802 BB2803 BB2804	BB2704 BB2705 BB2712 BB2710 BB2730 BB2716 BB2722 BB2708 BB2707	
	S	Demonstrate development of skills required for self-managed professional development (experimental techniques, team work and information retrieval,)	BB2801 BB2803 BB2804	BB2707 BB2708	
	S	Demonstrate development of IT skills and critical thinking	BB2802 BB2803 BB2804	BB2704 BB2705 BB2712 BB2710 BB2730 BB2716 BB2722 BB2708 BB2707	
6					
6	K	Demonstrate in-depth knowledge and understanding of selected topics in biomedical sciences	BB3801 BB3802 BB3803 BB3804	BB3703 BB3706 BB3716 BB3710 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 BB3706 BB3716 BB3710 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 BB3706 BB3716 BB3710 BB3701 BB3704 BB3707 BB3714 BB3720 BB3733	BB3091
	S	Demonstrate skills required for self-managed for professional development (team working, time	BB3801 BB3802		BB3091

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		management, organisation , information retrieval,)			
		Demonstrate IT skills and critical thinking/problem solving skills	BB3802 BB3804		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 (both of which are formatively assessed in Level 4), 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), as well as requiring creativity to problem solve. 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. Reflection on learning is assessed at each level with students developing their innovation and entrepreneurial skills in Level 4 and 5. 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

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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.

FHEQ Level 4	
<p>Compulsory assessment block codes, titles and credit</p> <p>All FHEQ L4 assessment blocks are core.</p> <p>BB1801 Research and Communication Skills (20) Core, Block BB1802 Practical Skills 1: Microscopy (20) Core, Block BB1803 Practical Skills 2: Biochemical Analysis (20) Core, Block BB1804 Practical Skills 3: Molecular Analysis (20) Core, Block BB1805 Biomedical Sciences Examinations 1 (20) Core, Block BB1806 Synoptic Examination 1 (20) Core, Block</p>	<p>Optional assessment block codes, titles and credits</p>
<p>Compulsory study block codes, titles and credit volume</p> <p>BB1701 The Human Body: Principles of Anatomy and Physiology (20) BB1702 Biochemistry: Structure and Function (20) BB1718 Career Planning and Innovation (15) BB1719 Introduction to Data Analysis (10) BB1704 Practical Skills in Biomedical Sciences (20) BB1720 Biology of the Cell (30) BB1706 Critical Thinking 1 (5) BB1700 Tutoring (0, zero)</p>	<p>Optional Study block codes, titles and credit volume</p>
<p>Compulsory modular block codes, titles and credits</p>	<p>Optional modular block codes, titles and credits</p>
<p>FHEQ Level 4 Progression and Award Requirements</p> <p>As per Senate Regulation 2</p>	

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FHEQ Level 5	
Compulsory assessment block codes, titles and credits BB2801 Professional Skills in Biomedical Sciences (20) BB2802 Primary Literature Interrogation and Synthesis (20) BB2803 Data Evaluation and Reporting (20) BB2804 Data Analysis, Interpretation and Presentation (20) BB2805 Biomedical Sciences Examinations 2 (20) BB2806 Synoptic Examination 2 (20)	Optional assessment block codes, titles and credits
Compulsory study block codes, titles and credit volume BB2708 Data analysis (15) BB2707 Career Planning and Entrepreneurship (5) BB2704 Molecular and Cellular Biology (20) BB2709 Genetics, Genomics and Human Health (20) BB2711 Human Pathology and Immunology (20) BB2700 Tutoring (0, zero)	Optional Study block codes, titles and credit volume BB2710 Analytical Biochemistry (20) BB2716 Medical Microbiology (20) BB2713 Development, Genetics and Stem Cell Biology (20) BB2730 Metabolic Regulation (20)
Compulsory modular block codes, titles and credits	Optional modular block codes, titles and credits
FHEQ Level 5 Progression and Award Requirements As per Senate Regulation 2 Students on BSc Biomedical Sciences with Placement will progress to FHEQ Level 5 – With Placement; students on the full-time programme will progress to FHEQ level 6.	

FHEQ Level 5 – Sandwich Placement	
Compulsory assessment block codes, titles and credits	Optional assessment block codes, titles and credits
Compulsory study block codes, titles and credit volume	Optional study block codes, titles and credit volume
Compulsory modular block codes, titles and credits BB2555_CB Professional Experience (120)	Optional modular block codes, titles and credits
FHEQ Level 5 Placement Progression and Award Requirements As per Senate Regulation 2 For BSc Biomedical Sciences with Placement, BB2555 will contribute 25% of the FHEQ Level 5 profile and 8.33% of the overall degree calculation.	

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FHEQ Level 6	
<p>Compulsory assessment block codes, titles and credits</p> <p>BB3801 Scientific Communication (20) BB3802 Problem Solving and Data Analysis (20) BB3803 Biomedical Sciences Examinations 3 (20) BB3804 Synoptic Examination 3 (20)</p>	<p>Optional assessment block codes, titles and credits</p>
<p>Compulsory study block codes, titles and credit volume</p> <p>BB3700 Tutoring (0, zero)</p>	<p>Optional study block codes, titles and credit volume</p> <p>Choose 1 in Term 1^{T1} and 3 in Term 2^{T2}</p> <p>BB3701 Genomic Medicine (20)^{T2} BB3703 Medical Biochemistry (20)^{T1} BB3704 The Biology and Treatment of Cancer (20)^{T2} BB3706 Gene Therapy and Related Technologies (20)^{T1} BB3707 Cellular Pathologies (20)^{T2} BB3710 Methods in Forensic Investigation (20)^{T1} BB3714 Endocrine Disorders (20)^{T2} BB3716 Microbial Pathogenesis (20)^{T1} BB3720 Medical Immunology (20)^{T2} BB3733 Molecular Pharmacology and Toxicology (20)^{T2}</p>
<p>Compulsory modular block codes, titles and credits</p> <p>BB3091 Final Year Project (40) Core, Block</p>	<p>Optional modular block codes, titles and credits</p>
<p>FHEQ Level 6 Progression and Award Requirements</p> <p>As per Senate Regulation 2 For BSc Biomedical Sciences with Placement, BB2555 will contribute 25% of the FHEQ Level 5 profile and 8.33% of the overall degree calculation</p> <p>If registered on the BSc Biomedical Sciences with Placement programme and the work placement module BB2255_CB is not passed at D- or above, the degree of BSc Biomedical Sciences may be awarded by the Board of Examiners.</p> <p>Intermediate Award Students may be eligible for a BSc (Ord) in Medical Biology subject to meeting SR2 criteria.</p>	

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.