

Programme Specification

1	Awarding body	University of London
2	Teaching Institution	Birkbeck College
3	Programme Title(s)	BSc Biomedicine BSc Biomedicine with Foundation Year
4	Programme Code(s)	UUBSBIOM_C (3-year, FT, UCAS), UUBFBIOM_C (4-year, FT, with Foundation Year), UBSBIOMC_C (4-year, PT), UBSBIOMD_C (6-year, decelerated PT)
5	UCAS code (if applicable)	C900 / C190 (with Foundation Year)
6	Home Department	Biological Sciences
7	Exit Award(s)	Diploma of Higher Education (DipHE) Biomedicine; Certificate of Higher Education (CertHE) Biomedicine (exit following BSc Year 1); Certificate of Higher Education (CertHE) Foundations of Bioscience (exit following Foundation Year, Year 1); Certificate of Continuing Education (CCE)
8	Duration of Study (number of years)	BSc – 3, 4, or 6 years; DipHE – 2, 3 or 4 years; CertHE - 1 or 2 years; CCE - 1 year
9	Mode of Study	Full-time (3 year route); Full-time (Foundation Year route); Part-time (other routes)
10	Level of Award (FHEQ)	6
11	Other teaching depts or institutions	None
12	Professional, Statutory Regulatory Body (PSRB) details	Interim accreditation* from the Royal Society of Biology (confers associate membership - www.rsb.org.uk)
13	QAA Benchmark Statement	Biosciences

*Note: Accreditation awarded on 'interim' basis to be reviewed following the first cohort on the current version of the programme completing in 2022/3

14	Programme Rationale & Aims
	<p>A rational approach to the development of treatments for current and emerging threats to human well-being depends upon a sound knowledge of human health and disease. Biomedicine is at the interface between molecular, cell and integrative biology and evolving disease therapies, whilst biomedical research plays a pivotal role in the transfer of advances in basic science into effective practices that promote human health as well as into treatments for human diseases. This programme will provide students with the knowledge and skills to enable participation in the biomedical community, either professionally or personally.</p> <p>Main Aims</p> <ul style="list-style-type: none"> To develop students' understanding of the science that underpins modern medical practice, and of how this science may be applied to the investigation, diagnosis and treatment of human disease.

	<ul style="list-style-type: none"> • To produce graduates having the knowledge, analytical skills and practical skills essential for further study in relevant scientific disciplines, for graduate entry to medicine, and/or for employment in health-related fields. • To provide students currently in science-related work with additional skills and academic knowledge for career enhancement and/or vocational realignment. • To provide a progression route into HE for students via an integrated foundation year, or from access science courses. <p>Distinctive Features</p> <ul style="list-style-type: none"> • Entry permitted to students without standard educational qualifications. • Available to mature students from diverse educational and cultural backgrounds. • Evening, face-to-face study, with full-time and part-time routes. • Lectures and practical classes supported by on-line and other learning resources. • Flexible provision with a choice of 3-, 4- or 6-year pathways to the BSc. • Convenient stopping-off points providing named awards should circumstances prevent completion of the degree.
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15	<p>Entry Criteria</p> <p>Applicants to the BSc are normally expected to have gained 112 UCAS tariff points (e.g. BBC at A-Level), with a majority of science-related subjects (biology, chemistry and/or mathematics). A-levels in general studies and critical thinking are not accepted. Applicants with only two full A-levels will be considered on an individual basis. In addition, we require GCSEs in English, Mathematics, and Double Science (or two single sciences), all at grade C or better.</p> <p>We also accept: BTEC Extended Diploma in Applied Science with Distinction or Merit; Access to Higher Education Diploma with a minimum of 15 credits achieved at Merit or Distinction in science units.</p> <p>Mature applicants with experience are expected to have a strong interest in human biology. Previous personal experience of the biological, biomedical, pharmaceutical or health-science fields is desirable.</p> <p>Applicants to the BSc with Foundation Year are normally expected to have gained 64 UCAS tariff points.</p> <p>We are committed to making the biological sciences accessible to students from a wide range of backgrounds and with diverse career aspirations.</p> <ul style="list-style-type: none"> • The Certificate of Higher Education in Life Sciences for Subjects Allied to Medicine provides a direct route into Year 1 of the BSc. • Completion of an integrated Foundation Year provides a progression route into Year 1 of the full-time BSc.
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16	<p>Learning Outcomes</p> <p><i>On successful completion of this programme, you should be able to demonstrate:</i></p> <p>A. Knowledge and Understanding</p> <p>1- A sound knowledge and understanding of scientific principles essential for the investigation and understanding of human disease, acquired through study across a</p>
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range of disciplines, including: biochemistry, cell biology, chemistry, genetics, immunology, microbiology, molecular biology, physiology, and pharmacology;

- 2- a knowledge of how these disciplines may be applied toward an understanding of the molecular basis and diagnosis of human diseases, and in development of new therapeutic strategies;
- 3- subject-specific knowledge within the areas of: biochemistry and molecular biology (enzymes, metabolic systems; nucleic acid manipulation, genomics); cell biology (cell structure, cell division, differentiation; microbiology); genetics (principles of evolution; inheritance, differential gene expression); homeostasis and cell communication (feedback control and cell signalling); human systems physiology (major organ systems; immunity; aspects of disease processes); basic principles of pharmacology and drug actions.
- 4- for a range of human diseases, a critical understanding of their molecular and cellular basis, and of their diagnosis and treatment;
- 5- awareness and engagement with philosophical and ethical issues arising from some of the current developments in the biomedical sciences.

B. Intellectual Skills

- 6- Application of subject-specific knowledge and understanding in addressing and solving familiar and unfamiliar problems;
- 7- analysis, critical evaluation and synthesis of scientific evidence, concepts and principles;
- 8- an ability to formulate research questions and to test and evaluate hypotheses using principled experimental design;
- 9- development of strategies for updating, maintaining and enhancing your knowledge of the science underpinning new advances in biomedicine.

C. Practical Skills

- 10- Appreciation and application of safe working practices in a scientific laboratory;
- 11- an ability to apply relevant numerical skills, including statistical analysis, in analysing biological data;
- 12- skill in executing a range of analytical/experimental laboratory methodologies, and an understanding of the principles upon which these methodologies are based;
- 13- a critical approach in scientific enquiry through the execution and reporting of a research project.

D. Transferable Skills

- 14- Personal responsibility for your learning, and habits of reflection on that learning;
- 15- an ability to identify, retrieve (e.g. through online computer searches and other means), sort and exchange information;
- 16- skill in abstracting and synthesising information, and developing a reasoned argument;
- 17- effective written communication and oral presentation to specialist and non-specialist audiences;
- 18- use of information technology (including spreadsheets, databases, word processing, email and web-based resources);
- 19- effective interpersonal skills, including working in groups/teams and recognising and

	<p>respecting the viewpoints of others;</p> <p>20. the ability to undertake further training and develop new skills within a structured and managed environment;</p> <p>21. the ability to communicate the results of their study/work accurately and reliably, and with structured and coherent arguments.</p>
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17	<p>Learning, teaching and assessment methods</p> <p>All modules are taught by academic staff engaged with current topics in biomedicine. We provide a range of teaching approaches and learning experiences that will enable you to become a confident and autonomous learner. You will develop the skills to work either independently or within a group, as required by the task at hand.</p> <p>Our strategy across the programme is to progressively immerse and engage learners in topics and activities of increasing complexity, building subject-matter and skills foundations at each level so to provide an opportunity for success at the next level.</p> <p>The forms of assessment and the specific tasks these require give due consideration to developing and testing the relevant practical/scientific and transferable skills, and to developing your abilities and academic potential, whilst acknowledging the diverse educational backgrounds and life experiences brought by all of our students. We incorporate research-oriented activity throughout the programme, again with careful consideration of its appropriateness to subject matter and academic level.</p> <p>Classroom teaching is through combinations of lectures, laboratory sessions, computer exercises, and seminars in proportions appropriate to the academic level and the demands of the topic. Each year of the programme includes significant hands-on laboratory training, culminating in the conduct of a research project in the final year.</p> <p>For students entering via the Foundation Year route, teaching in the foundation year will be in small, interactive, tutorial style classes that support the development of knowledge, skills, confidence and self-awareness.</p> <p>Within classroom sessions, teaching and learning will be enhanced by regular formative assessment that will challenge your knowledge and understanding of topics under study. Such informal assessment may include engaging in discussions and/or solving problems in class, designing and executing your own laboratory investigations, engaging in peer assessment, and/or responding to the instructor's questioning, perhaps through an electronic voting ("clicker") system. Your learning will be supplemented and reinforced through guided independent study, undertaken outside of class; this study will be facilitated through a range of online materials delivered via our virtual learning environment (Moodle). You will receive skills training (e.g. laboratory skills, IT skills, numeracy, communications skills, etc.) throughout the programme and in-context with relevant subject matter.</p> <p>Summative assessment (used in determining module grades) in your modules may include in differing combinations: short-answer tests (in-class); computer-based tests (accessed remotely or in-class); practical reports; essays; problem-solving and data analysis assignments; oral communication and poster presentations; internet surveys; and unseen, or open-book, written examinations. The mix of assessment types, and the specific tasks required, are matched to the academic level and to the learning outcomes of the module. Each module has a syllabus (supplied to enrolled students) that provides details of the learning outcomes and assessment regime for that module.</p>
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	A departmental Teaching Committee continually reviews all learning, teaching and assessment arrangements to ensure the programme and its modules maintain coherence, currency, and operates at an appropriate standard. Such review is informed by feedback from students and from an External Examiner who visits annually to review our courses and conduct exit interviews with students.
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18	Programme Description
	<p>Students can make an application to join one of four routes to the BSc Biomedicine:</p> <ul style="list-style-type: none"> • 3-year route (full-time; by UCAS application): the programme consists of 360 credits, with 120 credits at each Level (4, 5, and 6). The alternative part-time routes are comprised of the same modules, and so carry the same credit values at each level as seen in the 3-year route. The major difference between full-time and part-time routes is the reduced annual study intensity in the latter (either 90 credits or 60 credits per year instead of 120 credits, full-time). • 4-year route (with Foundation Year) (full-time; by UCAS application): the programme consists of 480 credits, with 240 credits at Level 4, 120 credits at Level 5, and 120 credits at Level 6. The first 120 credits at Level 4 comprise the “foundation year”, and are particular to this route; the remaining 360 credits are identical to the 3-year, full-time BSc. • 4-year route (part-time; by direct application to Birkbeck): the programme consists of 360 credits. You will undertake 90 credits of study each year (<i>noting that a project module can be taken only in the final year of the programme</i>). • 6-year route (part-time, decelerated; by direct application to Birkbeck): the programme consists of 360 credits. You will undertake 60 credits of study each year (<i>noting that a project module can be taken only in the final year of the programme</i>). <p>The year-by-year module composition for each route is indicated in the tables following.</p> <p>Progression Progression from the Foundation Year to BSc Year 1 and from Level 4 to Level 5 requires passing all 120 credits at each lower year/level.</p>

19	Programme Structure			
3 YEAR FULL-TIME PROGRAMME				
Year 1 (120 credits)				
Level	Module Code	Module Title	Credits	Status*
4	SCBS064H4	Introduction to Molecular Cell Biology	15	Compulsory
4	SCBS065H4	Practical Skills for the Biosciences	15	Compulsory
4	SCBS066H4	General Chemistry	15	Compulsory
4	SCBS067H4	Cell Membranes and Bioenergetics	15	Compulsory
4	SCBS068H4	Quantitative Skills and Experimental Design	15	Compulsory
4	SCBS069H4	Organic and Biological Chemistry	15	Compulsory
4	SCBS070H4	Introduction to Nutrition and Metabolism	15	Compulsory
4	SCBS071H4	Laboratory Skills in Biochemistry	15	Compulsory

Year 2 (120 credits)				
Level	Module Code	Module Title	Credits	Status*
5	SCBS072H5	Research Methods in the Biosciences	15	Compulsory
5	SCBS073H5	Evolution and Genetics	15	Compulsory
5	SCBS074H5	Metabolic Challenges in Health and Disease	15	Compulsory
5	SCBS075H5	Medical Microbiology and Immunology	15	Compulsory
5	SCBS076H5	Aspects of Human Physiology	15	Compulsory
5	SCBS077H5	Molecular Biology	15	Compulsory
5	SCBS078H5	Protein Structure and Function	15	Compulsory
5	SCBS079H5	Drugs and Drug Discovery	15	Compulsory
Year 3 (120 credits)				
Level	Module Code	Module Title	Credits	Status*
6	BCBC006S6	Advanced Cell Biology	30	Compulsory
6	SCBS080H6	Infectious Bacteria and Antibiotics	15	Compulsory
6	SCBS081H6	Advanced Topics in Human Disease	15	Compulsory
6	SCBS036D6	Specialist Laboratory Research Project	60	Core
<p>Regarding the Final-Year Research Project. All students must undertake a Level 6 research project module in the final year. As well as evening attendance throughout the academic year, SLRP includes required attendance at a 1-week, daytime, pre-term “boot camp”, normally in September.</p>				
4 YEAR FULL-TIME PROGRAMME, WITH FOUNDATION YEAR				
Foundation Year (120 credits)				
Level	Module Code	Module Title	Credits	Status
4	FFSC011H4	Biology: Part 1 of 3	15	Compulsory
4	FFSC021H4	Biology: Part 2 of 3	15	Compulsory
4	FFSC031H4	Biology: Part 3 of 3	15	Compulsory
4	FFSC012H4	Chemistry: Part 1 of 3	15	Compulsory
4	FFSC022H4	Chemistry: Part 2 of 3	15	Compulsory
4	FFSC032H4	Chemistry: Part 3 of 3	15	Compulsory
4	FFSC200H4	Study and Research Skills for Science and Maths (LS)	15	Compulsory
4	SCBS049H4	Mathematics for Science	15	Compulsory
Year 1 (120 credits)				
Level	Module Code	Module Title	Credits	Status*
4	SCBS064H4	Introduction to Molecular Cell Biology	15	Compulsory
4	SCBS065H4	Practical Skills for the Biosciences	15	Compulsory
4	SCBS066H4	General Chemistry	15	Compulsory
4	SCBS067H4	Cell Membranes and Bioenergetics	15	Compulsory
4	SCBS068H4	Quantitative Skills and Experimental Design	15	Compulsory

4	SCBS069H4	Organic and Biological Chemistry	15	Compulsory
4	SCBS070H4	Introduction to Nutrition and Metabolism	15	Compulsory
4	SCBS071H4	Laboratory Skills in Biochemistry	15	Compulsory

Year 2 (120 credits)

Level	Module Code	Module Title	Credits	Status*
5	SCBS072H5	Research Methods in the Biosciences	15	Compulsory
5	SCBS073H5	Evolution and Genetics	15	Compulsory
5	SCBS074H5	Metabolic Challenges in Health and Disease	15	Compulsory
5	SCBS075H5	Medical Microbiology and Immunology	15	Compulsory
5	SCBS076H5	Aspects of Human Physiology	15	Compulsory
5	SCBS077H5	Molecular Biology	15	Compulsory
5	SCBS078H5	Protein Structure and Function	15	Compulsory
5	SCBS079H5	Drugs and Drug Discovery	15	Compulsory

Year 3 (120 credits)

Level	Module Code	Module Title	Credits	Status*
6	BCBC006S6	Advanced Cell Biology	30	Compulsory
6	SCBS080H6	Infectious Bacteria and Antibiotics	15	Compulsory
6	SCBS081H6	Advanced Topics in Human Disease	15	Compulsory
6	SCBS036D6	Specialist Laboratory Research Project	60	Core

Regarding the Final-Year Research Project. All students must undertake a Level 6 research project module in the final year. As well as evening attendance throughout the academic year, SLRP includes required attendance at a 1-week, daytime, pre-term “boot camp”, normally in September.

4 YEAR PART-TIME PROGRAMME

Year 1 (90 credits)

Level	Module Code	Module Title	Credits	Status*
4	SCBS064H4	Introduction to Molecular Cell Biology	15	Compulsory
4	SCBS065H4	Practical Skills for the Biosciences	15	Compulsory
4	SCBS067H4	Cell Membranes and Bioenergetics	15	Compulsory
4	SCBS068H4	Quantitative Skills and Experimental Design	15	Compulsory
4	SCBS070H4	Introduction to Nutrition and Metabolism	15	Compulsory
4	SCBS071H4	Laboratory Skills in Biochemistry	15	Compulsory

Year 2 (90 credits)

Level	Module Code	Module Title	Credits	Status*
5	SCBS073H5	Evolution and Genetics	15	Compulsory
5	SCBS074H5	Metabolic Challenges in Health and Disease	15	Compulsory
4	SCBS066H4	General Chemistry	15	Compulsory
5	SCBS076H5	Aspects of Human Physiology	15	Compulsory
5	SCBS077H5	Molecular Biology	15	Compulsory
4	SCBS069H4	Organic and Biological Chemistry	15	Compulsory

Year 3 (90 credits)				
Level	Module Code	Module Title	Credits	Status*
5	SCBS072H5	Research Methods in the Biosciences	15	Compulsory
6	BCBC006S6	Advanced Cell Biology	30	Compulsory
5	SCBS075H5	Medical Microbiology and Immunology	15	Compulsory
5	SCBS078H5	Protein Structure and Function	15	Compulsory
5	SCBS079H5	Drugs and Drug Discovery	15	Compulsory
Year 4 (60 credits)				
Level	Module Code	Module Title	Credits	Status*
6	SCBS036D6	Specialist Laboratory Research Project	60	Core
6	SCBS080H6	Infectious Bacteria and Antibiotics	15	Compulsory
6	SCBS081H6	Advanced Topics in Human Disease	15	Compulsory
<p>Regarding the Final-Year Research Project. All students must undertake a Level 6 research project module in the final year. As well as evening attendance throughout the academic year, SLRP includes required attendance at a 1-week, daytime, pre-term “boot camp”, normally in September.</p>				
6 YEAR PART-TIME (DECELERATED) PROGRAMME				
Year 1 (60 credits)				
Level	Module Code	Module Title	Credits	Status*
4	SCBS064H4	Introduction to Molecular Cell Biology	15	Compulsory
4	SCBS066H4	General Chemistry	15	Compulsory
4	SCBS067H4	Cell Membranes and Bioenergetics	15	Compulsory
4	SCBS069H4	Organic and Biological Chemistry	15	Compulsory
Year 2 (60 credits)				
Level	Module Code	Module Title	Credits	Status*
4	SCBS065H4	Practical Skills for the Biosciences	15	Compulsory
4	SCBS068H4	Quantitative Skills and Experimental Design	15	Compulsory
4	SCBS070H4	Introduction to Nutrition and Metabolism	15	Compulsory
4	SCBS071H4	Laboratory Skills in Biochemistry	15	Compulsory
Year 3 (60 credits)				
Level	Module Code	Module Title	Credits	Status*
5	SCBS073H5	Evolution and Genetics	15	Compulsory
5	SCBS074H5	Metabolic Challenges in Health and Disease	15	Compulsory
5	SCBS077H5	Molecular Biology	15	Compulsory
5	SCBS078H5	Protein Structure and Function	15	Compulsory
Year 4 (60 credits)				
Level	Module Code	Module Title	Credits	Status
5	SCBS072H5	Research Methods in the Biosciences	15	Compulsory
5	SCBS075H5	Medical Microbiology and Immunology	15	Compulsory
5	SCBS076H5	Aspects of Human Physiology	15	Compulsory
5	SCBS079H5	Drugs and Drug Discovery	15	Compulsory

Year 5 (60 credits)				
Level	Module Code	Module Title	Credits	Status*
6	BCBC006S6	Advanced Cell Biology	30	Compulsory
6	SCBS080H6	Infectious Bacteria and Antibiotics	15	Compulsory
6	SCBS081H6	Advanced Topics in Human Disease	15	Compulsory
Year 6 (60 credits)				
Level	Module Code	Module Title	Credits	Status
6	SCBS036D6	Specialist Laboratory Research Project	60	Core
<p>Regarding the Final-Year Research Project. All students must undertake a Level 6 research project module in the final year. As well as evening attendance throughout the academic year, SLRP includes required attendance at a 1-week, daytime, pre-term “boot camp”, normally in September.</p>				

Status*

CORE – Module must be taken and passed by student; COMPULSORY – Module must be taken, mark can be reviewed at sub-exam board; OPTIONAL – Student can choose to take this module

24	Programme Director	Dr Richard Rayne
25	Start Date (<i>term/year</i>)	Prior to 2008/9
26	Date approved by TQEC	Prior to 2008/9
27	Date approved by Academic Board	Prior to 2008/9
28	Date(s) updated/amended	29 July 2022 (change in SLRP status)