Programme Specification

MSci Biomedical Science **UCAS Code: C744**

For students entering Part 1 in September 2027 **UFBIOMEM**

UFBIOMEMWY

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
Length of Programme with placement/year abroad	MSci Biomedical Science with Professional Experience - 5 years (UCAS Code: C745)
Accreditation	N/A
QAA Subject Benchmarking Group	QAA Subject Benchmark Statement – Biomedical Science and Biomedical Sciences

Programme information and content	
Biomedical Science stands as one of the fastest growing fields of study positioned at the forefront of modern science. It encompasses a wide range of rapidly evolving research fields, ultimately focusing on understanding how the human body functions in both health and disease. Our four-year MSci Biomedical Science course enables you to achieve an integrated master's degree coupled with cutting edge research experience. The overall aim of this multidisciplinary, research-led degree programme is to provide a comprehensive understanding of the biological basis of disease. By studying the fundamental molecular, genetic, cellular, and biochemical pathways underlying the functioning of the human body, you will explore the healthy and pathological state of the human body at every level, from the intricate workings of cells and tissues to the entire organism. The programme provides you with the opportunity to explore, research and develop your understanding of various rapidly developing biomedical topics at advanced levels, including aging, cancer, cardiovascular biology, infectious diseases and neurological disorders; areas that are increasingly recognised as major challenges of global health. Over the first three years of this course you will acquire knowledge and applied laboratory skills on the scientific methods used in biomedical research and on the diagnostic tools employed in clinical settings to study and identify diseases. In the final year, you will develop a greater depth of understanding of state-of-the-art biological concepts and will employ advanced investigative skills for finding solutions for complex biomedical problems. You will engage in a research project at the forefront of biomedical research with the supervision of leading academic scientists. This immersive experience aims to equip you with multidisciplinary approaches to studying human disease and preparing you to make a significant impact in modern medicine. Graduates of this course will acquire advanced research skills opening up career opportunities in the biomedical sciences sector, including medical or pharmaceutical research, pathology, diagnosis and clinical trials.	
Part 1:	You will acquire the core foundation knowledge on which the advanced biomedical subjects will build upon in your future studies. You will learn

	about the biochemical, molecular and cell biology basis of life, and will study the fundamentals of microbiology. You will be introduced to the anatomy and physiology of the human body and the major human pathologies affecting mankind. You will gain practical laboratory experience including performing basic laboratory and histological techniques. Additionally, you will develop essential transferable skills (such as study and writing skills, mathematical skills, statistical analysis, data handling/interpretation, communication, academic integrity and teamwork) through activities embedded in the core modules.
Part 2:	You will expand your understanding of the fundamental molecular and cell biology processes that underpin the normal function of cells and tissues. You will gain specific knowledge on core biomedical subjects, including medical genetics, haematology (covering the study, diagnosis and treatment of blood disorders), immunology (that considers the human defence system against pathogen attacks), clinical biochemistry and infectious diseases. You will continue to enhance you practical and transferrable skills, including creativity, enterprise and commercial awareness, together with employability skills.
Placement/Study abroad year:	You will have the opportunity to undertake a placement year and discover what it is like to work in a professional setting. This will allow you to develop your skills further, expand your network and enhance your career prospects. The school has numerous contacts within and beyond the UK, ranging from the pharmaceutical to healthcare sectors. Students can express their interest to the school and receive guidance and support throughout the placement application process.
Part 3:	The third year of the programme places strong emphasis on the application of gained knowledge and skills. You can choose to study in-depth biomedical subjects to the frontier of knowledge in areas such as cardiovascular disease, cancer, neurobiology, endocrinology and pathogenic bacteria/viruses. The highlight of the final year is the opportunity to work alongside an expert in the biomedical research field on a novel research project. This experience will allow the you to develop an deeper understanding of your chosen topic and apply the skills that you have acquired from your first and second year. This will allow you to further develop your personal and professional identity as a biomedical scientist.
Part 4:	In the fourth year of the programme, you will gain advanced scientific and technical skills to solve complex research questions. You will acquire further skills in project planning and development, critical analysis of current scientific literature, data analysis and scientific communication. You will undertake an 80-credit research project over a period of six months in biomedical research laboratories, where you will engage in cutting edge research and develop your ability to work independently. The final year provides you with valuable transferable skills that are highly desirable for employers, offering an excellent preparation for higher education degrees such as a PhD and working across the biomedical sector and beyond.

Programme Learning Outcomes - MSci Biomedical Science

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	Demonstrate deep understanding of the role of biomedical sciences in supporting the diagnosis and the treatment of disease across a range of scientific disciplines, recognizing current developments, their applications, and the philosophical and ethical issues involved.
2	Explain the structure and function of biological molecules and cells, tissues, and organs, and apply this knowledge to participation in experimental design development, diagnostic and therapeutic interventions.
3	Explain the structure and function of the human body in health and disease, and integrate knowledge of clinical pathology to the study of genetics, biochemistry, molecular and cellular mechanisms of disease, the pathogenic mechanisms of microorganisms, and the defences mechanisms of the human body.
4	Interpret, explain and evaluate scientific research data in areas of biomedicine, and explain the practical applications of these in diagnostics and research settings.
5	Recognise the contribution of biomedical sciences to debate and controversies, and how this knowledge and understanding forms the basis for informed concern about the quality and sustainability of health and well-being.
6	Effectively communicate subject-specific knowledge, concepts and research outputs to technical and non-technical audiences using a range of multimedia formats.
7	Analyse experimental and observational biological data using relevant statistical tests/analytical tools and interpret the results, recognising the limitation of data collection and statistical methodology.
8	Organise and manage workload to complete tasks and projects effectively, both independently and collaboratively as part of a team.
9	Search for, critically analyse, integrate, synthesise and evaluate scientific literature to draw conclusions, make hypotheses and suggest solutions.
10	Safely and competently use a range of practical laboratory and/or field skills and techniques to generate accurate records and robust datasets.
11	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.
12	Demonstrate the ability to independently design, execute, and critically evaluate complex research projects within the field of biomedical sciences, employing diverse research methodologies, data collection techniques, and analytical tools, exhibiting a high level of adaptability and innovation in solving research problems.

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
Placement By the end of the Placement Year Programme, students will have explored and developed their professional experience, skills and knowledge, contributing significantly towards their continuous learning and career prospects as graduates.

Module information

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

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
BI1HP2	Human Pathology	20	4
BI1HRD2	Human Reproduction and Development in Health and Disease	20	4

Part 2 Modules:

Module	Name	Credits	Level
BI2AB1	Applied Biochemistry: from Disease to Diagnostics	20	5
BI2CM1	Advanced Studies in Cellular and Molecular Biology	20	5
BI2HI1	Haematology and Immunology	20	5
BI2ID2	Infectious Diseases	20	5
BI2MG2	Medical Genetics	20	5
BI2RP3	Research and Professional Skills	20	5

Modules during a placement year or study year (if applicable):

Module	Name	Credits	Level
BI2PEX	Professional Experience	120	6

Students may be permitted to undertake a placement year between Part 2 and Part 3 of the programme. In such cases students will transfer to a 5-year programme. The placement year should not normally be shorter than nine months full-time.

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

Part 3 Modules:

Module	Name	Credits	Level
BI3RP3	Research Project	40	6
BI3VP1	Venoms and Poisons: from Pharmacology to Therapeutics	20	6

Students will need to choose 60 credits from disease related modules from a list provided by the School of Biological Sciences.

Part 4 modules:

Module	Name	Credits	Level
BI4APS1	Critical Analysis and Problem Solving	20	7
BI4ARP	Advanced Research Project	80	7
BI4PLE1	Project Planning, Laboratory Skills and Experimental Design	20	7

Placement opportunities

Placements:

You may be provided with the opportunity to undertake a credit-bearing placement as part of your Programme. This will form all or part of an optional module. You will be required to find and secure a placement opportunity, with the support of the University

Study Abroad:

You may be provided with the opportunity to undertake a Study Abroad placement during your Programme. This is subject to you meeting academic conditions detailed in the Programme Handbook, including obtaining the relevant permissions from your School, and the availability of a suitable Study Abroad placement. If you undertake a Study Abroad placement, further arrangements will be discussed and agreed with you.

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 practical sessions and supervised project work, depending on the modules you choose.

The contact hours for your Programme are dependent on module choice. Information about module contact hours can be located in the relevant module description.

Elements of your programme will be delivered via digital technology.

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

N/A

Assessment

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

Progression

Part 1
To achieve a threshold performance at Part 1, a student will normally be required to:
(i) Obtain an overall weighted average of 40% over 120 credits taken in Part 1; and
(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. (A Fail in a Pass/Fail module will be treated as not meeting the minimum threshold requirement for progression or classification. Pass/fail modules are excluded from weighted average calculations but must be passed to avoid failure of the Part or degree.)

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

(iv) achieve a mark of at least 40% in all compulsory modules (BI1CMP1, BI1FM1, BI1AP3, BI1HP2, BI1FB2, BI1HRD2); and

(v) marks of at least 40% in all individual summative assessments that contribute to compulsory part 1 modules (BI1CMP1, BI1FM1, BI1AP3, BI1HP2, BI1FB2, BI1HRD2).

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.

Students who meet threshold requirements but who do not meet the accredited programme specific progression requirements (iv and v) may transfer to Part 2 of another programme if suitably qualified.

Students considering transferring to another programme should seek guidance from their designated Support Centre in the first instance.

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. (A Fail in a Pass/Fail module will be treated as not meeting the minimum threshold requirement for progression or classification. Pass/fail modules are excluded from weighted average calculations but must be passed to avoid failure of the Part or degree.)

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

(iv) an overall average of 50% over 120 credits taken in Part 2 (of which not less than 100 credits should normally be at level 5 or above); and

(v) a mark of at least 40% in all compulsory modules (BI2CM1, BI2HI1, BI2RP3, BI2ID2, BI2MG2, BI2AB1); and

(vi) marks of at least 40% in all individual summative assessments that contribute to compulsory Part 2 modules (BI2CM1, BI2HI1, BI2RP3, BI2ID2, BI2MG2, BI2AB1).

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.

Students who meet threshold requirements but who do not meet the accredited programme specific progression requirements (v and vi) may transfer to Part 3 of another programme if suitably qualified.

Professional/placement year

Students are required to pass the professional placement year/study abroad year in order to progress on the programme which incorporates the professional placement year/study

abroad year. Students who fail the professional placement year/study abroad year transfer to the non-placement year version of the programme.

Part 3

To achieve a threshold performance at Part 3, a student shall normally be required to:

(i) achieve an average of 40% over 120 credits taken in Part 3 and

(ii) obtain a mark of at least 40% in individual modules amounting to not less than 80 credits taken in Part 3.

In order to progress from Part 3 to Part 4, a student must achieve a threshold performance;

and

(iii) a mark of at least 40% in all compulsory modules (BI3RP3 and BI3VP1); and

(iv) marks of at least 40% in all individual summative assessments that contribute to compulsory part 3 modules (BI3RP3 and BI3VP1).

Students who do not meet the above requirements to progress to Part 4, but who:

(i) meet the requirements described in the appropriate section of the Assessment Handbook please see link below for further details; and

(ii) a mark of at least 40% in all part 3 compulsory modules (BI3RP3 and BI3VP1); and

(iii) marks of at least 40% in all individual summative assessments that contribute to compulsory part 3 modules (BI3RP3 and BI3VP1) will be eligible for the award of BSc Biomedical Sciences.

The classification for this exit award will be based upon an overall weighted average ratio of 1:2 (Part 2: Part 3).

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:

Integrated Masters Programmes (MEng, MMath, MChem etc.)
Part 2: 20%

Placement/Study Abroad Year: not included in the classification
Part 3: 40%
Part 4: 40%

Students who do not meet the above Part 4 requirements for obtaining the MSci Biomedical Sciences degree but who have achieved all previous progression requirements will be eligible for the award of BSc Biomedical Sciences. The classification for this exit award will be based upon an overall weighted average ratio of 1:2 (Part 2: Part 3).

Details of the classification method is given in detail in the Assessment Handbook under:

- Section 17: Awards (Bachelor's), or
- Section 18: Awards (Integrated Master's programmes). Students who do not progress to Part 4 of the Integrated Master's will normally be subject to the method detailed under Section 17: Awards (Bachelor's)

Please note that there may be a specific version of the above for your year of entry.

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 2026.

Students may consider purchasing a laptop to help support their learning. Information on recommended device specifications can be found on the DTS Student Hub.

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.

MSci Biomedical Science for students entering Part 1 in session 2027/28
10 June 2026