

University of the West of Scotland

Undergraduate Programme Specification

Session: 2022/23

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Status: Published

Named Award Title:	BSc (Hons) Biomedical Science (sandwich available) Single
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Award Title for Each Award:	BSc (Hons) Biomedical Science (sandwich available) BSc Applied Bioscience (sandwich available) Dip HE Science Cert HE Science
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Date of Validation:	January 2019
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Details of Cohorts Applies to:	New students entering from September 2019.
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Awarding Institution/Body:	University of the West of Scotland
Teaching Institution:	University of the West of Scotland
Language of Instruction & Examination:	English
Award Accredited By:	BSc (Hons) title is accredited by the Institute of Biomedical Science
Maximum Period of Registration:	
Mode of Study:	Full Time Part Time
Campus:	Lanarkshire

School:	School of Health and Life Sciences
Programme Board	Biological Sciences and Health
Programme Leader:	Dr Fiona Menzies

Admission Criteria

Candidates must be able to satisfy the general admission requirements of the University of the West of Scotland as specified in Chapter 2 of the University Regulatory Framework together with the following programme requirements:

SQA National Qualifications

YEAR 1 ENTRY

Standard Entry: ABBB including Biology or Human Biology or 114 UCAS Tariff Points

Minimum Entry: BBBB including Biology or Human Biology or 108 UCAS Tariff Points

YEAR 2 ENTRY

SQA Advanced Highers: BBC including Biology, and Chemistry at least at Standard Grade/Nat 5/Int2 or 136 UCAS Tariff Points

or GCE

YEAR 1 ENTRY

A-LEVEL: BCC including Biology or Human Biology or 104 UCAS Tariff Points

OTHERS:

Irish Leaving Certificate: H1H2H2H2 including Biology or Human Biology
International Baccalaureate (IB) Diploma: 24 points (including Biology or Human Biology)

YEAR 2 ENTRY

GCE A-Levels: BBC including Biology, and Chemistry at least at GCSE or 112 UCAS Tariff points

International Baccalaureate (IB) Diploma: 30 points (including Biology at HL and Chemistry at least at ordinary level)

or SQA National Qualifications/Edexcel Foundation

YEAR 2

SQA HNC / BTEC Level 4 HNC: Applied Science; Biomedical Science/Applied Biomedical Science; Industrial Biotechnology

YEAR 3

SQA HND / BTEC Level 5 HND: Biomedical Science; Biological Science; Applied Biological Science

Other Required Qualifications/Experience

There is a minimum entry qualification for competence in the use of the English language of attainment of level 7 in the IELTS (International English Language Testing System) with no element below 6.5.

Applicants may also be considered with other academic, vocational or professional qualifications deemed to be equivalent.

Further desirable skills pre-application

General Overview

Biomedical Science is the branch of medical science specifically concerned with the laboratory diagnosis and monitoring of disease. The aim of the programme is to allow the student to gain the appropriate skills, competencies and training as a Biomedical Scientist according to the criteria set out by the Institute of Biomedical Science, which facilitates entry into NHS accredited hospital laboratories where they would normally complete a 'portfolio' prior to registration as a Biomedical Scientist. The degree programme has accordingly been accredited by the Institute of Biomedical Science.

Graduates are well qualified to enter a range of medically-related professions in a very buoyant employment market. Their skills are sought after by a wide range of employers: NHS clinical laboratories, National Blood Service laboratories, Health Protection Agency, medical/pharmaceutical/veterinary/food/etc research & development laboratories, sales & marketing in health-related commerce, and a wide range of research laboratories.

The programme is carefully prescribed to ensure that the 'key' areas regarded as essential for a Biomedical Scientist have been addressed i.e. Human anatomy & physiology, Cell biology, Biochemistry, Genetics, Molecular biology, Immunology, and Microbiology. The theoretical aspects are fully integrated with a high proportion of practical work, so that much of the student's experience involves 'learning by doing'. Experience has shown that students value this approach and become more involved with the subjects and that their motivation increases. The Honours level research project further refines practical abilities and intensifies the development of independent learning skills, providing an excellent introduction to research-base skills for those intending to pursue a higher degree and consequent research orientated career. Many of the past graduates are now employed in promoted positions throughout the medical and health sector both at home and abroad.

Students are taught using a wide range of innovative teaching approaches that are fully supported by the University Virtual Learning Environment, which also helps provide linkage between different learning environments (e.g. Home, University, & Placement) and aids the transition towards independent learner. There are a wide range of quality facilities, including well-equipped laboratories within the University to support students during the tenure of their degree, and the Life Science staff are renowned for their approachability and concern for student success.

This programme places a strong emphasis on the transition from student into a Biomedical Scientist, which involves more than just the acquisition of the relevant scientific and technical information. The University has recently engaged in a complete revision of its programmes, part of which relates to a focus on Personal Development Planning (PDP) to emphasise the importance of employability skills. Following graduation, many professions engage with Continuing Professional Development as a mandatory aspect of their employment, and since this is the natural successor to PDP, the student will be ideally prepared for the

transition. In addition to this, students on the programme are encouraged to engage with the professional governing body (IBMS) as soon as they embark on the programme and then receive a wide range of opportunities to participate in professionally related activity.

Students may register for this programme on entry to the University (L7 to L9 if they have appropriate qualifications).

Graduates from this degree programme would be very well equipped to enter a range of health-related professions and would also possess a range of very valuable skills that would make them most suitable for further post-graduate training in life-based scientific research. Possession of an Honours BSc Biomedical Science facilitates entry into NHS accredited hospital laboratories where individuals would normally undertake an IBMS 'portfolio' prior to registration as a Biomedical Scientist.

The teaching strategy associated with the programme seeks to foster the following:

- To develop critical, analytical problem-based learning skills and the transferable skills to prepare the student for graduate employment.
- To enable the student to engage in lifelong learning, study and enquiry, and to appreciate the value of education to society.
- To assist the student to develop the skills required for both autonomous practice and team-working.
- To develop in the student a knowledge and understanding of the principles governing the biological & biomedical sciences.
- To enable the student to extend knowledge and understanding to a critical assessment of current views and theories in the biological sciences.
- To enable the student to acquire competence in a range of practical methods in biological/biomedical science. The above, particularly work-related skills, will be enhanced where a student opts to undertake a placement year. All of the modules that support the above utilize a blend of formal lectures and practical work. Practical work includes both laboratory work and field trips. In addition, students at all levels are supported by personal tutors. E-learning is specifically enabled through the use of the virtual learning environment, which is utilised by all modules in the programme to support the delivery of material.

Graduate Attributes, Employability & Personal Development Planning

This programme places a strong emphasis on the transition from student into Biomedical professional, which involves more than just the acquisition of the relevant scientific and technical information. The University has recently engaged in a complete revision of its programmes, part of which relates to a focus on Personal Development Planning to emphasise the importance of employability skills. Following graduation, a Biomedical Scientist engages with Continuing Professional Development as a mandatory aspect of their employment, and since this is the natural successor to PDP, it provides an ideal preparation for the transition. In addition to this, students will be encouraged to engage with the professional governing body (IBMS) as soon as they embark on the programme.

The development of skills from SCQF 7 through to SCQF 10 follows a carefully planned progression combining generic graduate skills with practical and subject-specific based aspects to encourage independent learning over a supported transition period of 3-4 years. The PDP aspects are being designed to emphasise and encourage self-reflective analysis.

Students will be supported and empowered to develop the skill of purposeful reflection which will lead into planning for and throughout their entire educational experience. By engaging with these twin processes of reflection and planning they will develop a set of skills and attributes that will underpin their employability.

It is the intention of the School of Health and Life Sciences to utilise the additional allocated time to develop not only the generic aspects of PDP but also to focus on the equally important discipline specific skills. To these ends the core modules at each level will be seminal to the entire process. Notwithstanding the previous remarks, all module leaders and teaching teams will be encouraged to support the implementation of the University's PDP Policy wherever and whenever possible in situations that make sense educationally and are subject relevant.

Graduate Attributes

The development of UWS graduate attributes is embedded within all years of the programme. Our aim is to provide students at UWS with opportunities to develop academically, professionally and personally: to broaden their ambitions, extend their attitudes, challenge their assumptions, and assist towards unlocking their potential to succeed in their studies and future lives.

Critical Thinker The ability to evaluate yourself and your own thinking; assessing and evaluating complex information from different sources, challenging and questioning presented knowledge and facts, drawing reflective conclusions and articulating knowledge. Thinking reflectively and logically, being able to explain your thought processes, forming your own conclusions, constructing coherent arguments and taking actions based on your own thinking and relevant information.

Ethically-Minded Understanding ethical principles, awareness and appreciation of the values and beliefs of others in relation to own actions. Knowledge of moral decisions; respect for other people's beliefs and the environment; being non-judgmental.

Collaborative Ability to work with a range of people, receptive to others' views and working well with others to reach shared goals. Being a good communicator, open-minded, flexible, empathetic, a good listener, and proactive.

Autonomous Taking responsibility for own actions to help become an independent learner. Applying learning and knowledge outwith university, having confidence in self, taking responsibility for own actions and making informed decisions. Self-directed, disciplined, using initiative and being self-motivated.

Resilient The ability to weather challenges and setbacks, utilising adversity to build new skills and support others in the future. Being determined, motivated, self-confident and demonstrating will-power. Not fearing failure.

Driven Ambitious; highly motivated to achieve desired outcome; focussed. A willingness to work hard; committed to achieving objectives; highly engaged with self-determination. Pushing personal boundaries and having the confidence to gain new experience.

Problem Solver Identifying what the problems are, including both what is known and what is unknown. Showing the application of knowledge to problematic situations/issues and evaluating a range of creative options; Identifying a problem and then finding solutions. Ability to be creative and knowledgeable enough to ask the right questions and to step up to take ownership of tasks/activities.

Effective Communicator To adapt what you are communicating to a specific audience. Communicating effectively to present ideas, discuss, persuade, negotiate, debate and challenge. Possessing skills to communicate verbally and non-verbally in an engaging and articulate manner. Listening.

Ambitious Aiming to achieve. Know where you want to be, setting goals, targets and making progress to accomplish these.

Individual modules will specify where opportunities to develop these skills occur.

Work Based Learning/Placement Details

This programme contains a work related learning component, allowing students to choose optional modules BIOL09022 Work Related Learning 20, BIOL09023 Work Related Learning 40 or BIOL09036 Work Related Learning 60. Upon progression to L10, students who opt to take BIOL09023 Work Related Learning 40 will be required to take BIOL10017 Integrative Human Physiology in place of BIOL10002 Public Health Microbiology. Upon progression to L10, students who opt to take BIOL09036 Work Related Learning 60 will be required to take BIOL10017 Integrative Human Physiology and BIOL10018 Clinical Genetics.

It is also possible for students undertaking a year out in an approved clinical laboratory to graduate with a BSc Honours Biomedical Science 'with sandwich'.

Students engaging with the 'sandwich' degree may undertake work on placement in part or full completion of the IBMS portfolio.

Students must fulfil certain criteria in order to gain a placement position, which involves a satisfactory Disclosure Scotland check, good academic progress, and development of a professional attitude.

The placement experience has been designed to conform with the current University Work related learning code of practice.

Engagement and Attendance

Students are academically engaged if they are regularly engaged with timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time. Please refer to the Academic Engagement and Attendance Procedure at the following link: [Academic Engagement and Attendance Procedure](#)

For the purposes of this programme, this equates to the following:

Engagement with all classes and asynchronous activities associated with the programme is required.

Equality and Diversity

8	BIOL08012	Genetics	20		✓		
8	BIOL08003	Human Biology	20	✓			
8	BIOL08004	Introductory Microbiology	20		✓		
8	BIOL08002	Practical Skills in Biomed. and Env. Health	20	✓			

* Indicates that module descriptor is not published.

Footnotes

Optional Modules

SCQF Level	Module Code	Module Name	Credit	Term			Footnotes
				1	2	3	

* Indicates that module descriptor is not published.

Footnotes

Criteria for Progression and Award

Progression from Level 8 to Level 9 is in accordance with the University regulations.

A Dip HE Science is available in accordance with University regulations. (At least 240 credits are required of which a minimum of 90 are at least SCQF Level 8).

C. Learning Outcomes (Maximum of 5 per heading)

Outcomes should incorporate those applicable in the relevant QAA Benchmark statements

Knowledge and Understanding	
A1	Demonstrate an integrated knowledge of ideas, concepts and facts relating to selected areas of biomedical science. Situations ranging from the basic to the complex, in a variety of cellular and organismal systems.
A2	Demonstrate an appreciation and awareness of the complexity and diversity of human life processes through knowledge of the human organism, and the inter-relationships between humans and their environment.
A3	Be able to formulate and to test hypotheses as they relate to biomedical knowledge.
A4	Demonstrate the link between theory and practice in a workplace context.
Practice - Applied Knowledge and Understanding	
B1	Use a range of basic and routine practical skills, and some specialized skills in biomedical science in both laboratory and workplace situations.
B2	Show an ability to interpret experimental evidence in both laboratory and workplace situations.
B3	An understanding of different methods of data collection and recording in the context of a working biomedical science laboratory setting.
B4	Appreciate the importance of safety and develop the skills required to carry out a risk assessment in a workplace context.
Communication, ICT and Numeracy Skills	
C1	Evaluate qualitative and quantitative data and recognize the difference between these data sets.
C2	Be able to convey complex ideas and to make formal presentations to a wide range of audiences.
C3	Be able to use appropriate IT to manipulate, statistically analyse, and present biomedical data.
Generic Cognitive Skills - Problem Solving, Analysis, Evaluation	
D1	Critically evaluate and synthesize biomedical information.

D2	Be able to identify routine professional problems and issues.
Autonomy, Accountability and Working With Others	
E1	Exercise initiative in undertaking laboratory reports and other written material.
E2	Be able to take responsibility for the work of others when undertaking group project work.
E3	Be able to deal with ethical issues associated with biomedical science.

Core Modules

SCQF Level	Module Code	Module Name	Credit	Term			Footnotes
				1	2	3	
9	BIOL09034	Infection and Immunity	20	✓			
9	BIOL09032	Intermediate Blood Sciences	20	✓			
9	BIOL09033	Molecular & Cellular Pathology	20	✓			

* Indicates that module descriptor is not published.

Footnotes

Optional Modules

SCQF Level	Module Code	Module Name	Credit	Term			Footnotes
				1	2	3	
9	BIOL09011	Bio-Professional Practice	20		✓		
9	BIOL09003	Human Physiology	20		✓		
9	BIOL09006	Proteins: Form & Function	20		✓		
9	BIOL09022	Work Related Learning 20	20		✓		
9	BIOL09023	Work Related Learning 40	40		✓		
9	BIOL09036	Work Related Learning 60	60		✓	✓	

* Indicates that module descriptor is not published.

Footnotes

Upon progression to L10, students who opt to take BIOL09023 (Work Related Learning 40) will be required to take BIOL10017 (Integrative Human Physiology) in place of BIOL10002 (Public Health Microbiology). Students who opt to take BIOL09036 (Work Related Learning 60) are required to take BIOL10017 (Integrative Human Physiology) and BIOL10018 (Clinical Genetics).

Students enrolled on BIOL09022 (Work Related Learning 20) must take BIOL09003 (Human Physiology) and cannot undertake BIOL09011 (Bio-professional Practice). Students enrolled on BIOL09023 (Work Related Learning 40) cannot undertake neither BIOL09011 (Bio-professional Practice) and BIOL09003 (Human Physiology).

Criteria for Progression and Award

Rules for progression are as given in the University's Regulatory Framework.

An ordinary degree in Applied Bioscience is awarded subject to University regulations. (At least 360 credits are required, of which a minimum of 90 are at SCQF 9). Subject to the criteria specified in the Regulatory Framework, this award may be made with Distinction.

D. Learning Outcomes (Maximum of 5 per heading)

Outcomes should incorporate those applicable in the relevant QAA Benchmark statements

Knowledge and Understanding	
A1	Show an awareness of current developments in biomedical science and their applications, noting philosophical and ethical issues that have arisen and which affect the quality and sustainability of life.

A2	Demonstrate knowledge of the applicability of biomedical science credentials to career development.
A3	Demonstrate a critical understanding of key principles, theories, and concepts pertaining to the practice of biomedical science in an applied setting.
A4	Develop specific hypotheses for testing in a research project.
Practice - Applied Knowledge and Understanding	
B1	Use a wide range of basic and routine practical skills, and several specialized skills in the biological sciences.
B2	Execute a defined research project. Be able to accurately collect and record specific data as it relates to biomedical science.
B3	Identify and retrieve scientific information.
B4	Undertake a risk assessment and costing as it relates to a research project.
B5	Present information clearly and accurately.
Communication, ICT and Numeracy Skills	
C1	Be able to convey complex ideas and to make formal presentations on specialised topics to a wide range of audiences.
C2	Be able to use different statistical packages to analyse, manipulate and present data sets.
Generic Cognitive Skills - Problem Solving, Analysis, Evaluation	
D1	Be able to identify routine professional problems and issues and to offer professional insights and interpretations.
D2	Critically identify, define and conceptualize issues within biomedical science.
D3	Be able to review and consolidate knowledge and to make judgments where the information available is limited.
Autonomy, Accountability and Working With Others	
E1	Exercise substantial initiative in undertaking honours research project.
E2	Evidence of the development of independent research work and associated management of time.
E3	Be able to deal with complex ethical issues in biomedical science.

Core Modules

SCQF Level	Module Code	Module Name	Credit	Term			Footnotes
				1	2	3	
10	BIOL10001	Biology of Disease	20	✓			
10	BIOL10006	Bioscience Research Project	40	✓	✓		
10	BIOL10018	Clinical Genetics	20		✓		
10	BIOL10008	Clinical Immunology	20	✓			

* Indicates that module descriptor is not published.

Footnotes

Optional Modules

SCQF Level	Module Code	Module Name	Credit	Term			Footnotes
				1	2	3	
10	BIOL10017	Integrative Human Physiology	20		✓		
10	BIOL10002	Public Health Microbiology	20		✓		

* Indicates that module descriptor is not published.

Footnotes

Students who completed BIOL09023 Work Related Learning 40 or BIOL09036 Work Related Learning 60 at level 9 must take BIOL10017 Integrative Human Physiology.

Students who completed BIOL09022 Work Related Learning 20 at level 9 must take BIOL10002 Public Health Microbiology.

Criteria for Award

The award of the Honours degree in Biomedical Science requires 480 points, of which 120 are at each of Levels 9 and 10 of the Programme as outlined in the Programme Specification above.

Regulations of Assessment

Candidates will be bound by the general assessment regulations of the University as specified in the [University Regulatory Framework](#) .

An overview of the assessment details is provided in the Student Handbook and the assessment criteria for each module is provided in the module descriptor which forms part of the module pack issued to students. For further details on assessment please refer to Chapter 3 of the Regulatory Framework.

To qualify for an award of the University, students must complete all the programme requirements and must meet the credit minima detailed in Chapter 1 of the Regulatory Framework.

Combined Studies

There may be instances where a student has been unsuccessful in meeting the award criteria for the named award and for other more generic named awards existing within the School. Provided that they have met the credit requirements in line with the SCQF credit minima (please see Regulation 1.21), they will be eligible for an exit award of CertHE / DipHE or BA / BSc in Combined Studies.

For students studying BA, BAcc, or BD awards the award will be BA Combined Studies.

For students studying BEng or BSc awards, the award will be BSc Combined Studies.

Changes

Changes made to the programme since it was last published: Version update

Level 7 modules updated

Version Number: 3.04