

PROGRAMME SPECIFICATION

Name, title, and level of final qualification(s)	BSc Biomedicine (Level 6)
Name and title of interim exit qualification(s)	Diploma of Higher Education (Dip HE) Biomedicine Certificate of Higher Education (Cert HE) Biomedicine (exit following BSc Year 1) Certificate of Higher Education (Cert HE) Foundations of Bioscience (exit following Foundation Year, Year 1) Certificate of Continuing Education (CCE)
Is this programme offered with a Foundation Year	Yes
Awarding Body	University of London
Teaching Institution(s)	Birkbeck, University of London
Home School/other teaching departments	School of Natural Sciences
Location of delivery	Central London
Language of delivery and assessment	English
Mode of study, length of study and normal start month	Full-time (3 years); Part-time (4 years); Decelerated (6 years) Full-time with Foundation Year (4 years), All September starts
Professional, statutory or regulatory body	Royal Society of Biology (Interim accreditation status, pending review at summer 2023)
QAA subject benchmark group(s) Higher Education Credit Framework for England	Biosciences
UCAS code	C900 ; C190 (with FY)
Birkbeck Course Code	UUBSBIOM_C (3 years full-time) UUBFBIOM_C (4 years full-time with FY) UBSBIOMC_C (4 years part-time) UBSBIOMD_C (6 years part-time)
HECoS Code	100345, 100265
Start date of programme	Prior to 2008/9
Date of programme approval	Prior to 2008/9
Date of last programme amendment approval	November 2022
Valid for academic entry year	2023-24
Programme Director	TBC
Date of last revision to document	20/02/2024

Admissions requirements

We welcome applicants without traditional entry qualifications as we base decisions on our own assessment of qualifications, knowledge, and previous work experience. Applicants to the BSc are normally expected to have gained 96-120 UCAS tariff points (CCC-BBB 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.

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.

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.

Applicants to the BSc with Foundation Year are normally expected to have gained 48 UCAS tariff points.

We are committed to making the biological sciences accessible to students from a wide range of backgrounds and with diverse career aspirations.

- 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.

UCAS tariff: 96-120 points (For the with Foundation Year, 48 with some evidence of study in a science-related subject.)

The UCAS tariff score is applicable to you if you have recently studied a qualification that has a UCAS tariff equivalence. UCAS provides a [tariff calculator](#) for you to work out what your qualification is worth within the UCAS tariff.

Course aims

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 you with the knowledge and skills to enable participation in the biomedical community, either professionally or personally.

Main Aims

- 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.

- To encourage and develop students' abilities to apply their critical thinking in creative ways that supports innovation in their chosen scientific field and/or in the workplace.
- 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.

Distinctive Features

- Accredited by the Royal Society of Biology (RSB) [currently with Interim accreditation status, pending review at summer 2023]
- A choice of afternoon or evening attendance, with delivery via a combination of face-to-face and online learning sessions.
- Laboratory practical skills emphasised at all levels of the curriculum.
- All modules are compulsory for all modes of study, ensuring coherence and continuity from Level 4 through Level 6.
- Full-time and Part-time routes share identical curricula: only the pace of study differs.

Course structure

Level	Module Code	Module Title	Credit	Status	Teaching term(s)
Full-time – 3 years					
Year 1 [120 credits]					
4	SCBS064H4	Introduction to Molecular Cell Biology	15	Comp	T1
4	SCBS065H4	Practical Skills for the Biosciences	15	Comp	T1
4	SCBS066H4	General Chemistry	15	Comp	T2
4	SCBS067H4	Cell Membranes and Bioenergetics	15	Comp	T2
4	SCBS068H4	Quantitative Skills and Experimental Design	15	Comp	T2
4	SCBS069H4	Organic and Biological Chemistry	15	Comp	T3
4	SCBS070H4	Introduction to Nutrition and Metabolism	15	Comp	T3
4	SCBS071H4	Laboratory Skills in Biochemistry	15	Comp	T3

Year 2 [120 credits]					
5	SCBS072H5	Research Methods in the Biosciences	15	Comp	T1
5	SCBS073H5	Evolution and Genetics	15	Comp	T1
5	SCBS074H5	Metabolic Challenges in Health and Disease	15	Comp	T1
5	SCBS076H5	Aspects of Human Physiology	15	Comp	T2
5	SCBS077H5	Molecular Biology	15	Comp	T2
5	SCBS075H5	Medical Microbiology and Immunology	15	Comp	T3
5	SCBS078H5	Protein Structure and Function	15	Comp	T3
5	SCBS079H5	Drugs and Drug Discovery	15	Comp	T3
Year 3 [120 credits]					
6	SCBS036D6	Specialist Laboratory Research Project	60	Core	T1+T2+T3
6	BCBC006S6	Advanced Cell Biology	30	Comp	T1+T2
6	SCBS080H6	Infectious Bacteria and Antibiotics	15	Comp	T1
6	SCBS081H6	Advanced Topics in Human Disease	15	Comp	T2
<p>Regarding the Final-Year Research Project</p> <p>In the final year (only), all students must undertake a Level 6 research project module. As well as evening attendance throughout the academic year, SLRP (SCBS036D6) includes required attendance for 5 consecutive weekdays, during the daytime, at a pre-term “boot camp”, normally in September.</p>					
Full-Time with Foundation Year - 4 years					
Foundation Year (Year 0) [120 credits]					
4	FFSC011H4	Biology: Part 1 of 3	15	Core	T1
4	FFSC021H4	Biology: Part 2 of 3	15	Core	T2
4	FFSC031H4	Biology: Part 3 of 3	15	Core	T3
4	FFSC012H4	Chemistry: Part 1 of 3	15	Core	T1
4	FFSC022H4	Chemistry: Part 2 of 3	15	Core	T2
4	FFSC032H4	Chemistry: Part 3 of 3	15	Core	T3
4	FFSC200H4	Study and Research Skills for Science and Maths (LS)	15	Core	T1+T2+T3
4	SCBS049H4	Mathematics for Science	15	Core	T1

Year 1 [120 credits]					
4	SCBS064H4	Introduction to Molecular Cell Biology	15	Comp	T1
4	SCBS065H4	Practical Skills for the Biosciences	15	Comp	T1
4	SCBS066H4	General Chemistry	15	Comp	T2
4	SCBS067H4	Cell Membranes and Bioenergetics	15	Comp	T2
4	SCBS068H4	Quantitative Skills and Experimental Design	15	Comp	T2
4	SCBS069H4	Organic and Biological Chemistry	15	Comp	T3
4	SCBS070H4	Introduction to Nutrition and Metabolism	15	Comp	T3
4	SCBS071H4	Laboratory Skills in Biochemistry	15	Comp	T3
Year 2 [120 credits]					
5	SCBS072H5	Research Methods in the Biosciences	15	Comp	T1
5	SCBS073H5	Evolution and Genetics	15	Comp	T1
5	SCBS074H5	Metabolic Challenges in Health and Disease	15	Comp	T1
5	SCBS076H5	Aspects of Human Physiology	15	Comp	T2
5	SCBS077H5	Molecular Biology	15	Comp	T2
5	SCBS075H5	Medical Microbiology and Immunology	15	Comp	T3
5	SCBS078H5	Protein Structure and Function	15	Comp	T3
5	SCBS079H5	Drugs and Drug Discovery	15	Comp	T3
Year 3 [120 credits]					
6	SCBS036D6	Specialist Laboratory Research Project	60	Core	T1+T2+T3
6	BCBC006S6	Advanced Cell Biology	30	Comp	T1+T2
6	SCBS080H6	Infectious Bacteria and Antibiotics	15	Comp	T1
6	SCBS081H6	Advanced Topics in Human Disease	15	Comp	T2

Regarding the Final-Year Research Project

In the final year (only), all students must undertake a Level 6 research project module. As well as evening attendance throughout the academic year, SLRP (SCBS036D6) includes required attendance for 5 consecutive weekdays, during the daytime, at a pre-term “boot camp”, normally in September.

Part-Time – 4 years

Year 1 [90 credits]

4	SCBS064H4	Introduction to Molecular Cell Biology	15	Comp	T1
4	SCBS065H4	Practical Skills for the Biosciences	15	Comp	T1
4	SCBS067H4	Cell Membranes and Bioenergetics	15	Comp	T2
4	SCBS068H4	Quantitative Skills and Experimental Design	15	Comp	T2
4	SCBS070H4	Introduction to Nutrition and Metabolism	15	Comp	T3
4	SCBS071H4	Laboratory Skills in Biochemistry	15	Comp	T3

Year 2 [90 credits]

5	SCBS073H5	Evolution and Genetics	15	Comp	T1
5	SCBS074H5	Metabolic Challenges in Health and Disease	15	Comp	T1
4	SCBS066H4	General Chemistry	15	Comp	T2
5	SCBS077H5	Molecular Biology	15	Comp	T2
5	SCBS075H5	Medical Microbiology and Immunology	15	Comp	T3
4	SCBS069H4	Organic and Biological Chemistry	15	Comp	T3

Year 3 [90 credits]

5	SCBS072H5	Research Methods in the Biosciences	15	Comp	T1 (Mo)
6	BCBC006S6	Advanced Cell Biology	30	Comp	T1+T2 (Tu)
5	SCBS076H5	Aspects of Human Physiology	15	Comp	T2 (We)
5	SCBS078H5	Protein Structure and Function	15	Comp	T3 (Tu)
5	SCBS079H5	Drugs and Drug Discovery	15	Comp	T3 (We)

Year 4 [90 credits]					
6	SCBS036D6	Specialist Laboratory Research Project	60	Core	T1+T2+T3
6	SCBS080H6	Infectious Bacteria and Antibiotics	15	Comp	T1
6	SCBS081H6	Advanced Topics in Human Disease	15	Comp	T2
<p>Regarding the Final-Year Research Project</p> <p>In the final year (only), all students must undertake a Level 6 research project module. As well as evening attendance throughout the academic year, SLRP (SCBS036D6) includes required attendance for 5 consecutive weekdays, during the daytime, at a pre-term “boot camp”, normally in September.</p>					
Part-time - 6-Years Decelerated					
Year 1 [60 credits]					
4	SCBS064H4	Introduction to Molecular Cell Biology	15	Comp	T1
4	SCBS066H4	General Chemistry	15	Comp	T2
4	SCBS067H4	Cell Membranes and Bioenergetics	15	Comp	T2
4	SCBS069H4	Organic and Biological Chemistry	15	Comp	T3
Year 2 [60 credits]					
4	SCBS065H4	Practical Skills for the Biosciences	15	Comp	T1
4	SCBS068H4	Quantitative Skills and Experimental Design	15	Comp	T2
4	SCBS070H4	Introduction to Nutrition and Metabolism	15	Comp	T3
4	SCBS071H4	Laboratory Skills in Biochemistry	15	Comp	T3
Year 3 [60 credits]					
5	SCBS073H5	Evolution and Genetics	15	Comp	T1
5	SCBS074H5	Metabolic Challenges in Health and Disease	15	Comp	T1
5	SCBS077H5	Molecular Biology	15	Comp	T2
5	SCBS078H5	Protein Structure and Function	15	Comp	T3

Year 4 [60 credits]					
5	SCBS072H5	Research Methods in the Biosciences	15	Comp	T1
5	SCBS076H5	Aspects of Human Physiology	15	Comp	T2
5	SCBS075H5	Medical Microbiology and Immunology	15	Comp	T3
5	SCBS079H5	Drugs and Drug Discovery	15	Comp	T3
Year 5 [60 credits]					
6	BCBC006S6	Advanced Cell Biology	30	Comp	T1+T2
6	SCBS080H6	Infectious Bacteria and Antibiotics	15	Comp	T1
6	SCBS081H6	Advanced Topics in Human Disease	15	Comp	T2
Year 6 [60 credits]					
6	SCBS036D6	Specialist Laboratory Research Project	60	Core	T1+T2+T3
<p>Regarding the Final-Year Research Project</p> <p>In the final year (only), all students must undertake a Level 6 research project module. As well as evening attendance throughout the academic year, SLRP (SCBS036D6) includes required attendance for 5 consecutive weekdays, during the daytime, at a pre-term “boot camp”, normally in September.</p>					

Core: Module must be taken and passed by student

Compulsory: Module must be taken but can be considered for compensated credit (see CAS regulations paragraph 24)

Option: Student can choose to take this module

How you will learn

Your learning and teaching is organised to help you meet the learning outcomes (below) of the course. As a student, we expect you to be an active learner and to take responsibility for your learning, engaging with all of the material and sessions arranged for you.

The course is divided into modules. You will find information on the virtual learning site (Moodle; see Academic Support, below) about each of your modules, what to expect, the work you need to prepare, links to reading lists, information about how and when you will be assessed.

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.

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.

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. Core technical laboratory skills will be assessed through appropriate mixes of formative and summative tasks, providing certifications of basic competence that must be met to pass lab-based modules.

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.

Classroom teaching is through combinations of live and pre-recorded lectures, live interactive sessions, 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.

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.

How we will assess you

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 in some manner to the instructor's questioning. 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).

Summative assessment (used in determining module grades) in your modules may include, in differing combinations: short-answer tests (during in-person sessions); computer-based tests (accessed remotely or during in-person sessions); practical reports; essays; problem-solving and data analysis assignments; oral communication and poster presentations; internet surveys; and unseen, or open-book, written examinations (conducted either online or in-person). 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, via Moodle) that provides details of the learning outcomes and assessment regime for that module.

A departmental Teaching Committee continually reviews all learning, teaching, and assessment arrangements to ensure that the programme and its modules maintain coherence and currency, and that everything 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.

Learning outcomes (what you can expect to achieve)

“Learning outcomes” indicate what you should be able to know or do at the end of your course. Considering them will help you to understand what your teachers will expect and also the learning requirements upon which you will be assessed.

On successful completion of this programme, you should be able to demonstrate:

A. Knowledge and Understanding

- 1- A sound knowledge and understanding of scientific principles essential for the investigation and understanding of human disease, acquired through study across a 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 respecting the viewpoints of others;
- 20- the ability to undertake further training and develop new skills within a structured and managed environment;
- 21- the ability to communicate the results of their study/work accurately and reliably, and with structured and coherent arguments.

Careers and further study

You will find Biomedicine graduates in the following kinds of roles:

- Pharmaceutical and biotechnology companies
- NHS laboratory analysts
- Civil service
- Biosciences academic research

Birkbeck's BSc Biomedicine graduates will complete with a set of valuable attributes and skills, for example:

- Analysis, critical evaluation and synthesis of evidence, concepts and principles
- Data analysis and problem solving
- Practical laboratory skills
- High-level oral and written communication skills in English
- Research skills

Birkbeck offers a range of careers support to its students. You can find out more on [the careers pages of our website](#).

Academic regulations and course management

Birkbeck's academic regulations are contained in its [Common Award Scheme Regulations](#) and Policies published by year of application on the Birkbeck website.

You will have access to a course handbook on Moodle and this will outline how your course is managed, including who to contact if you have any questions about your module or course.

Please note that your laboratory-based modules include a "practical competence" mark (pass or fail). These modules cannot be passed unless that practical competence is demonstrated in-person, which means we have a strict, 100% lab attendance policy in such modules. This assessment component and the attendance policy arising are conditions of our Royal Society of Biology (RSB) accreditation.

Support for your study

Your learning at Birkbeck is supported by your teaching team and other resources and people in the College there to help you with your study. Birkbeck uses a virtual learning environment called Moodle and each course has a dedicated Moodle page and there are further Moodle sites for each of your modules. This will include your course handbook.

Birkbeck will introduce you to the Library and IT support, how to access materials online, including using Moodle, and provide you with an orientation which includes an online Moodle module to guide you through all of the support available. You will also be allocated a personal tutor and provided with information about learning support offered within your School and by the College.

[Please check our website for more information about student support services.](#) This covers the whole of your time as a student with us including learning support and support for your wellbeing.

Quality and standards at Birkbeck

Birkbeck's courses are subject to our quality assurance procedures. This means that new courses must follow our design principles and meet the requirements of our academic regulations. Each new course or module is subject to a course approval process where the proposal is scrutinised by subject specialists, quality professionals and external representatives to ensure that it will offer an excellent student experience and meet the expectation of regulatory and other professional bodies.

You will be invited to participate in an online survey for each module you take. We take these surveys seriously and they are considered by the course team to develop both modules and the overall courses. Please take the time to complete any surveys you are sent as a student.

We conduct an annual process of reviewing our portfolio of courses which analyses student achievement, equality data and includes an action plan for each department to identify ongoing enhancements to our education, including changes made as a result of student feedback.

Our periodic review process is a regular check (usually every four years) on the courses by department with a specialist team including students.

Each course will have an external examiner associated with it who produces an annual report and any recommendations. Students can read the most recent external examiner reports on the course Moodle pages. Our courses are all subject to Birkbeck Baseline Standards for our Moodle module information. This supports the accessibility of our education including expectations of what information is provided online for students.

The information in this programme specification has been approved by the College's Academic Board and every effort has been made to ensure the accuracy of the information it contains.

Programme specifications are reviewed periodically. If any changes are made to courses, including core and/or compulsory modules, the relevant department is required to provide a revised programme specification. Students will be notified of any changes via Moodle.

Further information about specifications and an archive of programme specifications for the College's courses is [available online](#).

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