



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 Plant Science)	C200	C144-2105

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 both model and crop plant species. 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 Plant Science). This programme provides broad understanding of living organisms at molecular and cellular levels with an emphasis on plants. 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 science.

The particular strengths of the programme are: a) researchers working with a wide 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 in plant science; and e) Level 4 includes advanced coverage of plant molecular biology and biotechnology provided by research-active staff.

The Principal Aims are:

- to stimulate your enthusiastic and inquisitive interest in understanding living organisms, particularly plants, at the molecular and cellular levels;
- to train you in laboratory and scholarship skills appropriate for employment, postgraduate study and research in plant science and other biological sciences at the molecular and cellular level;
- to provide you with practice in speaking, writing and working in groups, essential for biologists, but also invaluable in the wider workplace;
- To develop the flexibility you will need to adapt to change throughout your working life.

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.;
- demonstrate advanced knowledge and understanding of the main investigative methods used in plant molecular science, both laboratory- and computer-based
- demonstrate understanding, in terms of current research, of specialised aspects of living organisms including plant molecular science.
- demonstrate an understanding of professional ethics in science and of the principles that can guide decision-making in biological controversies
- critically analyse research papers in molecular and cellular biology

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

- solve advanced problems of a numerical or logical nature in Plant Science
- selectively extract information from published sources and use this to present a dissertation on a chosen topic in Plant Science

Transferable/key skills

- use computers to search databases, compose reports for written and oral presentation and analyse data
- give a clear oral presentation on an advanced topic in plant science
- demonstrate the ability to manage time appropriately in order to prioritise tasks and meet deadlines
- demonstrate knowledge of the principles of plant growth and development
- demonstrate an understanding of the response of plants to environmental signals including stress

10. Typical Learning and Teaching Approaches:

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

- Lectures
- Laboratories
- Field work
- Workshops
- Tutorials
- Seminars
- 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

Field work reports

Essays

Honours project (report and research performance)

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	BIOL4246P	20	✓		Sem 1–2

Life Sciences Dissertation Honours Project	BIOL4247P				
Life Sciences Outreach Honours Project	BIOL4248P				
Life Sciences Internship Honours Project	BIOL4249P				
4 x Life Sciences Honours options		4 x 20		✓	

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](#)) 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: