Course Specification

Course Summary Information		
1	**Course Title**	BSc (Hons) Biomedical Science
2	**Course Code**	US1504
3	**Awarding Institution**	Birmingham City University
4	**Teaching Institution(s)** (if different from point 3)	Not applicable
5	**Professional Statutory or Regulatory Body (PSRB) accreditation** (if applicable)	Institute of Biomedical Science (IBMS)

6	**Course Description**

Course overview:

Accredited by the Institute of Biomedical Science (IBMS), our practice-led degree offers a fascinating insight into human life processes, as well as disease and health within the human population. You will develop a range of practical and analytical skills using our state-of-the-art life sciences labs. Our aim is to equip you with the skills and knowledge needed to progress into a variety of Biomedical Science careers.

If your goal is to work within the NHS as a Biomedical Scientist, completion of an IBMS-accredited degree will mean you can apply for trainee Biomedical Scientist roles. You could then go on to complete the IBMS registration training portfolio, which is a pre-requisite for full qualification in this role and potential registration with the Health and Care Professions Council.

What is covered in this course?

Biomedical Science embraces a range of disciplines, including clinical biochemistry, human molecular genetics, cell biology, infection and immunity, and haematology and transfusion science. These subjects are of immense importance in healthcare provision and medical research, as well as underpinning the biotechnology and pharmaceutical industries.

On this course you will learn how the human body functions during health and disease, and develop an understanding of the diagnosis, management, and treatment of a range of diseases. Throughout the programme you will gain important practical and scientific skills, developed by learning in our state-of-the-art life sciences laboratories where you will use industry standard equipment.

In the final year you will complete an independent research project under the guidance of one of our academic staff, providing you with the opportunity to consolidate your learning on the course.

When you graduate, a range of careers are open to you as well as the option for further postgraduate training and study. These careers include medical laboratory assistant, trainee biomedical scientist, conducting clinical trials for drug companies, research assistant and research technician, marketing assistant and medical and scientific sales representative. You could also use your qualification to progress into teaching, or undertake postgraduate study to obtain Master's, Physician Associate/Assistant or PhD qualifications. Exceptional graduates may be able to progress into postgraduate entry Medicine or Dentistry courses.

	You will be taught by our team of specialist academic staff who have a wealth of industry, clinical and research experience and will provide the expertise to support your learning throughout the course. We encourage a collaborative culture, so students feel able to seek support and guidance from academic and support staff and you will have the opportunity to contribute to the ongoing development of the course as part of the biomedical science community at the University.

7	**Course Awards**		
7a	**Name of Final Award**	**Level**	**Credits Awarded**
	Bachelor of Science with Honours Biomedical Science	Level 6	360
	Bachelor of Science with Honours Biomedical Science with Foundation Year	Level 6	480
7b	**Exit Awards and Credits Awarded**		
	Unaccredited: Bachelor of Science Human Biosciences Diploma of Higher Education Human Biosciences Certificate of Higher Education Human Biosciences	 Level 6 Level 5 Level 4	 300 240 120

8	**Variation from the University Regulations**
	This course has approved variations to the University's Academic Regulations. These can be accessed via the student contract page: https://www.bcu.ac.uk/student-info/student-contract

9	**Delivery Patterns**		
Mode(s) of Study	**Location(s) of Study**	**Duration of Study**	**Code(s)**
Full time	City South	3 years	US1504

10	**Entry Requirements**
	The admission requirements for this course are stated on the course page of the BCU website at https://www.bcu.ac.uk/ or may be found by searching for the course entry profile located on the UCAS website.

11	**Course Aims**
	The BSc (Hons) Biomedical Science course aims to develop competent, professional, and independent graduates with the technical and transferable skills to succeed in a range of Bioscience careers.

12	**Course Learning Outcomes**
1	Apply and integrate a coherent and detailed knowledge of the core biomedical science disciplines of clinical biochemistry, cellular pathology, clinical immunology, human molecular genetics, medical microbiology and haematology and transfusion science to evaluate complex case studies
2	Critically analyse the underpinning causes of a range of human diseases, and the contemporary technologies being developed to prevent, diagnose, and treat them

3	Select and apply laboratory methods in biomedical science to generate and report experimental data, in the context of professional practice
4	Select, justify, and apply a range of qualitative and quantitative methods to analyse, interpret and report the results of laboratory tests
5	Apply a coherent and detailed knowledge of quality assurance to make judgements on the reliability of diagnostic laboratory test data
6	Develop and investigate original research questions using qualitative and quantitative methods, considering any safety, ethical and regulatory concerns
7	Select and critically evaluate information from data and current scientific literature, including journals, to develop and sustain a coherent argument
8	Apply a range of professional transferable skills required for graduate employment (e.g. communication, numerical, problem solving, critical analysis, resilience, team working, leadership, networking, digital ICT skills etc.)
9	Communicate complex scientific information effectively to a range of audiences in written and oral formats in an accurate, and clear manner following scientific conventions
10	Use evidence to evaluate personal and professional development in the context of biomedical science and engage in continuing professional development

13	**Level Learning Outcomes**
	Upon completion of Level 4 / the Certificate of Higher Education, students will be able to:
1	Explain and evaluate fundamental scientific concepts in biomedical science
2	Apply a range of fundamental laboratory techniques in biomedical science, to acquire and report experimental data
3	Organise, present, and interpret qualitative and quantitative data, to develop coherent arguments in accordance with basic theories and concepts in biomedical science
	Upon completion of Level 5 / the Diploma of Higher Education, students will be able to:
1	Explain and evaluate key scientific concepts in biomedical science and apply them outside the context in which they were first studied
2	Select and apply a range of fundamental laboratory techniques in biomedical science, to acquire and report experimental data
3	Apply knowledge of qualitative and quantitative research methods in biomedical science to assess scientific literature and to develop novel research questions, and hypotheses
4	Engage in teamwork, and communicate information and ideas clearly and accurately using a range of written and verbal formats
	Upon completion of 60 credits at Level 6 / the Bachelor's Degree, students will be able to:
1	Apply and integrate a coherent and detailed knowledge of a range of biomedical science disciplines to evaluate complex case studies
2	Critically analyse the underpinning causes of a range of human diseases, and the contemporary technologies being developed to prevent, diagnose, and treat them
3	Select and critically evaluate information from data and current scientific literature, including journals, to develop and sustain a coherent argument
4	Communicate complex scientific information effectively to a range of audiences in written and oral formats in an accurate, and clear manner following scientific conventions

14	**Course Learning, Teaching and Assessment Strategy**
	The curriculum design has been informed by the latest research and practice, with input from a range of employers, to ensure that graduates have the skills and experiences needed for a career in biomedical science, or more broadly in the life sciences sector.

	The course is delivered using a combination of scheduled and directed learning, supplemented with students own independent study. Scheduled classes will include lectures, smaller group workshops to consolidate students learning, and laboratory practicals to develop key lab and data handling skills. Lectures may be delivered in-person or as hybrid and recorded to support accessibility. A range of digital technologies are used to enhance the students learning experience (*e.g*. LT LabStation, Anatomy TV & Anatomage tables, polling software), and each module has its own dedicated Moodle page. A variety of assessment formats will be used including formal closed book examinations, as well as a range of authentic assessments to support the development of practical employability skills, including individual and group presentations, laboratory reports, case studies employing data analysis and problem solving, literature reviews, research proposals, and a capstone project. Opportunities for formative feedback will be provided in all modules to support students in preparing for summative assessments.

15	**Course Requirements**
15a	**Level 4:** **In order to complete this course a student must successfully complete all the following CORE modules (totalling 120 credits):**

Module Code	Module Name	Credit Value
BMS4001	Essential Skills for the Biosciences	20
BMS4000	Biochemistry	20
BMS4008	Cell and Molecular Biology	20
BMS4005	Microbiology	20
BMS4010	Human Anatomy and Physiology	20
BMS4012	Introduction to Pharmacology	20

Level 5:

In order to complete this course a student must successfully complete all the following CORE modules (totalling 120 credits):

Module Code	Module Name	Credit Value
BMS5013	Professional Skills in Biomedical Science	20
BMS5011	Infectious Disease and Immunity	20
BMS5009	Clinical Biochemistry	20
BMS5010	Haematology and Transfusion Science	20
BMS5012	Pathophysiology and Cellular Pathology	20
BMS5014	Research Methods in Biosciences	20

Level 6:

In order to complete this course a student must successfully complete all the following CORE modules (totalling 100 credits):

Module Code	Module Name	Credit Value
BMS6004	Research Project	40
BMS6014	Integrated Studies	20
BMS6013	Human Molecular Genetics	20
BMS6011	Clinical Immunology	20

In order to complete this course a student must successfully complete at least 20 credits from the following indicative list of OPTIONAL modules.

Module Code	Module Name	Credit Value
BMS6009	Biology of Ageing	20
BMS6000	Control of Global Infectious Disease	20

15b Structure Diagram

Please note list of optional modules is indicative only. Students' choice will not be guaranteed for optional modules, but a fair and transparent process will be adopted and shared with students.

Level 4

SEMESTER ONE	SEMESTER TWO
Core BMS4001: Essential Skills for the Biosciences (20 Credits) BMS4000: Biochemistry (20 Credits) BMS4008: Cell and Molecular Biology (20 Credits)	Core BMS4005: Microbiology (20 Credits) BMS4010: Human Anatomy and Physiology (20 Credits) BMS4012: Introduction to Pharmacology (20 Credits)

Level 5

Core BMS5013: Professional Skills in Biomedical Science (20 Credits) BMS5011: Infectious Disease and Immunity (20 Credits) BMS5009: Clinical Biochemistry (20 Credits)	Core BMS5010: Haematology and Transfusion Science (20 Credits) BMS5012: Pathophysiology and Cellular Pathology (20 Credits) BMS5014: Research Methods in Biosciences (20 Credits)

Level 6

Core	Core BMS6014: Integrated Studies (20 Credits)

BMS6013: Human Molecular Genetics (20 Credits)	BMS6011: Clinical Immunology (20 Credits)
BMS6004 Research Project (40 Credits)	
Optional BMS6009: Biology of Ageing (20 Credits) BMS6000: Control of Global Infectious Disease (20 Credits)	

16 Overall Student Workload and Balance of Assessment

Overall student *workload* consists of class contact hours, independent learning and assessment activity, with each credit taken equating to a total study time of around 10 hours. While actual contact hours may depend on the 3rd year optional modules and research project selected, the following information gives an indication of how much time students will need to allocate to different activities at each level of the course.

- *Scheduled Learning* includes lectures, practical classes and workshops, contact time specified in timetable
- *Directed Learning* includes placements, work-based learning, external visits, on-line activity, Graduate+, peer learning
- *Private Study* includes preparation for exams

The *balance of assessment* by mode of assessment (e.g. coursework, exam and in-person) depends to some extent on the optional modules chosen by students. The approximate percentage of the course assessed by coursework, exam and in-person is shown below.

Level 4

Workload

21 % time spent in timetabled teaching and learning activity

Activity	Number of Hours
Scheduled Learning	252
Directed Learning	312
Private Study	636
Total Hours	1200

Balance of Assessment

Assessment Mode	Percentage
Coursework	38
Exam	31
In-Person	31

Level 5

Workload

21 % time spent in timetabled teaching and learning activity

Activity	Number of Hours
Scheduled Learning	250
Directed Learning	272
Private Study	678
Total Hours	1200

Balance of Assessment

Assessment Mode	Percentage
Coursework	38.5
Exam	23
In-Person	38.5

Level 6

Workload

14 % time spent in timetabled teaching and learning activity

Activity	Number of Hours
Scheduled Learning	168
Directed Learning	259
Private Study	773
Total Hours	1200

Balance of Assessment

Assessment Mode	Percentage
Coursework	54.5
Exam	9.1
In-Person	36.4