

PROGRAMME SPECIFICATION

Name, title and level of final qualification(s)	MSc Analytical Chemistry PG Diploma Analytical Chemistry (Level 7)
Name and title of any exit qualification(s)	Postgraduate Diploma Analytical Chemistry Postgraduate Certificate Aspects of Analytical Chemistry MSc Biological Sciences (180 credits at L7 from the Department that would not otherwise lead to a named MSc).
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: 1 year Part-time: 2 years September start
Professional, statutory or regulatory body	Not applicable
QAA subject benchmark group(s) Higher Education Credit Framework for England	Chemistry
Birkbeck Course Code	TMSCHANL_C MSc Analytical Chemistry TPDCHANL_C PG Dip Analytical Chemistry
HECoS Code	100313
Start date of programme	Pre-1987
Date of programme approval	Pre-1987
Date of last programme amendment approval	November 2022
Valid for academic entry year	2024-25
Date of last revision to document	30/08/2022

Admissions requirements

A second-class honours degree (2:2) or above in a scientific subject. Less qualified students may be accepted if they have appropriate work experience or complete a pre-enrolment assessment to the required standard.

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

The overall aim of the programmes (MSc and PG Dip) is to provide the training and education in analytical science and technology required for the graduate chemist to reach high professional level in the practice of analytical chemistry. This includes training in the essential tools of analytical science, their appropriate application and an understanding of the broader professional issues involved in practicing analytical chemistry in a professional environment.

The programmes combine face-to-face teaching with practical training and a research project in a flexible modular format. Progression from postgraduate diploma to MSc is by completion of the requisite modules. Students on the Postgraduate Diploma programme take any 120 credits from the 180 offered for the full MSc. The programme's blended learning model makes it very flexible in terms of attendance whilst offering plenty of hands-on experience in our teaching and world-class research labs.

The key aims are to provide:

- An understanding of the science underlying key areas of analytical science and their practical applications.
- An in-depth understanding in specialised areas in the discipline including biochemical, environmental and material analysis.
- Practice with chemical manipulations and instrumentation.
- Practice in the visual and statistical analysis of data.
- Practice in the written and oral presentation of information.
- Use of computers in searching for information, in the analysis of data, and preparation of reports.
- A critical and professional approach to quality in analytical science.

Course structure

Level	Module Code	Module Title	Credit	Status	Teaching term(s)
Full-time - 1 year					
7	SCBS098S7	Spectroscopy	30	Comp	T1
7	SCBS089S7	Research Skills and Statistics	30	Comp	T1
7	SCBS090S7	Biochemical Analysis	30	Comp	T2
7	SCBS094S7	Advanced and Applied Analytical Techniques	30	Comp	T2
7	SCBS097D7	Research Project	60	Core	T3
Part-time - 2 years					
Year 1					
7	SCBS089S7	Research Skills and Statistics	30	Comp	T1
7	SCBS090S7	Biochemical Analysis	30	Comp	T2
Year 2					
7	SCBS098S7	Spectroscopy	30	Comp	T1
7	SCBS094S7	Advanced and Applied Analytical Techniques	30	Comp	T2
7	SCBS097D7	Research Project	60	Core	T3
Although the Research Project module does not appear officially until Year 2, part-time students are expected to select their project and undertake some activities toward it in Year 1. The majority of that activity is likely to be confined to Term 3.					

Note: students on the PG Diploma taken any 120 credits from the 180 credits offered on the full MSc programme.

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 of lectures, both live and pre-recorded, interactive seminars, problem classes, taught laboratory and computer-based practicals and activities in

research laboratories. 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 the problem and practical based classes.

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.

Initially quizzes and short written exercises to test and develop your knowledge and understanding. Longer reports based on practical activities you have completed to show your own interpretation of data, a substantial written project report. Oral and 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:

Subject specific learning outcomes:

- 1) Demonstrate a sound knowledge and understanding of the science underlying the key areas of analytical methodology and its practical applications.
- 2) Show a critical understanding of recent advances in their field of study.
- 3) Critically assess current literature in the discipline.
- 4) Formulate a research or method development plan and carry out the appropriate literature and data searches.
- 5) Demonstrate a critical and professional approach to quality of analysis.

Intellectual learning outcomes:

- 6) Select the most appropriate analytical method.
- 7) Analyse a wide range of data types.
- 8) Show critical reasoning.
- 9) Gather and evaluate information.
- 10) Solve problems.
- 11) Formulate and test basic hypotheses.
- 12) Show independent reasoning and defense of ideas.

Practical learning outcomes:

- 13) Carry out chemical manipulations and operate advanced analytical equipment.

- 14) Work safely and efficiently in a laboratory carrying out risk assessments where appropriate.
- 15) Access a variety of subject-specific and more generic databases and information sources.
- 16) Use molecular visualisation tools.
- 17) Apply skills to practical problems and, where appropriate develop new skills.
- 18) Use different forms of IT confidently.

Personal and social learning outcomes:

- 19) Work as part of a team both in person and via virtual interaction.
- 20) Manage time efficiently to balance the face-to-face and distance learning aspects of the programme.
- 21) Present and communicate material and ideas in both written (including electronic communication) and oral formats.
- 22) Learn independently.
- 23) Show a professionalism in analytical science.

Careers and further study

You will find Analytical Chemistry graduates in the following kinds of roles:

- Research, testing, product development and quality assurance laboratories within universities and industry setting.
- Environmental and Cultural (conservation) sectors
- 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.

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.

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. 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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