

PROGRAMME SPECIFICATION

Name, title and level of final qualification(s)	PG Cert Structural Molecular Biology (Level 7)
Name and title of any exit qualification(s)	N/A
Awarding Body	University of London
Teaching Institution(s)	Birkbeck, University of London
Home School/other teaching departments	School of Natural Sciences
Location of delivery	Online
Language of delivery and assessment	English
Mode of study, length of study and normal start month	Part-time (1 or 2 years) October
Professional, statutory or regulatory body	Not applicable
QAA subject benchmark group(s) Higher Education Credit Framework for England	Biosciences
Birkbeck Course Code	TPCBISCL_C (1 year) TPCBISC2_C (2 years)
HECoS Code	100354
Start date of programme	1996/7
Date of programme approval	1996
Date of last programme amendment approval	November 2022
Valid for academic year and cohort	2023-2024
Programme Director	TBC
Date of last revision to document	23 November 2022

Admissions requirements

A second-class honours degree (2:2) or above in a scientific subject, mathematics or computing. Less qualified students may be accepted if they have appropriate work experience.

Applications are reviewed on their individual merits and your professional qualifications and/or relevant work experience will be taken into consideration positively. We actively support and encourage applications from mature learners.

Course aims

Structural biology allows students to understand how macromolecules work at the atomic level of detail. This is important particularly in designing drugs which act at the molecular level to affect macromolecules.

This postgraduate programme provides has been designed for scientists wishing to update their knowledge, or as part of the background studies of research students, particularly those whose undergraduate studies were in a different area.

Distinctive Features:

- An innovative course taught entirely using the internet. You study part-time in your own time, wherever you are in the world. Many of our students have full-time jobs or extensive family responsibilities.
- Taught within the Department of Biological Sciences which, with University College London, is part of the leading research-based Institute of Structural and Molecular Biology. Several of the department's world-class researchers contribute to the course.
- May be taken as a stand-alone certificate course or as part of the MSc in Structural Molecular Biology (do note: the MSc involves some in-person attendance in lab-based modules).

The key aims are to provide:

- An understanding of the science underlying key areas of structural molecular biology and its practical applications.
- Skills training in the analysis, manipulation and presentation of complex sets of data.
- Training in the use of a range of on-line databases to retrieve information on biological molecules and materials, and software packages to analyse nucleic acid and protein datasets and structures.
- Practice in the written and oral presentation of information.
- A critical and professional approach to quality in structural biology.

Course structure

Level	Module Code	Module Title	Credit	Status	Teaching term(s)
Part-time – 1 year					
7	SCBS095S7	Molecular Basis of Life	30	Comp	T1
7	SCBS092S7	Molecular and Cellular Structure Determination	30	Comp	T2
Part-time – 2 years					
Year 1					
7	SCBS095S7	Molecular Basis of Life	30	Comp	T1
Year 2					
7	SCBS092S7	Molecular and Cellular Structure Determination	30	Comp	T2

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.

Each 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.

Your learning for this course will be organised around the activities outlined below.

Teaching on this course is a combination pre-recorded and live-online lectures, interactive online seminars, and online problem-solving classes. Lectures are designed to provide you with an outline or overview of the topic, to engage you with the material and direct you to other resources. They are a springboard for your own learning. You will then put this into practice in

How we will assess you

The course will use a variety of assessment methods. Assessment is used to enhance your learning rather than simply to test it. For most of the modules associated with this course, your assessment will be through the following types of assessment.

Quizzes and short written exercises will be used to test and develop your knowledge accompanied by longer reports. There will also be assignments, software based “practicals” and online oral/poster presentations.

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. Providing them helps 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 a student will be expected to be able to:

- 1) Demonstrate a sound knowledge and understanding of the science underlying key areas of structural molecular biology and its practical applications
- 2) Apply skills to practical problems and, where appropriate develop new skills.
- 3) Perform appropriate calculations required for the interpretation and analysis of scientific data
- 4) Evaluate recent advances in the field of study.
- 5) Access, retrieve and evaluate data from a variety of subject-specific and more generic databases and information sources.
- 6) Use molecular visualisation and sequence analysis tools.
- 7) Critically assess current literature in the discipline.
- 8) Formulate a research or method development plan and carry out the appropriate literature and data searches.
- 12) Select the most appropriate structural method.
- 13) Show critical reasoning.
- 14) Solve problems.
- 15) Formulate and test hypotheses.
- 16) Show independent reasoning and defense of ideas.
- 17) Use a wide range of different forms of IT confidently.
- 18) Manage time efficiently to balance the different aspects of the programme.
- 21) Present and communicate material and ideas clearly, knowledgably and in an engaging manner in both written and oral formats.
- 22) Learn independently.
- 23) Show a professionalism in your approach to structural molecular biology work

Careers and further study

You will find Structural Molecular Biology graduates in the following kinds of roles:

- Research, testing, product development and quality assurance laboratories within universities and industry setting.
- Healthcare sector in variety of roles
- Education (teaching and related roles)
- PhD programmes

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.

Information such as how your programme is managed, the programme structure, who to contact if you have any questions about your modules or programme will be available on Moodle in the Programme's Key Information Section.

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.

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](#).

Copyright, Birkbeck, University of London 2022 ©