Programme Specification

Biological Sciences [Frenchay]

Version: 2024-25, v2.0, 19 Jan 2024

Contents

Section 1: Key Programme Details

Part A: Programme Information

Programme title: Biological Sciences [Frenchay]

Highest award: BSc (Hons) Biological Sciences

Interim award: BSc Biological Sciences

Interim award: DipHE Biological Sciences

Interim award: CertHE Biological Sciences

Awarding institution: UWE Bristol

Teaching institutions: UWE Bristol

Study abroad: No

Year abroad: No

Sandwich year: Yes

Credit recognition: No

School responsible for the programme: CHSS School of Applied Sciences, College of Health, Science & Society

Professional, statutory or regulatory bodies: Not applicable

Modes of delivery: Full-time, Sandwich

Entry requirements: For the current entry requirements see the UWE public website.

For implementation from: 01 September 2024

Programme code: C11000

Section 2: Programme Overview, Aims and Learning Outcomes

Part A: Programme Overview, Aims and Learning Outcomes

Overview: BSc (Hons) Biological Sciences gives you the opportunity to study life, from molecules through to ecosystems. The programme has been designed with a broadly based core at Level 4 to allow you to identify the areas within the biological sciences, which truly interest you. From Level 5 and into Level 6, the programme allows you a wealth of choice in the human, molecular and ecological themes of the biological sciences. You will take ownership of your curriculum by choosing to focus in one of these areas, or you can choose from across these themes and keep your options open; the choice is yours.

In keeping with the applied sciences, the course is heavily practically focused, with approximately 50% of your teaching delivered as practical classes across Levels 4 and 5. In addition to subject specific modules, you will study 'Skills for Biosciences' during the Level 4, to equip you with the fundamental scientific skills to succeed as a biological scientist. During Level 5, these are developed in 'Research Skills' where you will develop your skills as an independent scientist and demonstrate your ability to undertake authentic scientific research from project planning through to presentation of your findings. These modules are designed to flow into your independent research project undertaken during Level 6; an authentic capstone experience where you will demonstrate your skills as a mature, independent scientist.

BSc (Hons) Biological Sciences is offered as an optional sandwich award, giving you the opportunity to take a placement year in industry if you choose to. Biological Sciences students who choose this route spend up to 40 weeks undertaking a placement within a local, national or international industrial or academic organisation. Whilst on placement, in addition to gaining key scientific and employability skills, you will complete a module, which contributes to your Level 6 credit requirement.

The optional modules within the programme have been designed to allow you to develop as a biological scientist within the discipline of your choosing. Modules within the molecular, human and ecology themes have been designed to enable outstanding learning, from the fundamental basis of the subject through to the

leading edge of contemporary biological sciences. Flexibility is at the heart of the BSc (Hons) Biological Sciences course at UWE. You will have the scope to take ownership of your education and to enable your training as a scientist; to meet the scientific challenges and capitalise on the opportunities you will unlock as a biological sciences graduate.

Features of the programme: The BSc. (Hons) Biological Sciences programme has the following key features:

A broadly based core at Level 4 designed to introduce the range of Biological Sciences and to provide students with the requisite knowledge and scientific skills to develop as biological scientists.

A flexible modular structure through Levels 5 and 6 to allow Biological Sciences students to explore their individual interests.

A modular structure clustered into clearly identified themes (human, molecular, ecology) at Levels 5 and 6. Identifying these themes amongst the rich diversity of biological sciences subjects affords students a clear path from entry on to the course through to students' chosen area of employment.

A strong practical provision providing subject specific learning and generic scientific skills to enhance employability through experiential learning (learning by doing).

Dedicated scientific and research skills modules at Levels 4 and 5 designed to empower students to develop into competent, questioning and independent scientists.

An independent research project at Level 6 enabling students to apply the knowledge and skills learned at Levels 4 and 5 through their own independent research.

Educational Aims: The programme aims to enable you to develop:

An appreciation of the complexity and diversity of life processes through the study of organisms, their molecular, cellular and physiological processes, their genetics and evolution, and the interrelationships between them and their environment.

The ability to read and use appropriate literature with a full and critical understanding, while addressing such questions as content, context, aims, objectives, quality of information, and its interpretation and application.

The capacity to give a clear and accurate account of a subject, marshal arguments in a sophisticated way and engage in debate and dialogue both with specialists and non-specialists, using appropriate scientific language.

Critical and analytical skills including a recognition that statements should be tested and that evidence is subject to assessment and critical evaluation.

The ability to employ a variety of methods of study in investigating, recording and analysing material.

The ability to think independently, set tasks and solve problems.

Programme Learning Outcomes:

On successful completion of this programme graduates will achieve the following learning outcomes.

Programme Learning Outcomes

PO1. Experience and competence in a broad range of appropriate qualitative and quantitative practical (laboratory, field or computational) techniques relevant to the course.

PO2. Demonstrate an awareness of the breadth of the biosciences, from molecular to cellular, and from organism to ecosystem and engage with literature from the Biosciences to develop insight into the subject.

PO3. The ability to plan, execute and present a piece of independently produced work which includes analysis or evaluation of data within a supported framework, demonstrating some evidence of time management, problem-solving and independence.

PO4. The ability to access and evaluate bioscience information from a variety of sources and to communicate the principles both orally and in writing in a way that is organised and topical, and recognises the limits of current hypotheses.

PO5. An appreciation of ethical issues and how they underpin professional integrity and standards, and an awareness of professional standards, including good laboratory practice for data collection, recording and interpretation.

PO6. The ability to record data accurately, and to carry out basic manipulation of data including qualitative data and statistical analysis, when appropriate.

PO7. Use appropriate databases computational techniques and tools, to aid further understanding and insight of biological processes.

PO8. Identify and discuss application of biosciences in solving current and future challenges in the world and demonstrate some understanding of the role of bioscientists in sustainable solutions.

Assessment strategy: Effective learning is achieved by employing a range of assessment approaches, embedded within the compulsory modules and reinforced within the optional modules that recognise differential approaches to learning. These include opportunities for work-based learning, placements and field work. The development of a flexible, inclusive and accessible curriculum ensures a high quality learning experience for all students. The programme incorporates a range of assessments from continuous online assessment, appropriate for the study of Human Anatomy and Physiology during Level 4 through to log-books written in the field as part of the Tropical Expedition.

Completing research reviews provides you with a valuable learning experience; they address learning outcomes PO2, PO4 and PO7 derived from the QAA benchmark statements for the Biosciences but are also authentic assessments for practicing research scientists. Practical portfolios and write-ups are used to address PO1 and PO6; the collection of data, recording of findings and completion of laboratory work and associated reports are fundamental scientific skills, and safe-practice and good conduct a fundamental part of developing an understanding of professional integrity and research ethics (PO5). The compulsory modules provide a structured approach to developing you as an independent scientist capable of planning, organizing and

executing independent research and interpreting and communicating the findings (PO3; PO4). You will be encouraged to communicate science, through a variety of media including written work, visual communication through poster design and oral communication through presentation and defence. This is scaffolded at the programme level within the compulsory modules you are supported by the optional choices. Where written examinations are used, the emphasis is placed on you updating your knowledge (PO2) and accessing, reviewing and interpreting information (PO7) rather than recall and to demonstrate your ability to evaluate information and communicate this in writing in an organized way (PO4). The capstone experience to Level 6 is the independent research project. Whether experimental or dissertation based, the assessments have been designed to allow you to demonstrate your developing ability to plan and undertake work as an independent scientist (PO3), to use your skills to produce data (PO1; whether primary or metadata) and to analyse, interpret and communicate this using media (research paper and poster communication), which are authentic and relevant to a practicing scientist.

Student support: Students are supported through their programme by their personal tutor; the tutor supports scaffolded assessment in Level 4 and graduate attributes during Level 5. This is reinforced by the addition of a project supervisor during Level 6.

Part B: Programme Structure

Year 1

Full-time and Sandwich students must take 120 credits from the modules in Year 1.

Year 1 Compulsory Modules (Full-time and Sandwich)

Full-time and Sandwich students must take 120 credits from the modules in Compulsory Modules (Full-time and Sandwich).

Module Code	Module Title	Credit
USSKA4-30-1	Cells, Biochemistry and Genetics 2024-25	30

USSKA3-30-1	Human Anatomy and Physiology 2024-25	30
USSK5C-30-1	Life on Earth 2024-25	30
USSKA6-30-1	Skills for Biosciences 2024-25	30

Year 2
Full-time and Sandwich students must take 120 credits from the modules in Year 2.

Year 2 Compulsory Modules (Full-time and Sandwich)
Full-time and Sandwich students must take 30 credits from the modules in Compulsory Modules (Full-time and Sandwich).

Module Code	Module Title	Credit
USSKAP-30-2	Research Skills 2025-26	30

Year 2 Optional Modules (Full-time and Sandwich)
Full-time and Sandwich students must take 90 credits from the modules in Optional Modules (Full-time and Sandwich).

Module Code	Module Title	Credit
USSKB4-15-2	Cell Signalling 2025-26	15
USSK5F-30-2	Ecology and Ecosystem Protection 2025-26	30
USSKFQ-15-2	Genetics 2025-26	15
USSKAN-30-2	Human Health and Disease 2025-26	30
USSJXV-30-2	Human Physiology 2025-26	30
USSKB6-15-2	Microbiology 2025-26	15
USSKAM-30-2	Molecular Biotechnology 2025-26	30
USSJQD-15-2	Plant Growth and Survival 2025-26	15
USSKN7-15-2	The Microbial World 2025-26	15
USSJQC-15-2	Wildlife Ecology 2025-26	15

Year 3
Full-time students must take 120 credits from the modules in Year 3.

Sandwich students must take 15 credits from the modules in Year 3. Sandwich students spend a year out working for an organisation, in an appropriate placement to gain relevant work experience. Credit is achieved through the USSK57-15-3 Professional Practice in Applied Sciences module.

Year 3 Compulsory Modules (Full-time)
Full-time students must take 30 credits from the modules in Compulsory Modules (Full-time).

Module Code	Module Title	Credit
USSKBC-30-3	Research Dissertation Project 2026-27	30

Year 3 Compulsory Modules (Sandwich)
Sandwich students must take 15 credits from the modules in Compulsory Modules (Sandwich).

Module Code	Module Title	Credit
USSK57-15-3	Professional Practice in Applied Sciences 2026-27	15

Year 3 Optional Modules (Full-time)
Full-time students must take 90 credits from the modules in Optional Modules (Full-time).

Module Code	Module Title	Credit
USSJXY-15-3	Developmental and Stem Cell Science 2026-27	15
USSKN9-15-3	Environmental Microbiology 2026-27	15
USSKBF-30-3	Genomic Technologies 2026-27	30
USSKN6-15-3	Global Forest Systems 2026-27	15
USSK55-15-3	Marine Ecosystems 2026-27	15

USSKBH-30-3	Medical Genetics 2026-27	30
USSKBJ-30-3	Medical Microbiology 2026-27	30
USSKCA-15-3	Neuroscience and Neuropharmacology 2026-27	15
USSKBW-15-3	Pathophysiology 2026-27	15
USSJXW-15-3	Physical Activity, Nutrition and Health 2026-27	15
USSK56-15-3	Primate Ecology and Conservation 2026-27	15
USSKCE-15-3	Science Communication 2026-27	15
USSKNB-15-3	Sustainable Food Production 2026-27	15
USSK59-15-3	Tropical Expedition 2026-27	15

Year 4
Sandwich students must take 105 credits from the modules in Year 4.

Year 4 Compulsory Modules (Sandwich)
Sandwich students must take 30 credits from the modules in Compulsory Modules (Sandwich).

Module Code	Module Title	Credit
USSKBC-30-3	Research Dissertation Project 2027-28	30

Year 4 Optional Modules (Sandwich)
Sandwich students must take 75 credits from the modules in Optional Modules (Sandwich).

Module Code	Module Title	Credit
USSJXY-15-3	Developmental and Stem Cell Science 2027-28	15
USSKN9-15-3	Environmental Microbiology 2027-28	15

USSKBF-30-3	Genomic Technologies 2027-28	30
USSKN6-15-3	Global Forest Systems 2027-28	15
USSK55-15-3	Marine Ecosystems 2027-28	15
USSKBH-30-3	Medical Genetics 2027-28	30
USSKBJ-30-3	Medical Microbiology 2027-28	30
USSKCA-15-3	Neuroscience and Neuropharmacology 2027-28	15
USSKBW-15-3	Pathophysiology 2027-28	15
USSJXW-15-3	Physical Activity, Nutrition and Health 2027-28	15
USSK56-15-3	Primate Ecology and Conservation 2027-28	15
USSKCE-15-3	Science Communication 2027-28	15
USSKNB-15-3	Sustainable Food Production 2027-28	15
USSK59-15-3	Tropical Expedition 2027-28	15

Part C: Higher Education Achievement Record (HEAR) Synopsis

The Biological Sciences programme has been designed to deliver a broadly based core encompassing the processes and mechanisms of life, from molecules to ecosystems. Graduates will have an understanding of the complexity and diversity of life through study of the molecular, cellular and physiological processes of organisms, how organisms interrelate and relate to the environment in addition to an understanding of hypothesis-driven scientific process. Graduates will be equipped with laboratory and analytical skills and the ability to engage in debate and dialogue with specialists and non-specialists and will have developed the ability to think independently, set tasks and solve problems.

Part D: External Reference Points and Benchmarks

The programme has been designed within the framework of the QAA Subject Benchmark Statements: Biosciences (2023). This has not constrained the development of the programme, but has provided relevant context to review the programme offer. Where modules are co-taught with BSc (Hons) Biomedical Science, on-campus invigilated assessments are mandated by the Institute of Biomedical Science (Cells, Biochemistry and Genetics [Level 4], Medical Microbiology [Level 6], Medical Genetics [Level 6]).

Part E: Regulations

Approved to University Regulations and Procedures.