



1. Programme Title(s) and Code(s):

<i>Programme Title</i>	<i>UCAS Code</i>	<i>GU Code</i>
BSc Honours in Molecular & Cellular Biology (with Biotechnology)	C110	C143-2105

2. Academic Session:

2018-19

3. SCQF Level (see [Scottish Credit and Qualifications Framework Levels](#)):

10

4. Credits:

480

5. Entrance Requirements:

Please refer to the current undergraduate prospectus at: <http://www.gla.ac.uk/undergraduate/>

6. ATAS Certificate Requirement (see [Academic Technology Approval Scheme](#)):

ATAS Certificate not required

7. Attendance Type:

Full Time

8. Programme Aims:

Powerful technologies are revolutionising biology today. The ability to manipulate genes as molecules has allowed reading of the DNA sequences of many entire organisms, including our own human genome. The availability of three-dimensional structures of numerous proteins is accompanied by methods for visualising specific proteins within living cells. The methods and knowledge arising from these advances are common to many subject areas within biology. They form the core of the Honours programme in **Molecular & Cellular**

¹ This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if full advantage is taken of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of each course can be found in course handbooks and other programme documentation and online at www.gla.ac.uk/

The accuracy of the information in this document is reviewed periodically by the University and may be checked by the Quality Assurance Agency for Higher Education.

Biology (with Biotechnology). This programme provides broad understanding of living organisms, emphasising molecular and cellular levels **and the application of resulting technologies.** It combines elements of biochemistry, cell biology, genetics and virology which in the past were studied separately at undergraduate level. We apply them to organisms from viruses and bacteria to plants and man. The programme therefore provides a flexible route into almost any area of biological or biomedical science.

Particular strengths of the programme in Glasgow are: a) researchers working with the whole range of organisms contribute to teaching; b) we emphasise methods of learning in which our students take the lead, such as problem-based learning, workshops and poster sessions; c) we provide extensive class-based laboratory training in Level-3; d) the laboratory training is extended in Level 4 with individual research-laboratory projects; and e) students can choose from a wide variety of specialised topics in final year, from molecular virology, through molecular biology of plants to cancer and immunology.

The Principal Aims are:

- to stimulate your enthusiastic and inquisitive interest in understanding living organisms at the molecular and cellular levels;
- to help you understand the relevance of molecular and cellular biology to everyday life, such as in treatment of diseases and the industrial use of organisms and biological products;
- to provide you with practice in speaking, writing and working in groups, essential for biologists, but also invaluable in the wider workplace;
- to train you in laboratory and scholarship skills appropriate for employment, postgraduate study and research in the many disciplines to which biotechnology is now central.

9. Intended Learning Outcomes of Programme:

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills, qualities and other attributes in the following areas:

Knowledge and Understanding:

By the end of this programme students will be able to:

- demonstrate understanding of the central methods, concepts and entities important in the study of organisms at the molecular and cellular level, by describing and discussing them in concise text.;
- similarly demonstrate understanding, in terms of current research, of four specialised aspects of living organisms which you choose from an extensive menu.

Skills and Other Attributes:

By the end of this programme students will be able to:

Subject-specific/practical skills

- carry out, under supervision, a significant research project and report its findings

Intellectual skills

- have the ability to critically interpret data presented in research papers, and its relationship to underlying research strategies;
- extract information from current literature, including journal papers, to enable you, with supervision, to write a review of a focussed topic of your own choice.

Transferable/key skills

- use computers to search databases of literature, retrieve molecular sequences and structures, process and analyse data including images of cells, write reports and compile presentations;
- work with others to analyse specific topics, prepare explanatory posters and design laboratory experiments;
- present research findings to an audience using visual aids and discuss them in an interview.

10. Typical Learning and Teaching Approaches:

A range of teaching methods are used during the programme and may include:

- Lectures
- Laboratories
- Workshops
- Tutorials
- Problem based learning
- Seminars
- Dissertation
- Honours research project
- Poster presentations

11. Typical Assessment Methods:

A number of different methods are used to assess the courses which make up the programme and may include:

Written degree examinations (essays, objective testing, short answers and problem-solving)

Class examinations

Laboratory reports

Essays

Dissertation

Honours project (report, research performance and interview)

Oral presentation

12. Programme Structure and Features:

The BSc Honours programme normally lasts 4 years, comprises both compulsory and optional courses, and comprises 480 credits (120 credits each year).

Structure

Course Title	Course Code	Credits	Core	Optional	Semester(s) taught
Year 1:					
Biology-1A	BIOL1001	20	✓		Sem 1
Biology-1B	BIOL1002	20	✓		Sem 2
EITHER Chemistry-1	CHEM1001	40	✓		Sem 1–2
OR Science Fundamentals-1X & -1Y	CHEM1002 CHEM1003	2 x 20			Sem 1–2
<i>other Level-1 course(s)</i>		40		✓	
Year 2:					
Fundamental Topics in Biology 2	BIOL2039	30	✓		Sem 1
Genes, Molecules & Cells 2	BIOL2042	30	✓		Sem 2
Key Skills in Biology 2	BIOL2040	30		✓	Sem 1
<i>other Level-1 or -2 course(s)</i>		30		✓	
Year 3 (Honours):					
Molecular & Cellular Biology 3A	BIOL4074	60	✓		Sem 1
Molecular & Cellular Biology 3B	BIOL4075	60	✓		Sem 2
Year 4 (Honours final year):					
Molecular & Cellular Biology Advanced Studies	BIOL4078	20	✓		Sem 1–2
<i>One of these project courses:</i> Life Sciences Investigative Honours Project Life Sciences Dissertation Honours Project Life Sciences Outreach Honours Project Life Sciences Internship Honours Project	BIOL4246P BIOL4247P BIOL4248P BIOL4249P	20	✓		Sem 1–2

4 x Life Sciences Honours options		4 x 20		✓	
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Life Sciences Honours Options:

The programme will prescribe a mixture of compulsory, recommended and/or suitable Honours options courses. In addition, the list of available Honours option courses is liable to change each session. The options available in the current session can be found via the University's Course Catalogue (www.gla.ac.uk/coursecatalogue/).

Features:

Students may apply to study abroad during either Year 2 or Year 3; this is subject to approval by the School of Life Sciences.

Years 1 and 2 may be available for part-time study. Years 3 and 4 are normally only available on a full-time basis.

Regulations:

This programme will be governed by the relevant regulations published in the University Calendar. These regulations include the requirements in relation to:

- (a) Award of the degree
- (b) Progress
- (c) Early exit awards
- (d) (For undergraduate programmes, where appropriate) Entry to Honours

www.gla.ac.uk/services/senateoffice/policies/calendar/

13. Programme Accredited By:

Not applicable

14. Location(s):

Glasgow

15. College:

College of Medical Veterinary and Life Sciences

16. Lead School/Institute:

Life Sciences [REG20100000]

17. Is this programme collaborative with another institution:

No

18. Awarding Institution(s):

University of Glasgow

19. Teaching Institution(s):

University of Glasgow

20. Language of Instruction:

English

21. Language of Assessment:

English

22. Relevant QAA Subject Benchmark Statements (see [Quality Assurance Agency for Higher Education](http://www.qaa.ac.uk/academicinfrastructure/benchmark/honours/biosciences.asp)) and Other External or Internal Reference Points:

See QAA Benchmark Statement for Biosciences:

<http://www.qaa.ac.uk/academicinfrastructure/benchmark/honours/biosciences.asp>

23. Additional Relevant Information (if applicable):

Support for students is provided by the Postgraduate/Undergraduate Adviser(s) of Studies supported by University resources such LEADS (www.gla.ac.uk/myglasgow/leads/), Counselling & Psychological Services (www.gla.ac.uk/services/counselling/), the Disability Service (www.gla.ac.uk/services/studentdisability/) and the Careers Service (www.gla.ac.uk/services/careers/).

24. Online Learning:

No

25. Date of approval: