BSc (Hons) Biomedical Science

Contents

- Contents
- Overview
- Exemptions
- Programme Overview
- Programme Aims
- Programme Intended Learning Outcomes (ILOs)
- Programme content
- Work experience and placement opportunities
- Additional Costs Table
- Graduate Attributes
- Modifications
- Appendix 1: Programme Structure Diagram – Biomedical Science
- Appendix 2: Map of Intended Learning Outcomes
- Appendix 3: Map of Summative Assessment Tasks by Module
- Appendix 4: Module Descriptors

Overview

Awarding institution	Bath Spa University
Teaching institution	Bath Spa University
School	School of Sciences
Main campus	Newton Park
Other sites of delivery	n/a
Other Schools involved in delivery	n/a
Name of award(s)	Biomedical Science
Qualification (final award)	BSc (Hons)
Intermediate awards available	CertHE, DipHE
Routes available	Single
Professional Placement Year	Yes
Duration of award	3 years full-time, 4 years with professional placement year, 6 years part-time
Modes of delivery offered	Campus-based
Regulatory Scheme[1]	Undergraduate Academic Framework
Exemptions from regulations/framework[2]	No
Professional, Statutory and Regulatory Body accreditation	The Royal Society of Biology
Date of most recent PSRB approval (month and year)	August 2024

Renewal of PSRB approval due (month and year)	August 2029
UCAS code	BMS1, BMS2 (with PPY year)
Route code (SITS)	BISSIN Biomedical Science BISSIN-SW Biomedical Science with PPY
Relevant QAA Subject Benchmark Statements (including date of publication)	Biomedical Science and Biomedical Sciences (March 2023)
Date of most recent approval	September 2022
Date specification last updated	January 2025

[1] This should also be read in conjunction with the BSU Qualifications Credit Framework

[2] See section on ‘Exemptions’

Exemptions

There are no exemptions

Programme Overview

This discipline encompasses an understanding of human diseases, the development of new drugs and treatments as well as being at the heart of diagnosing, monitoring and treating disease states. You will have the opportunity to learn the cellular, molecular, and genetic basis of disease states and gain the practical skills to be able to work in one of the many different fields of biomedical science, whether it be hospital laboratory work, research or in industry. With elements of microbiology, biochemistry, physiology and nutrition, as well as the option for a placement year, this multidisciplinary approach to biomedical science will provide you with an opportunity to gain the knowledge and practical skills to allow you to enter any area of employment, and to contribute to whatever branch of biomedical science you wish to follow. The course content is aligned with the specific and vocational requirements detailed in the QAA Subject Benchmark Statement for Biomedical Sciences. Graduates would be able to apply for professional accreditation following completion of the programme. This programme has been accredited by the Royal Society of Biology following an independent and rigorous assessment. Accredited degree programmes contain a solid academic foundation in biological knowledge and key skills, and prepare graduates to address the needs of employers.

At the start of the course, you will be introduced to a broad range of subjects that underpin the study and understanding of biomedical science. You will be taught anatomy and physiology, how the body and cells work before moving on to learn about disease states and pathology, as well as learning about therapies for diseases. Skills in research are at the heart of the degree, with the aim that students will graduate with practical laboratory skills as well as communication, team working and problem-solving skills, ready for the workplace or further study. You will be trained in research methodology, and have an opportunity to become an independent and autonomous learner. The programme aims to encourage students to engage with work placement opportunities within the varied area of biomedical or related fields.

Programme Aims

1. To provide students with a relevant, interesting and challenging programme that allows development of the practical skills required of a biomedical science graduate.
2. To provide graduates with a broad understanding of the complex scientific basis of human health, disease and therapeutic interventions.
3. To produce critical and creative thinking graduates, with an informed understanding and awareness of the biomedical sciences.
4. To support students in becoming independent evidence-based problem solvers in a challenging and changing world.
5. To prepare graduates for a career in biomedical science, recognising the moral and ethical issues of biomedical practice, and appreciating the need for ethical standards and professional standards of proficiency.
6. To improve career opportunities for graduates by offering choice throughout the programme, and encouraging engagement with external organisations to include volunteer and placement work.

Programme Intended Learning Outcomes (ILOs)

A Subject-Specific Skills and Knowledge

	Programme Intended Learning Outcomes (ILOs) On Achieving Level 6	On Achieving Level 5	On Achieving Level 4
A1	Competence in a broad range of appropriate practical techniques and skills relevant to biomedical sciences.	Implementation of a broad range of appropriate practical techniques and skills relevant to biomedical sciences.	An understanding of a broad range of appropriate practical techniques and skills relevant to biomedical sciences.
A2	Conceptual understanding that enables the critical analysis of techniques applied to health maintenance, disease prevention and the investigation, diagnosis, monitoring, and therapy of human disease.	Application of concepts underpinning health maintenance, disease prevention and the investigation, diagnosis, monitoring, and therapy of human disease.	A knowledge base of health maintenance, disease prevention and the investigation, diagnosis, monitoring, and therapy of human disease.
A3	Critically apply practical techniques of data collection, analysis, and interpretation to extend knowledge and understanding within the context of biomedical sciences.	Apply established practical techniques of data collection, analysis, and interpretation of those data.	An understanding of practical techniques of data collection, analysis and interpretation of those data
A4	Systematic understanding of current laboratory methods available for the study, investigation, diagnosis and monitoring of human health and disease in clinical and research environments.	Critically evaluate laboratory methods available for the study, investigation, diagnosis and monitoring of human health and disease in clinical environments.	Knowledge of key current laboratory methods available for the study, investigation, diagnosis and monitoring of human health and disease in clinical environments.
A5	A conceptual understanding of the rapid evolution within the biomedical sciences, and appreciation of therapeutic intervention strategies. Understanding that what has been taught is likely to change in the future.	A critical understanding of the rapid evolution within the biomedical sciences and knowledge of therapeutic intervention strategies.	An understanding of the rapid evolution within the biomedical sciences.
A6	Applied systematic understanding and reflection upon ethical issues and professional codes of conduct, alongside the impact on society of advances in biomedical science.	Ability to apply reflection upon ethical issues and professional codes of conduct, alongside the impact on society of advances in biomedical science.	An understanding of ethical issues and professional codes of conduct.
A7	Systematic understanding of the contribution of biomedical science within healthcare settings and critically challenge the sustainability of health and wellbeing.	Critical understanding of the contribution of biomedical science within healthcare settings	Understanding of the contribution of biomedical science within healthcare settings.

B Cognitive and Intellectual Skills

	Programme Intended Learning Outcomes (ILOs) On Achieving Level 6	On Achieving Level 5	On Achieving Level 4
B1	The ability to manage the planning, execution, and presentation of a piece of hypothesis driven work within a supported framework, demonstrating time management, problem solving and independence	The ability to plan, execute and present a piece of hypothesis driven work within a supported framework, demonstrating time management, problem solving and independence.	Knowledge of approaches used to develop a scientific hypothesis within a supported framework.
B2	The ability to access and evaluate biomedical sciences information from different sources, and to communicate these both orally and in writing in a way that is organised, topical and recognises the limits of current hypotheses.	The ability to access and evaluate biomedical sciences information from different sources, and to communicate these both orally and in writing in a way that is organised, and topical.	The ability to access biomedical sciences information from different sources, and to communicate these both orally and in writing.
B3	The ability to critically assess the evidence base for scientific claims, by reading primary literature and commenting on the adequacy of the methods, data and interpretation.	The ability to assess the evidence base for scientific claims, by reading primary literature and commenting on the adequacy of the methods, data, and interpretation.	An understanding of the evidence base for scientific claims; developed alongside reading primary literature.

B4	The ability to deploy appropriate practical techniques in a responsible, safe, and ethical manner, paying due attention to risk assessment, health and safety considerations and ethical issues such as informed consent.	Application of practical techniques, paying due attention to risk assessment, relevant health and safety considerations and ethical issues such as informed consent.	The ability to evaluate practical techniques, paying due attention to risk assessment, and relevant health and safety considerations.

C Skills for Life and Work

	On achieving Level 6 you will be able to:	**On achieving Level 5 you will be able to:**	**On achieving Level 4 you will be able to:**
C1	**Work Independently** Exercise initiative, independence and personal responsibility to manage your own learning and time.	**Work Independently** Exercise independence and personal responsibility to manage your own learning and time.	**Work Independently** Manage your own learning and time.
C2	**Work with Others** Work collaboratively with others to achieve individual and common goals, solve problems creatively and build interpersonal relationships to flourish in a global workplace.	**Work with Others** Work collaboratively with others to achieve individual and common goals, solve problems creatively.	**Work with Others** Work collaboratively with others.
C3	**Communicate with Impact** Communicate clearly, effectively and impactfully with specialist and non-specialist audiences.	**Communicate with Impact** Communicate clearly and effectively with others.	**Communicate with Impact** Communicate accurately and reliably with others.
C4	**Demonstrate Digital Fluency** Use digital skills productively, critically and ethically to enhance creativity and communication.	**Demonstrate Digital Fluency** Use digital skills productively, critically and ethically.	**Demonstrate Digital Fluency** Use digital skills productively.

Programme content

This programme comprises the following modules

Key:

Core = C

Required = R

Required* = R*

Optional = O

Not available for this status = N/A

If a particular status is greyed out, it is not offered for this programme.

Subject offered as single award

Level	Code	Title	Credits	Single	Joint
4	BIO4200-20	Biomedical Skills	20	C	
4	BIO4101-20	Introduction to Biochemistry	20	C	
4	BIO4201-20	Infection and Immunity	20	C	
4	BIO4202-20	Anatomy and Physiology	20	C	
4	BIO4203-20	Cell Biology and Genetics	20	C	
4	BIO4100-20	The Microbial World	20	C	

5	BIO5200-20	Research Skills for Biomedical Science	20	C	
5	BIO5201-20	Blood Science	20	C	
5	BIO5005-20	Pathophysiology and Nutrition	20	C	
5	BIO5202-20	Pharmacology and Toxicology	20	C	
5	BIO5109-20	Microbial Applications and Biotech	20	O	
5	BIO5001-20	Biology in Society	20	O	
5	BIO5101-20	Human Nutrition	20	O	
5	PSY5107-20	Clinical Psychology	20	O	
5	PPY5100-120	Professional Placement Year	120	O	
6	BIO6700-20	Dissertation Planning for BMS	20	C	
6	BIO6701-20	Dissertation Publication for BMS	20	C	
6	BIO6702-20	Clinical Biochemistry	20	C	
6	BIO6703-20	Mechanisms of Disease	20	C	
6	BIO6704-20	Applied Sport and Exercise Nutrition	20	O	
6	BIO6707-20	Anatomy, Physiology and Metabolism for Physical Activity	20	O	
6	BIO6101-20	Epidemiology and Public Health	20	O	
6	BIO6100-20	Food Safety	20	O	
6	BIO6108-20	Investigations in Microbiology	20	O	

Assessment methods

A range of summative assessment tasks will be used to test the Intended Learning Outcomes in each module. These are indicated in the attached assessment map which shows which tasks are used in which modules.

Students will be supported in their development towards summative assessment by appropriate formative exercises.

Please note: if you choose an optional module from outside this programme, you may be required to undertake a summative assessment task that does not appear in the assessment grid here in order to pass that module.

Work experience and placement opportunities

Work Placement opportunities are available as an Open Module at level 5 (OMO5001-20 Work Placement). This module includes 4 weeks work experience for which 20 Level 5 credits can be obtained. This is a Level 5 open module run by Business and Management offering comprehensive support to gain a short work experience opportunity.

A work placement opportunity is also available as a Professional Placement Year (PPY) between levels 5 and 6.

Both of these opportunities could be with local or international organisations as arranged by the students and advised by a variety of tutors with a range of contacts.

All placements will be dependent on the external conditions at the time and may be affected by factors beyond our control including public health concerns (such as measures to control infectious disease epidemics).

Additional Costs Table

There are no additional costs for BSc (Hons) Biomedical Science

Graduate Attributes

Graduate Attribute	While at Bath Spa, I will develop my ability to:	This programme will help me to do this through:
Confidently Self-Aware	Reflect on and recognise my unique skills, strengths, and values and be able to apply and articulate them in a range of different contexts.	Embedding reflective practice, and skills self-audit starting at Level 4. Providing regular feedback on progress, through both formative and summative assessment to foster confidence. Ensuring students are aware of where support is available.
Emotionally Attuned	Be mindful of how my actions and emotions impact those around me so I can better navigate difficult situations and build effective interpersonal relationships.	Enabling frequent within-programme interactions with other students, for example in practical or fieldwork settings. Facilitating in class discussion and debate within agreed boundaries. Encouraging a supportive student community both within and outside taught sessions.
Inclusive Collaborator	Contribute independently to collaborative projects while working effectively with others, valuing diversity and respecting individual differences.	Embedding group working opportunities and teaching students how to work effectively within a team. Enabling multidisciplinary group working opportunities.
Adaptable Innovator	Embrace challenges, taking risks where needed and applying individual and collective problem solving.	Embedding problem solving tasks at all levels. Providing project management opportunities, including the final year empirical Dissertation project. Laboratory practical sessions provide opportunities for problem solving (individually and small groups). Autonomous planning of projects and completion of projects to deadline.
Critical Thinker	Keep an open mind, ask curious questions and think creatively to gain a deeper and broader understanding of global perspectives and the world around me.	Including critical thinking in multiple assessments and specifically teaching and assessing this component at Level 5 and 6.
Forward Thinker	Set goals, plan ahead and utilise resources to support my personal ambitions and achieve my own version of success.	Supporting the development of planning skills from Level 4. Assessing specific project planning skills within a group at level 5 and individually at Level 6. Regularly providing students with opportunities to assess their progress and get support when needed. Assessment deadlines are provided at the start of the Semester to enable sufficient planning to take place. Students produce timelines for extended projects.
Ethical Leader	Act with empathy, making decisions grounded in ethical principles while advocating for sustainability and positive social change.	Covering key professional and legal frameworks such as the Human Tissue Act and Environmental Regulations. Ensuring students have an ethical awareness of issues within the Biosciences, for example in the fields of genetics and healthcare. Integration of basic good laboratory practice principles starting at level 4.

Responsible Self-Starter	Be accountable for my actions and decisions while demonstrating creativity, proactivity, and a focus on solutions.	Providing students with clear guidance on how to approach assessments, so they can demonstrate independence. Enabling supportive skills development from Level 4 through to Level 6. Ensuring students gain progressively more autonomy as they move through the course. Students are provided with numerous resources through the VLE to support their learning, and they are encouraged to make use of these.
Compassionately Resilient	Respond to setbacks with a reflective and positive attitude, flexibility and a self-caring approach.	Providing students with opportunities to reflect on progress. Ensuring students know where and how to get the relevant support, so ensure they are confident within themselves. Providing very clear guidance on expectations as clarity fosters positivity and the ability to be flexible.
Digitally Resourceful	Utilise and responsibly leverage existing and emerging technologies to solve problems and communicate.	Building confidence in use of digital resources including specialist software and communication tools. Developing and then assessing students' ability to use fundamental digital skills to collect, analyse and display data. Alongside standard computing resources such as Microsoft Office, students are introduced to specialist software within a number of modules, including statistical analysis software, such as R and JASP, and subject specific resources, for example Nutritics.

Modifications

Module-level modifications

Code	Title	Nature of modification	Date(s) of approval and approving bodies	Date modification comes into effect
BIO5101-20	Human Nutrition	Updates to description, syllabus, ILOs and assessment change	Sciences SQMC March 2024	2024/25
BIO5001-20	Biology in Society	Updates to Brief Description, Outline Syllabus and assessments	Sciences SQMC March 2024	2024/2025
PSY6107-20	Advanced Topics in Psychology	Assessment change	Sciences SQMC March 2024	2024/2025
BIO4200-20	Biomedical Skills	Updates to Assessment	Curriculum Approval Panel Chair's Action August 2024	2024/2025
BIO4201-20	Infection and Immunity	Updates to Outline Syllabus	Curriculum Approval Panel Chair's Action August 2024	2024/2025
BIO4203-20	Cell Biology and Genetics	Updates to Outline Syllabus	Curriculum Approval Panel Chair's Action August 2024	2024/2025
BIO4100-20	The Microbial World	Updates to Outline Syllabus	Curriculum Approval Panel Chair's Action August 2024	2024/2025
BIO5200-20	Research Skills for Biomedical Science	Updates to ILOs	Curriculum Approval Panel Chair's Action August 2024	2024/2025
BIO6101-20	Epidemiology and Public Health	Change of Semester	SQMC November 2024	2025/26

Programme-level modifications

Nature of modification	Date(s) of approval and approving bodies	Date modification comes into effect

BIO5105-20 Biotechnology removed	Curriculum Approval Panel December 2023	2024/25
BIO5004-20 Applied Microbiology removed	Curriculum Approval Panel December 2023	2024/25
BIO5109-20 Microbial Applications and Biotech added	Curriculum Approval Panel December 2023	2024/25
BIO5001-20 Biology in Society added	Curriculum Approval Panel December 2023	2024/25
Programme ILO Updates	Curriculum Approval Panel Chair's Action August 2024	2024/25
BIO6707-20 Anatomy, Physiology and Metabolism for Physical Activity added as Optional	Curriculum Approval Panel December 2024	2025/26
BIO6108-20 Investigations in Microbiology added as Optional	Curriculum Approval Panel December 2024	2025/26
BIO5102-20 Biology Work Placement deleted	Curriculum Approval Panel December 2024	2025/26
PSY6107-20 Advanced Topics in Psychology deleted	Curriculum Approval Panel December 2024	2025/26

Attached as appendices:

1. Programme structure diagram
2. Map of module outcomes to level/programme outcomes
3. Assessment map
4. Module descriptors

Appendix 1: Programme Structure Diagram – Biomedical Science

Single Honours	
Level 4	
Semester 1	**Semester 2**
Core Modules	
BIO4200-20 Biomedical Skills	BIO4202-20 Anatomy and Physiology
BIO4101-20 Introduction to Biochemistry	BIO4203-20 Cell Biology and Genetics
BIO4201-20 Infection and Immunity	BIO4100-20 The Microbial World
Rule Notes: N/A	
Level 5	
Core Modules	

Single Honours	
BIO5200-20 Research Skills for Biomedical Science BIO5201-20 Blood Science	BIO5005-20 Pathophysiology and Nutrition BIO5202-20 Pharmacology and Toxicology
Optional Modules	
BIO5109-20 Microbial Applications and Biotech BIO5101-20 Human Nutrition	BIO5001-20 Biology in Society PSY5107-20 Clinical Psychology
Rule Notes: N/A	
Optional Professional Placement Year 120 credits	
Level 6	
Core Modules	
BIO6700-20 Dissertation Planning for BMS BIO6702-20 Clinical Biochemistry	BIO6701-20 Dissertation Publication for BMS BIO6703-20 Mechanisms of Disease
Optional Modules	
BIO6101-20 Epidemiology and Public Health BIO6100-20 Food Safety BIO6707-20 Anatomy, Physiology and Metabolism for Physical Activity	BIO6704-20 Applied Sport and Exercise Nutrition BIO6108-20 Investigations in Microbiology
Rule Notes: N/A	

Appendix 2: Map of Intended Learning Outcomes

Level	Module Code	Module Title	Status (C,R,R*,O) [4]	Intended Learning Outcomes													
				Subject-specific Skills and Knowledge							Cognitive and Intellectual Skills				Skills for Life and Work			
				A1	A2	A3	A4	A5	A6	A7	B1	B2	B3	B4	C1	C2	C3	C4
4	BIO4200-20	Biomedical Skills	C	x	x	x	x	x	x	x	x	x	x	x	x			x
4	BIO4101-20	Introduction to Biochemistry	C	x	x	x					x		x	x	x	x	x	x
4	BIO4201-20	Infection and Immunity	C	x	x	x	x	x				x	x	x	x		x	x
4	BIO4202-20	Anatomy and Physiology	C	x	x	x								x	x	x	x	
4	BIO4203-20	Cell Biology and Genetics	C	x	x	x		x	x	x		x	x	x	x		x	
4	BIO4100-20	The Microbial World	C		x	x								x	x	x	x	
5	BIO5200-20	Research Skills for BMS	C			x		x	x	x	x	x	x	x	x	x	x	x
5	BIO5201-20	Blood Science	C	x	x	x	x	x		x		x		x	x	x	x	x
5	BIO5005-20	Pathophysiology & Nutrition	C		x	x									x	x	x	x
5	BIO5202-20	Pharmacology & Toxicology	C	x	x	x	x							x	x			x

5	BIO5109-20	Microbial Applications and Biotech	O			x	x	x					x				x	x
5	BIO5001-20	Biology in Society	O						x			x		x			x	x
5	BIO5101-20	Human Nutrition	O		x										x		x	x
5	PSY5007-20	Clinical Psychology	O		x				x			x			x	x	x	x
5	PPY5100-120	Professional Placement Year	O				x	x	x			x			x	x	x	x
6	BIO6700-20	BMS Dissertation Planning	C				x	x	x	x	x		x	x	x		x	x
6	BIO6701-20	BMS Dissertation Publication	C			x	x	x	x	x	x	x	x	x	x		x	x
6	BIO66702-20	Clinical Biochemistry	C	x	x	x	x	x	x	x		x	x	x	x	x	x	x
6	BIO66703-20	Mechanisms of Disease	C	x	x	x	x	x		x	x		x	x	x	x	x	x
6	BIO6704-20	Applied Sport & Exercise Nutrition	O	x	x									x	x	x	x	
6	BIO6101-20	Epidemiology & Public Health	O	x										x		x	x	
6	BIO6100-20	Food Safety	O		x								x	x	x	x		
6	BIO6108-20	Investigations in Microbiology	O										x		x	x	x	
6	BIO6707-20	Anatomy, Physiology and Metabolism for Physical Activity	O	x		x					x		x		x	x		x

[4] C = Core; R = Required; R* = Required*; O = Optional

Appendix 3: Map of Summative Assessment Tasks by Module

Level	Module Code	Module Title	Status (C,R,R*,O) [5]	Assessment method														
				Coursework							Practical						Examination	
				Essay	Report	Poster	Blog	Proposal	Portfolio	Review	Practical skills	Data Analysis	Dietary Analysis	Presentation	Mini Project	Written Examination (open book)	Written Examination (unseen)
4	BIO4200-20	Biomedical Skills	C							1x	1x						
4	BIO4101-20	Introduction to Biochemistry	C								1x					1x	
4	BIO4201-20	Infection and Immunity	C	1x		1x											
4	BIO4202-20	Anatomy and Physiology	C									1x					1x

4	BIO4203-20	Cell Biology and Genetics	C	1x									1x				
4	BIO4100-20	The Microbial World	C							1x	1x						
5	BIO5200-20	Research Skills for BMS	C			1x											
5	BIO5201-20	Blood Science	C											1x			1x
5	BIO5005-20	Pathophysiology & Nutrition	C									1x					1x
5	BIO5202-20	Pharmacology & Toxicology	C								1x					1x	
5	BIO5109-20	Microbial Applications and Biotech	O		1x										1x		
5	BIO5001-20	Biology in Society	O				1x		1x								
5	BIO5101-20	Human Nutrition	O		1x								1x				
5	PSY5007-20	Clinical Psychology	O							1x							1x
5	PPY5100-120	Professional Placement Year	O		1x			1x									
6	BIO6700-20	BMS Dissertation Planning	C		1x			1x									
6	BIO6701-20	BMS Dissertation Publication	C							1x				1x			
6	BIO6702-20	Clinical Biochemistry	C		1x												1x
6	BIO6703-20	Mechanisms of Disease	C		1x					1x							
6	BIO6704-20	Applied Sport and Exercise Nutrition	O		1x												1x
6	BIO6101-20	Epidemiology & Public Health	O									1x		1x			1x
6	BIO6100-20	Food Safety	O		1x					1x							
6	BIO6108-20	Investigations in Microbiology	O						1x	1x							
6	BIO6707-20	Anatomy, Physiology and Metabolism for Physical Activity	O		1x										1x		

[5] C = Core; R = Required; R* = Required*; O = Optional