Programme Specification

BSc Microbiology with Foundation **UCAS Code: C501**

For students entering Foundation year in September 2025 **UFMICROWFY**

This document sets out key information about your Programme and forms part of your Terms and Conditions with the University of Reading.

Awarding Institution	University of Reading
Teaching Institution	University of Reading
Length of Programme	4 years
Accreditation	Royal Society of Biology
QAA Subject Benchmarking Group	QAA Subject Benchmark Statement - Biosciences

Programme information and content	
The BSc Microbiology with Foundation programme will enable you to develop a deep understanding of the amazing diversity of microbes and the fundamental roles they play in the biosphere. You will explore how microbes function, including their genetics, biochemistry and cell biology, and how they impact human society through their effect on our health, food, and environment. You will learn how this knowledge can be applied to tackle global challenges such as antimicrobial resistance, emerging infectious diseases, food production and climate change. The programme has a strong practical focus so that our microbiology graduates can work safely and competently with microbiological samples in a hazard category 2 laboratory, using a range of modern techniques and equipment. You will also strengthen your core competencies and professional/employability skills, with opportunities to do so embedded throughout the programme, ranging from the completion of a skills portfolio, access to placement opportunities and employer-led sessions.	
Foundation year:	The Foundation Year will provide you with the scientific background required to succeed on the subsequent years of the course. You will acquire a broad foundation in Biology, Mathematics and Chemistry. Additionally, the Academic Skills module will give you all the skills necessary to excel at university. The goal of Year 0 is to provide you with basic core knowledge suitable for your chosen pathway and the confidence of transitioning to higher education.
Part 1:	In the first year, you will learn about the structure and function of microbes (viruses, bacteria, archaea, fungi and protists), their molecular, cellular and biochemical processes, genetics and evolution, and the interrelationships between microbes, other organisms and the environment. You will explore how knowledge of microbiology can be applied to address different challenges including the treatment and prevention of infectious diseases, increasing food production and reducing

	food spoilage, and using microbes in biotechnology to tackle environmental challenges, such as climate change and pollution.
Part 2:	You will continue to deepen your knowledge of how microbes function, including the molecular mechanisms they use to replicate, survive in changing environments, and interact with host organisms. You will gain a deep understanding of infectious diseases and the pathogens that cause them, including the mechanisms of treatment and prevention. You will also expand your knowledge of genetics and key research methods used by microbiologists including cloning and molecular techniques. You will use the knowledge and practical skills that you have gained to identify medically important human pathogens from clinical samples. You will also be able to choose from a range of optional modules that enable you to focus in more depth on subjects of interest and support the development of your understanding of microbiology and its applications.
Placement/Study abroad year:	Students may be permitted to transfer to a programme with Study Abroad / Placement Year.
Part 3:	The third year of the programme places a strong emphasis on the application of knowledge and skills to propose realistic solutions to real-world problems, such as antimicrobial resistance, emerging infectious diseases, food safety and security, climate change and pollution. Alongside chosen modules from across the breadth of microbiology, the highlight of the final year is the opportunity to work alongside an expert in the field on a unique microbiology research project. This capstone experience will allow you to develop an advanced understanding of your chosen topic and apply the skills that you have acquired from your earlier years of study.

Programme Learning Outcomes - BSc Microbiology with Foundation

During the course of the Programme, you will have the opportunity to develop a range of skills, knowledge and attributes (known as learning outcomes) For this programme, these are:

	Learning outcomes
1	Describe and explain fundamental principles and concepts in Microbiology, including microbial structure, replication, genetics, biochemistry, host-interactions and applications of microbiology, demonstrating a more detailed knowledge and understanding of selected areas.
2	Search for, critically analyse, integrate, synthesise and evaluate scientific literature to draw conclusions, make hypotheses and suggest solutions.
3	Effectively communicate subject-specific knowledge, concepts and research outputs to technical and non-technical audiences using a range of multimedia formats

4	Safely and competently use a range of practical laboratory and/or field skills and techniques to generate accurate records and robust datasets
5	Competently perform aseptic technique to ensure containment of microbiological material and prevent contamination of samples in a category hazard 2 laboratory, demonstrating an awareness of all required health & safety measures
6	Analyse experimental and observational data using relevant statistical tests/analytical tools and interpret the results, recognising the limitations of the methodology used to obtain and analyse the data
7	Design experimental protocols and conduct original microbiological research adhering to appropriate ethical procedures and implementing appropriate health and safety measures
8	Use a creative, innovative and evidence-based approach to propose realistic solutions for complex biological and real-world problems in light of continued scientific advances.
9	Organize and manage workload to complete tasks and projects effectively, both independently and collaboratively as part of a team
10	Characterise and identify microorganisms using a variety of systematic techniques

You will be expected to engage in learning activities to achieve these Programme learning outcomes. Assessment of your modules will reflect these learning outcomes and test how far you have met the requirements for your degree.

To pass the Programme, you will be required to meet the progression or accreditation and award criteria set out below.

In addition to the learning outcomes stated above if you are on a placement or study abroad programme you will have the opportunity to develop the following learning outcome:

Additional Learning outcomes
N/A

Module information

Each part comprises 120 credits, allocated across a range of compulsory and optional modules as shown below. Compulsory modules are listed.

Foundation modules:

Module	Name	Credits	Level
BI0BF1	Foundation Programme: Biology	40	0
BI0MF1	Mathematics Foundation	20	0
CH0CHE	Chemistry	40	0
IF0RAS	Foundation in Academic Skills	20	0

International Students will need to select IF0ACA (Academic Skills), in place of IF0RAS (Foundation in Academic Skills) as IF0ACA is specifically targeted to the needs of International Students

Part 1 Modules:

Module	Name	Credits	Level
BI1AP3	Anatomy and Physiology	20	4
BI1CMP1	Cellular and Molecular Principles of Life	20	4
BI1FB2	Fundamentals of Biochemistry	20	4
BI1FM1	Fundamentals of Microbiology	20	4

The remaining 40 credits will be made up of optional modules from selected modules from the School of Biological Sciences or modules from an approved list, subject to timetabling constraints.

Part 2 Modules:

Module	Name	Credits	Level
BI2CM1	Advanced Studies in Cellular and Molecular Biology	20	5
BI2HI1	Haematology and Immunology	20	5
BI2ID2	Infectious Diseases	20	5
BI2MM2	Molecular Microbiology	20	5

The remaining 20 credits will be made up of an optional module from selected modules from the School of Biological Sciences or modules from an approved list, subject to timetabling constraints.

If you take a year-long placement or study abroad, Part 3 as described below may be subject to variation.

Part 3 Modules:

Module	Name	Credits	Level
BI3AM2	Applied Microbiology	20	6
BI3P1	Pathogens	20	6
BI3RP3	Research Project	40	6

The remaining 40 credits will be made up of optional modules from selected modules from the School of Biological Sciences or modules from an approved list, subject to timetabling constraints.

Placement opportunities

N/A

Optional modules:

The optional modules available can vary from year to year. An indicative list of the range of optional modules for your programme can be found online in the Course Catalogue. Details

of optional modules for each part, including any additional costs associated with the optional modules, will be made available to you prior to the beginning of the Part in which they are to be taken and you will be given an opportunity to express interest in the optional modules that you would like to take. Entry to optional modules will be at the discretion of the University and subject to availability and may be subject to pre-requisites, such as completion of another module. Although the University tries to ensure you are able to take the optional modules in which you have expressed interest this cannot be guaranteed.

Teaching and learning delivery:

You will be taught through lectures, seminars/tutorials, laboratory- and field-based practical sessions and supervised project work, depending on the modules you choose.Elements of your programme will be delivered via digital technology.

The contact hours for your Programme are dependent on module choice. - the scheduled teaching and learning activity hours and amount of technology enhanced learning activity for your programme will depend upon your module combination. In addition, you will undertake some self-scheduled teaching and learning activities, designed by and/or involving staff, which give some flexibility for you to choose when to complete them. You will also be expected to undertake guided independent study. Information about module study hours including contact hours and the amount of independent study which a student is normally expected to undertake for a module is indicated in the relevant module description.

Accreditation details

This programme is accredited by the Royal Society of Biology

Assessment

The programme will be assessed through a combination of written examinations, coursework (including class tests), practical skills assessments and oral examinations. Further information is contained in the individual module descriptions.

Progression

Foundation Year

The University-wide rules relating to ‘threshold performance’ as follows

(i) an overall average of at least 40% over all modules taken in Part 0;

(ii) no more than 40 credits of these modules with a mark below 35%;

(iii) at least 40% in the Academic Skills module

BSc Microbiology with Foundation Specific Progression Requirements above Threshold.

In order to progress from Part 0 to Part 1 and be eligible for transfer to BSc Microbiology, a student must achieve a threshold performance; and

(i) at least 40% in both the 20 credit Academic Skills (one of IF0RAS, IF0ACA) and 20 credit subject skills (one of BI0MF1, PY0FIR, EN0SFS, PM0PHS) modules;

and achieve the following in the remaining 80-credits

(i) at least 55% in BI0BF1 Foundation Programme: Biology;

(ii) at least 50% in all modules

The achievement of a threshold performance at Foundation Year qualifies a student for a Certificate of Completion if they leave the University before completing the subsequent Part.

Part 1
To achieve a threshold performance at Part 1, a student will normally be required to:
(i) Obtain an overall average of 40% over 120 credits taken in Part 1;
(ii) Obtain a mark of at least 40% in individual modules amounting to not less than 80 credits taken in Part 1; and
(iii) Obtain marks of at least 30% in modules amounting to 120 credits.

In order to progress from Part 1 to Part 2, a student must achieve a threshold performance.

The achievement of a threshold performance at Part 1 qualifies a student for a Certificate of Higher Education if they leave the University before completing the subsequent Part.

Transferring from a Joint Honours to a Single Honours programme

Students are able to transfer from a Joint Honours to a Single Honours programme in one of their joint subject areas at the end of Part 1, subject to fulfilling the Part 1 University Threshold Standard, achieving marks of at least 40% in at least 40 credits of modules in the subject to which they wish to transfer, and fulfilling any programme-specific progression rules for the Part 1 Single Honours Programme to which they wish to transfer.

Students who transfer from a Joint Honours to a Single Honours programme may not have taken all of the Part 1 modules listed in the Single Honours Programme Specification. The modules which they have taken will be shown on their Diploma Supplement.

Part 2
To achieve a threshold performance at Part 2, a student shall normally be required to:

(i) Obtain a weighted average of 40% over 120 credits taken in Part 2; and
(ii) Obtain marks of at least 40% in individual modules amounting to at least 80 credits taken in Part 2; and
(iii) Obtain marks of at least 30% in individual modules amounting to at least 120 credits,

except that a mark below 30% may be condoned in no more than 20 credits of modules owned by the Department of Mathematics and Statistics.

In order to progress from Part 2 to Part 3, a student must achieve a threshold performance.

The achievement of a threshold performance at Part 2 qualifies a student for a Diploma of Higher Education if they leave the University before completing the subsequent Part.

In order to be eligible for the BSc Microbiology with Foundation, students must meet the requirements described in Section 17 of the Assessment Handbook Bachelor's (for cohorts entering in 2022/23 and onwards) (see, in particular, section 17.5); and

(i) must gain a mark of at least 40% in BI3RP3.

Classification

Bachelors' degrees
The University's honours classification scheme is based on the following:

Mark Interpretation
70% - 100% First class
60% - 69% Upper Second class
50% - 59% Lower Second class
40% - 49% Third class
35% - 39% Below Honours Standard
0% - 34% Fail

The weighting of the Parts/Years in the calculation of the degree classification is:

Three year programmes:
Part 2: one-third
Part 3: two-thirds

Four year programmes, including study abroad
Part 2: one-third
Study abroad: Year abroad not included in the classification
Part 3: two-thirds

The classification method is given in detail in:

Bachelor's (for cohorts entering in 2022/23 and onwards) (see, in particular, section 17.5)

Additional costs of the programme

Participation in any residential field based optional modules offered, is subject to fees payable by the student.

If you undertake a Placement Year, associated costs will vary according to the nature and location of the placement and/or the study abroad host institution, and individual travel and subsistence arrangements.

Costs are indicative and may vary according to optional modules chosen and are subject to inflation and other price fluctuations. Estimates were calculated in 2024.

For further information about your Programme please refer to the Programme Handbook and the relevant module descriptions, which are available at http://www.reading.ac.uk/module/. The Programme Handbook and the relevant module descriptions do not form part of your Terms and Conditions with the University of Reading.

BSc Microbiology with Foundation for students entering Foundation year in session 2025/26
16 July 2024