

Programme Specification amendment notification

Title of Programme: **Applied Biomedical Science / Biomedical Science, Biochemistry, Biological Science, Molecular Biology, Pharmacology**

Programme Code: HHBIO

For Collaborative: N/A

As a result of the ongoing Coronavirus pandemic, the University has been required to make some revisions to this programme for the 2020/21 academic session, affecting sections C of this Programme Specification. These amendments are as follows:

Section	Amendment
C, Assessment strategies	In circumstances which prevent students being able to undertake examinations or in-class tests on campus, an alternative assessment will be required. Examinations will be replaced by timed, open book assessments using the same exam format where possible. In-class tests will be replaced by timed, open book assessments using the Canvas assignment submission function or Canvas quizzes.

Associate Dean of School (Academic Quality Assurance): Dr Stefanie Schmeer

Signature 

School of Life and Medical Sciences

Title of Programme: [Applied Biomedical Science / Biomedical Science](#)

Programme Code: HHBIO

Programme Specification

This programme specification is relevant to students entering:
21 September 2020

Associate Dean of School (Academic Quality Assurance):
Dr Stefanie Schmeer

Signature 

A programme specification is a collection of key information about a programme of study (or course). It identifies the aims and learning outcomes of the programme, lists the modules that make up each stage (or year) of the programme, and the teaching, learning and assessment methods used by teaching staff. It also describes the structure of the programme, its progression requirements and any programme-specific regulations. This information is therefore useful to potential students to help them choose the right programme of study, to current students on the programme, and to staff teaching and administering the programme.

Summary of amendments to the programme

Date	Section	Amendment
02.03.2020	D (Table 1a)	6LMS0094 Clinical Biochemistry and Immunology is now an AB module (previously A)
02.03.2020	D (Table 1a)	6LMS0141 Applied and Integrated Biomedical Science is now a semester A module (previously B).
02.03.2020	D (Table 1a)	6LMS0008 Bioscience Research Project is an AB module (previously stated as B)
05.03.20	D	<p>Clarification of the sentence below with parts added in italics to provide clarity on compensation of the Applied Biomedical Science/Biomedical Science programmes. Addition can be found in section D under Programme Specific Regulations (page 13) to reflect agreed regulations stipulated by the IBMS during previous Bioscience reviews (2012 and 2017).</p> <ul style="list-style-type: none"> In order to satisfy accreditation requirements by the Institute of Biomedical Science, when considering students <i>on the Biomedical Science or the Applied Biomedical Science programme</i> for an interim or

		final award, the Programme Board of Examiners may only award compensatory credit for level 4 modules (UPR AS14 D4.3 refers).
02.03.20	D	A pass grade for the Sandwich Placement Year is mandatory for the receipt of BSc (Hons) Biochemistry (Sandwich) award. 'Biochemistry' has been changed to 'Biomedical Science – page 13.
05.03.20	F	Updated web link for Biomedical Science accredited degrees: Institute of Biomedical Science: https://careers.ibms.org/students/choosing-an-accredited-degree/about-accredited-degrees/

If you have any queries regarding the changes please email AQO@herts.ac.uk

Programme Specification Applied Biomedical Science / Biomedical Science

This programme specification (PS) is designed for prospective students, enrolled students, academic staff and potential employers. It provides a concise summary of the main features of the programme and the intended learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the teaching, learning and assessment methods, learning outcomes and content for each module can be found in Definitive Module Documents (DMDs) and Module Guides.

Section 1

Awarding Institution/Body	University of Hertfordshire
Teaching Institution	University of Hertfordshire
University campuses	College Lane/de Havilland
Programme accredited by	Institute of Biomedical Science Royal Society of Biology
Final Qualification	BSc (Hons)
All Final Award titles	Applied Biomedical Science
(Qualification and Subject)	Biomedical Science Biomedical Science (Sandwich) Biomedical Science with a Year Abroad
FHEQ level of award	6
UCAS code(s)	B990
Language of Delivery	English

A. Programme Rationale

The programme is aimed at students who wish to develop an understanding of the biological basis of human disease and the contribution of the clinical laboratory to diagnosis, treatment and monitoring. The programme is based on a strong foundation of biology and chemistry such that students can combine an understanding of the physiology, biochemistry and molecular biology of disease with a full appreciation of the analytical techniques used in different clinical laboratories. The course will be underpinned by an extensive practical programme. Biomedical Science graduates gain employment not only in NHS, PHE (Public Health England) and related laboratories but also in government research laboratories and the pharmaceutical industry and therefore the curriculum takes into account the wider employment possibilities. Successful students who undertake a professional training placement and achieve successful verification of the Institute of Biomedical Science (IBMS) Registration portfolio will gain the award of BSc (Hons) Applied Biomedical Science and will be eligible to apply to the Health and Care Professions Council (HCPC) for registration as a Biomedical Scientist. In addition successful students are well equipped to undertake post-graduate studies in a wide range of disciplines including medicine.

B. Educational Aims of the Programme

The programme has been devised in accordance with the University's graduate attributes of programmes of study as set out in [UPR TL03](#).

Additionally this programme aims to:

Enable students to develop knowledge, understanding and investigative skills relevant to:

- scientific principles and methods underpinning life sciences in relation to the profession of healthcare science and research, development and innovation in this area.

- the technical and intellectual skills to allow them to undertake the role of a Biomedical Scientist and appreciate the ethical and legal principles inherent to the role.
- the transferable skills and attributes to support their future professional development through academic study and continual lifelong learning as a scientist.
- for achievement of the award of Applied Biomedical Science, the understanding that the patient is the centre of care and an appreciation of the role of the Biomedical Scientist and that of others in the care pathway.
- for achievement of the award of Applied Biomedical Science, the opportunity to meet the HCPC Standards of Proficiency, through the IBMS Registration Portfolio of Competencies, to fulfil both the academic and training requirements for HCPC registration as a Biomedical Scientist.

C. Intended Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills and other attributes in the following areas. The programme outcomes are referenced to the QAA benchmark statements for Biomedical Science (2015) and the Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies (2014) and relate to the typical student. Additionally, the SEEC Credit Level Descriptors for Further and Higher Education (2016) have been used as a guiding framework for curriculum design.

Knowledge and Understanding	Teaching and learning methods	Assessment strategy
Successful students will be able to:	Acquisition of A1 – A7 is through a combination of lectures, laboratory classes, workshops and clinical case studies throughout the course as well as the research project and the placement training experience.	Testing of knowledge and understanding are assessed by a combination of laboratory reports, seminars, group work, problem-solving exercises, interpretative exercises written assignments and unseen examinations. (A1 – A8).
A1 acquire the specific knowledge appropriate to Biomedical Science.		
A2 understand and apply the fundamental chemical and biological principles on which Biomedical Science is based.	Acquisition of A3 is initiated at Level 4 in Human Physiology with Pharmacology, is developed through lecture, laboratory and workshop classes in Level 5 Cytology and Histopathology and Blood Sciences and all Level 6 modules.	For students who are awarded the degree in Applied Biomedical Science learning outcomes associated with the placement year in an approved laboratory (A9, A10 and A11) are assessed on performance throughout the year, a reflective summary of the placement year and by the successful completion and verification of a IBMS Registration portfolio of evidence to demonstrate meeting the HCPC Standards of Proficiency for Biomedical Scientists.
A3 appreciate the interactions between major body systems.	Acquisition of A4 is through lectures, practicals and workshops at Level 4 in Cell and Microbiology and Molecular Biology and Genetics; at Level 5 in Cytology and Histopathology, Blood Sciences, Cell and Molecular Biology and Genes and Genomes; and in all the level 6 modules. Assignments including a viva and seminar at Level 6 reinforce the outcome.	
A4 explain the biological processes leading to disease at a genetic, biochemical, cellular and physiological level.		
A5 apply the principles of analysis to an understanding of the role of the clinical laboratory in the diagnosis and monitoring of disease.	A5 is achieved by introducing chemical principles at Level 4 and building on this foundation in Blood Sciences and Bioscience Research Methods (Level 5) where the principles of analysis will be considered. All Level 6 courses will, in turn, extend the consideration to the analysis of specific abnormalities.	
A6 relate the interactions between microorganisms and humans to the development of infections and their control.		
A7 appreciate the relationship between theoretical concepts and the diagnosis and monitoring of disease.	Acquisition of A6 will be initiated in lectures, practicals and workshops in Cell and Microbiology at Level 4, developed in lectures, practicals and workshops in Microbiology of Disease at Level 5 and extended in Clinical Microbiology at level	

<p>A8 show knowledge of the standards required of a Biomedical Scientist.</p> <p>For the award of Applied Biomedical Science only:</p> <p>A9 gain an understanding of the professional aspects of Biomedical Science from a sandwich placement in an approved training laboratory.</p> <p>A10 successfully complete an IBMS Registration portfolio of evidence to demonstrate meeting the HCPC Standards of Proficiency for Biomedical Scientists.</p> <p>A11 understand the dynamics of health, illness and healthcare and their impact on the patient and the care pathway in responding to the management of their health status and related treatment.</p>	<p>6. The Applied and Integrated Biomedical Science module will reinforce the cross specialism aspects of disease diagnosis.</p> <p>A7 is achieved in lectures, practicals and workshops in Cytology and Histopathology, Blood Sciences, Cell and Molecular Biology, Genes and Genomes and Microbiology of Disease at Level 5 and is extended in all Level 6 taught modules.</p> <p>A8 is initiated in the Blood Sciences module where quality control measures in analysis are considered and continued in the Bioscience Research Methods module, developed during work experience and consolidated in final year modules.</p> <p>A9 , A10 and A11 are achieved during a placement period in an approved laboratory .</p> <p>Throughout, the learner is encouraged to undertake independent study both to supplement and consolidate what is being taught/learnt and to broaden their individual knowledge and understanding of the subject.</p>	
<p>Intellectual skills</p> <p>Successful students will be able to:</p> <p>B1 analyse and solve problems related to Biomedical Science.</p> <p>B2 understand the ethical implications of their work.</p> <p>B3 be able to execute and report a research project in order to develop skills necessary for independent research.</p> <p>B4 apply theoretical concepts to the study of biomedical science and evaluate the relationships between theory and practice.</p> <p>B5 display an awareness of the existence and nature of value judgements.</p> <p>B6 demonstrate a critical approach in enquiry and a readiness to test hypotheses, interpret scientific data and, at Level 6, evaluate published literature.</p> <p>For the award of Applied Biomedical Science only:</p> <p>B7 demonstrate the necessary skills and attributes for</p>	<p>Teaching and learning methods</p> <p>Problem analysis and solving skills (B1) will be developed in all Level 4 and 5 modules but focused on in Bioscience Research Methods at Level 5. Analysis of clinical and diagnostic problems will be focused on in final year modules with integration across the specialities in Applied and Integrated Biomedical Science.</p> <p>Students are given a firm grounding in ethical practices in science (B2) throughout Level 4 and issues pertinent to Biomedical Science are developed in the Level 5 modules, Blood Sciences and Bioscience Research Methods.</p> <p>Aspects relevant to independent research (B3) are introduced in the Level 5 module, Bioscience Research Methods and come into fruition in the Project module at Level 6.</p> <p>The relationship of theory to practice (B4) is achieved throughout the whole programme, focused on in case studies, and is the fundamental basis of the placement training (where appropriate).</p> <p>Workshop exercises in all modules make a significant contribution to B5 and this is enhanced by taught material in Bioscience Research Methods.</p> <p>To acquire B6 the student is introduced to the analysis of published literature as part of Bioscience Research Methods at</p>	<p>Assessment strategy</p> <p>B1, B2 and B4 are assessed in laboratory reports and written assignments. In addition B1 is assessed by unseen examinations. The development of the project proposal in Bioscience Research Methods demonstrates B1, B2 and B4.</p> <p>The Project (B3) is tested by the assessment of performance whilst undertaking the research, the assessment of the report and a poster.</p> <p>B5 and B6 are assessed in laboratory reports, unseen examinations, interpretative exercises, seminars, vivas and the project. Regular on-line assessments are used for maths skills and data analysis.</p> <p>Assessment of B7-B10 is by the successful completion of an IBMS Registration portfolio of evidence to demonstrate meeting the HCPC Standards of Proficiency for Biomedical Scientists and completion of a reflective report of the placement year.</p>

<p>further professional development.</p> <p>B8 understand professional accountability and work within the framework set out in the standards of conduct.</p> <p>B9 reflect critically on their performance and practice.</p> <p>B10 synthesise knowledge and evaluate research to support practice in the clinical setting.</p>	<p>Level 5 and other written assignments, evaluation is developed at Level 6 in lectures, assignments including problem-based learning, and their project. Maths skills are introduced as part of Practical and Transferable Skills at Level 4, developed in practical reports throughout Level 5 and in the Bioscience Research Project. Data handling and statistical analysis is introduced in Practical and Transferable Skills at level 4, developed in assignments and Bioscience Research Methods at Level 5 and reinforced in the project at Level 6.</p> <p>B7- B10 are developed throughout a sandwich placement in an approved laboratory.</p>	
Practical skills	Teaching and learning methods	Assessment strategy
<p>Successful students will be able to:</p> <p>C1 acquire appropriate laboratory skills across a range of disciplines, including safe working practices.</p> <p>C2 acquire appropriate computer skills.</p> <p>For the award of Applied Biomedical Science only:</p> <p>C3 perform safe receipt, handling and disposal of biological samples</p> <p>C4 undertake quality control methods and audit</p>	<p>The majority of laboratory-based practicals will be taught in Practical and Transferable Skills at Level 4. All modules in Level 5 contain a substantial practical component. Practical skills and safe working practices (C1) are built up during Level 4 and applied to experiments in Level 5, consolidated on the work placement and culminate in an individual project. Computer skills (C2) are developed throughout the programme with subject specific software being introduced and used where appropriate.</p> <p>The work-based learning enables C3 and C4 and which become further specialised at Level 6. This facilitates the integration of theory and practice, maintains student motivation and aids the development of reflective practitioners. Through alternating learning in this manner, practice informs theory and theory informs practice.</p> <p>Throughout, the learner is expected to consolidate their development of practical computer skills by use of computers available in the Learning Resource Centre.</p>	<p>Assessment of practical skills and attributes is by both formative and summative assessment in laboratory classes; laboratory reports; problem-solving exercises; unseen examinations; interpretative exercises; preparing abstracts; seminars; and the Project.</p> <p>C3 and C4 relate to assessment carried out within the placement and the successful completion of an IBMS Registration portfolio of evidence to demonstrate meeting the HCPC Standards of Proficiency for Biomedical Scientists.</p>
Transferable skills	Teaching and learning methods	Assessment strategy
<p>Successful students will be able to:</p> <p>D1 communicate effectively using a variety of formats.</p> <p>D2 use effectively a range of information sources.</p> <p>D3 organise and present intellectual argument commensurate with the level of award.</p> <p>D4 work effectively both alone (e.g. on assignments or</p>	<p>Although transferable skills are embedded in the constituent modules of the programme, they are brought together in Level 4 in Practical and Transferable Skills and at Level 5 in Bioscience Research Methods Personal tutors assist their students to produce a portfolio of evidence substantiating their achievements in this area.</p> <p>Acquisition of D1 is through exercises throughout Level 4; laboratory reports and assignments; oral presentations in personal tutor groups, where</p>	<p>Testing of D1, D2 and D3 is through a combination of essays, abstracts, laboratory reports, posters, seminars, group reports, the Project report and written examinations throughout the course. Performance in these skills is monitored by personal tutors and assessed as a portfolio in Practical and Transferable Skills and Bioscience Research Methods.</p>

- during the project) and as part of a team (e.g. in group work, during group discussions and workshops).
- D5 be numerate.
- D6 develop the skills required for continued self-managed professional development, reflective practice and life-long learning.
- D7 to appreciate the importance of graduate attributes through reflective practice.
- D8 develop skills relevant to a work-place environment.
- D9 develop the skills necessary to gain a knowledge and understanding of topics in Bioscience in a different cultural environment.
- For the award of Applied Biomedical Science only:
- D10 show an awareness of individual social and cultural factors that may impact on the care pathway
- D11 relate theory to practice using decision-making skills
- D12 demonstrate appropriate people management skills.

presentations can be delivered in a non-threatening atmosphere and tutors give feedback; seminars, vivas and poster at Level 6.

Acquisition of D2 is through induction sessions at all three levels and in lectures and workshops in Level 4, in particular in Practical and Transferable Skills and Level 5, Bioscience Research Methods; scientific writing is throughout the course and the Project module in which information seeking will be facilitated by the project tutor.

The teaching of D3 is initiated in Practical and Transferable Skills with exercises on report writing; during year 1, personal tutors give feedback on written assignments from a number of modules to facilitate the development of skills; Bioscience Research Methods at Level 5, feedback on assignments at all levels, seminars at Level 6 and the project introduction make a significant contribution to the development of this skill. Level 5 Bioscience Research Methods tutor groups analyse the arguments contained in a research paper.

The acquisition of D4 is throughout all the practical components of the programme where students are required to work alone or as part of a team and in some modules, to carry out group assignments.

The acquisition of D5 (numeracy) is initiated in lectures, workshops and class exercises in Practical and Transferable Skills (Level 4) and is developed and reinforced throughout the programme in laboratory classes, workshops, personal tutor meetings and the project. Students have access to the 'Maths Drop-in Centre' and self-learning 'MyMaths lab' computer based learning package.

Statistical knowledge is developed in Bioscience Research Methods and applied in data analysis in Level 5 and 6 modules including the Bioscience Research Project.

The development of self-management skills (D6) is facilitated, and monitored, by personal tutors involving discussion of skills relevant to successful performance on the degree and future employability. The placement year (if taken) makes significant contributions to the attainment of this skill.

The importance of graduate attributes (D7) is discussed in Practical and Transferable Skills in Level 4 and focused upon in Level 5 induction programme and Bioscience Research Methods where students prepare their CV and reflect on their career

D4 is assessed formatively by feedback in the laboratory, workshops and personal tutor groups and summatively in individual and group reports, poster presentations and the project. Testing of this skill is a major component of the assessment of the sandwich year.

D5 (numeracy) is assessed in numerous assignments throughout the programme and monitored by the personal tutor in a portfolio in Practical and Transferable Skills and Bioscience Research Methods.

D6 is assessed in Practical and Transferable Skills and Bioscience Research Methods The placement report will assess this skill, as does the Project.

D7 is assessed in Practical and Transferable Skills and Bioscience Research Methods and as part of the placement year portfolio and/or Bioscience Work Experience (if taken).

D8 is assessed as part of the portfolio in Bioscience Work Experience and in the placement report for those who undertake a placement year.

D9 is assessed by successful completion of the Year Abroad.

Practice based learning outcomes (D10-D12) will be assessed as part of the IBMS Registration portfolio of evidence to demonstrate meeting the HCPC Standards of Proficiency for Biomedical Scientists.

development. Finally the importance of graduate attributes is a key part of the placement year/Bioscience Work Experience (if taken) and the Applied and Integrated Biomedical Science module. Practice-based learning outcomes (D10-D12) will be developed as part of the sandwich placement year.

Throughout, the learner is encouraged to develop transferable skills and graduate attributes by maintaining a record of evidence and completing a personal development plan.

D. Programme Structures, Features, Levels, Modules, and Credits

The programme is offered in full-time (3 years), sandwich (4 years), with a year abroad (4 years) and part-time (6 years) modes. Students on the part-time mode may also take a sandwich placement or year abroad but either of these needs to be completed in 1 year (7 years in total).

Entry is normally at level 4 with suitable A level or equivalent qualifications but is possible at level 5 or level 6 with suitable qualifications (eg successful completion of level 4/5 of comparable degrees elsewhere).

The course structure and progression information below is provided for the final awards (Table 1).

The Programme Learning Outcomes detailed in section C are developed and assessed through the constituent modules. Table 2 identifies where each learning outcome is assessed.

Students who successfully complete the academic programme and also complete a placement in an approved training laboratory and achieve successful verification of an IBMS Registration portfolio of evidence to demonstrate meeting the HCPC Standards of Proficiency for Biomedical Scientists, will receive the award of BSc (Hons) in Applied Biomedical Science.

Professional and Statutory Regulatory Bodies

The awards of BSc (Hons) Applied Biomedical Science and BSc (Hons) Biomedical Science are accredited by the Institute of Biomedical Science (IBMS). The awards of BSc (Hons) Biomedical Science, BSc (Hons) Biomedical Science (Sandwich) and BSc (Hons) Biomedical Science with a Year Abroad are accredited by the Royal Society of Biology.

Work-Based Learning, including Sandwich Programmes

BSc (Hons) Biomedical Science (Sandwich)

A designated sandwich programme leads to a University award in the sandwich mode and the word "Sandwich" appears on the award certificate. In order for the programme of study to lead to an award in the sandwich mode, the student must undertake a period of approved work experience (industrial/hospital based placement) of not less than 30 weeks excluding holidays, normally between the end of Year 2 and the beginning of Year 4. This is an academic requirement regarding the minimum number of weeks necessary in order to gain a sandwich award. Students may be expected to work further additional weeks in order to fulfil their contractual obligations to the employer. Students must start their placement before 1st October. The placement will normally be completed within the United Kingdom but there is also the opportunity for a placement abroad subject to University approval. Students on a sandwich placement will be registered on the module Sandwich Year: Bioscience (6LMS0023) for the placement year.

BSc (Hons) Biomedical Science with a Year Abroad

There is also an option to study abroad at approved partner institutions. A year abroad is deemed to be not less than two semesters in the host institution. Progress of the student's training is monitored by visits from the University's academic staff. Students will be required to document this period of work in accordance with the guidelines produced by the Department of Biological and Environmental Sciences. Students who study abroad on Year Abroad will be registered on the module Year Abroad: Bioscience (6LMS0022).

Students who have not achieved the minimum progression requirements at the end of Level 5 may be prevented from undertaking a sandwich placement. Additionally, students on placement, but who have Level 4 or 5 modules to repeat will not normally be allowed to re-enrol on these modules until they return from placement. This is to avoid a conflict between UH attendance requirements and the student's commitment to their employer. There is also a minimum achievement at Level 5 required for the Year Abroad which is set by the partner institutions.

Students who do not take the Sandwich or Year Abroad option, progressing directly to Level 6, are automatically transferred to the full-time or relevant part-time mode.

Bioscience Work Experience (5LMS0003)

We encourage students to participate in work experience and all students are encouraged to enrol on the optional 5LMS0003 Bioscience Work Experience module. This is additional to the taught modules on the programme. Students undertaking the module are required to complete a minimum of 50 hours within the workplace, either paid or voluntary, and to submit a portfolio to demonstrate their employability skills. The portfolio will include evidence of any employment experiences the student has, evidence of any voluntary work experience, a reflection on the employability skills gained during work experience and a careers action plan, including a curriculum vita, to further their employability skills following graduation.

Student negotiated work experience is available, by agreement with programme staff at Level 5. It is also possible for a student to negotiate with the Placement Tutor a summer placement between Level 5 and Level 6.

[Erasmus Exchange programme](#)

Incoming Erasmus students are permitted to study modules on the course at Level 5 and Level 6.

[Programme Structure](#)

The programme structure and progression information below (Table 1a and 1b) is provided for the final awards. Any interim awards are identified in Table 1b. The Programme Learning Outcomes detailed above are developed and assessed through the constituent modules. Table 2 identifies where each learning outcome is assessed.

Mode of study Full Time or Part Time.

For the part-time mode it is expected that the student will study 60cp each academic year as agreed with the Programme Leader. Timetabled teaching sessions can be on any day of the week but where there are multiple sessions the student will be assigned slots which best fit in with the rest of their timetable. Students on the part-time mode may also take a sandwich placement year or year abroad option but any of these need to be completed in 1 year (so that the programme is completed in a maximum of 7 years in total) as described below in the programme-specific regulations.

Entry point Semester A

Table 1a Outline Programme Structure

Level 4

	Module Code	Credit Points	Language of Delivery	% Examination	% Coursework	% Practical	Semesters
Compulsory Modules							
<u>Module Title</u>							
Cell and Microbiology	4LMS0155	15	English	50	50	0	A
Human Physiology with Pharmacology	4LMS0002	30	English	0	100	0	AB
Practical and Transferable Skills	4LMS0006	30	English	0	70	30	AB
Core Biochemistry	4LMS0154	15	English	50	50	0	B
Molecular Biology and Genetics	4LMS0007	15	English	50	50	0	B
	Module Code	Credit Points	Language of Delivery	% Examination	% Coursework	% Practical	Semesters
Optional Modules							
<u>Module Title</u>							
Chemistry for the Biological Sciences	4LMS0004	15	English	0	100	0	A
Molecular Structure and Reactivity	4LMS0040	15	English	50	50	0	A

Level 5

	Module Code	Credit Points	Language of Delivery	% Examination	% Coursework	% Practical	Semesters
Compulsory Modules							
<u>Module Title</u>							
Blood Sciences	5LMS0007	30	English	50	50	0	AB
Genes and Genomes	5LMS0091	15	English	50	50	0	A
Cell and Molecular Biology	5LMS0092	15	English	50	50	0	B
Microbiology of Disease	5LMS0005	15	English	50	50	0	A
Principles of Immunology	5LMS0009	15	English	50	50	0	A
Bioscience Research Methods	5LMS0001	15	English	0	100	0	AB
Cytology and Histopathology	5LMS0006	15	English	50	50	0	B
	Module Code	Credit Points	Language of Delivery	% Examination	% Coursework	% Practical	Semesters
Optional Modules							
<u>Module Title</u>							
Bioscience Work Experience* (<i>available for Biomedical Sciences only</i>)	5LMS0003	15	English	0	100	0	AB

* This module will not be included in the degree algorithm for calculation of the final award.

Placement year – Biomedical Science

Optional modules Module Titles	Module Code	Credit Points	% examination	% coursework
Sandwich Year	6LMS0023	0	0	100
Year Abroad	6LMS0022	0	0	100

Placement year – Applied Biomedical Science

Compulsory modules Module Title	Module Code	Credit Points	% examination	% coursework
Sandwich Year	6LMS0023	0	0	100

Level 6

Compulsory Modules Module Title	Module Code	Credit Points	Language of Delivery	% Examination	% Coursework	% Practical	Semesters
Cellular and Molecular Pathology	6LMS0140	30	English	50	50	0	AB
Clinical Biochemistry and Immunology	6LMS0094	30	English	50	50	0	AB
Clinical Microbiology	6LMS0005	15	English	50	35	15	A
Applied and Integrated Biomedical Science	6LMS0141	15	English	0	100	0	A
Bioscience Research Project	6LMS0008	30	English	0	100	0	AB

Progression to Level 5 requires a minimum of 105 credits and a pass in the module, Practical and Transferable Skills in the Biosciences.

Progression to Level 6 requires a minimum of 105 credits at level 5. The module 5LMS0003 Bioscience Work Experience may not be included in the credits required for progression.

The award of an Honours degree requires 360 credit points passed with a minimum of at least 120 at Level 6 including the final year project.

Honours classification

The University has approved structure and assessment regulations common to all programmes. Full details are provided in [UPR AS14](#), Section D.

Table 1b Final and interim awards available

The programme provides the following final and interim awards:

Final Award	Award Title	Minimum requirements	Available at end of Level	Programme Learning Outcomes developed (see above)
BSc (Hons)	Applied Biomedical Science	360 credit points including 240 at level 6/5 of which 120 must be at level 6	6	A1-A11, B1-B10, C1-C4, D1-D8, D10-D12 (see Table 2).
BSc (Hons)	Biomedical Science	360 credit points including 240 at level 6/5 of which 120 must be at level 6	6	A1-A8, B1-B6, C1-C2, D1-D7. Graduates who are successful in 5LMS0003 Bioscience Work Experience will also develop D8. (see Table 2).
BSc (Hons)	Biomedical Science (Sandwich)	360 credit points including 240 at level 6/5 of which 120 must be at level 6	6	A1-A8, B1-B6, C1-C2, D1-D8. (see Table 2).
BSc (Hons)	Biomedical Science with a Year Abroad	360 credit points including 240 at level 6/5 of which 120 must be at level 6	6	A1-A8, B1-B6, C1-C2, D1-D7, D9. (see Table 2).

Interim Award	Award Title	Minimum requirements	Available at end of Level	Programme Learning Outcomes developed (see above)
University Certificate		45 credit points at level 4	4	See UPR AS11, section 13: http://sitem.herts.ac.uk/secreg/upr/AS11.htm
Certificate of Higher Education		120 credit points at level 4	4, 5	See UPR AS11, section 13: http://sitem.herts.ac.uk/secreg/upr/AS11.htm
Diploma of Higher Education		240 credit points including at least 120 at level 5	5, 6	See UPR AS11, section 13: http://sitem.herts.ac.uk/secreg/upr/AS11.htm

To comply with the requirements of the IBMS named interim awards are not appropriate and therefore not available for this degree pathway. Students will be transferred to the BSc (Hons) Biological Science pathway within the Bioscience programme if they have not met the required learning outcomes for Biomedical Science in order to be given an interim award. (See Programme Specification for BSc (Hons) Biological Science for details of the Learning Outcomes that are developed.)

Students who undertake a professional training placement and achieve successful verification of the Institute of Biomedical Science (IBMS) Registration portfolio will gain the award of BSc (Hons) Applied Biomedical Science and will be eligible to apply to the Health and Care Professions Council (HCPC) for registration as a Biomedical Scientist.

Programme-specific assessment regulations

The programme complies with the University's academic regulations (in particular, [UPR AS11](#), [UPR AS12](#) and [UPR AS14](#)) with the exception of those listed below, which have been approved by the University:

Course Code	Course Instance	Award Title	Modules (child instance codes and Title)	Must be included in Award degree algorithm
HHBIOBIM	BIM4S	BSc (Hons) Applied Biomedical Science	6LMS0008 Bioscience Research Project	Yes
HHBIOBIM	BIM3F/4S	BSc (Hons) Biomedical Science	6LMS0008 Bioscience Research Project	Yes
HHBIOBIM	BIM4S	BSc (Hons) Biomedical Science with a Year Abroad	6LMS0008 Bioscience Research Project	Yes
HHBIOBIM	BIM4S	BSc (Hons) Biomedical Science (Sandwich)	6LMS0008 Bioscience Research Project	Yes

Further programme-specific regulations (requiring School-level approval) are given below:

- Appointment of an External Examiner who is a registered Biomedical Scientist to comply with IBMS requirements.
- The grade achieved in the optional 5LMS0003 Bioscience Work Experience module will not contribute to the calculation of the final award.
- Progression to Level 5 requires a minimum of 105 credits and a pass in the module, Practical and Transferable Skills.
- Progression to Level 6 requires a minimum of 105 credits at Level 5. The module 5LMS0003 Bioscience Work Experience may not be included in the credits required for progression.
- The title Biomedical Science cannot be included in the title of interim awards as specified by the IBMS.
- A pass grade in the final year project is required for a final award.
- A pass grade for the Sandwich Placement Year is mandatory for the receipt of BSc (Hons) Biomedical Science (Sandwich) award.
- A pass grade for the Year Abroad is mandatory for the award of BSc (Hons) Biomedical Science with a year abroad.
- Successful verification of a completed IBMS Registration portfolio is required for the award of BSc (Hons) Applied Biomedical Science.
- All modules which include practical sessions have an attendance requirement of at least 50% of the practical sessions in order to meet the learning outcomes of the module. Failure to attend the required proportion of sessions will normally result in the award of an FREN (Fail, re-enrol) grade.
- All Level 6 modules of the programme have an attendance requirement of at least 75% of the classes specified in the module. Failure to attend the required proportion of classes and failure of the module assessment at the first attempt will normally result in the award of an FREN (Fail, re-enrol) grade by the Module Board of Examiners.
- In order to satisfy accreditation requirements by the Institute of Biomedical Science, when considering students on the Biomedical Science or Applied Biomedical Science programme for an interim or final award, the Programme Board of Examiners may only award compensatory credit for level 4 modules (UPR AS14 D4.3 refers).
- The maximum period within which a student may gain an award on the programme is normally 5 years from their date of registration as a full-time student or 7 years from their date of registration as a part-time student.
- Students on the part-time mode may take a placement or year abroad but either of these needs to be completed in 1 year (7 years in total).

E. Management of Programme & Support for student learning.

Management

The programme is managed and administered through:

- Dean of School
- Associate Deans of School (AQA and Education) who have delegated responsibility for programmes in the Department of Biological and Environmental Sciences
- Academic Lead: Student Experience
- A Programme Leader and Deputy Year Tutors who are responsible for the day-to-day management; each of these tutors is responsible for a specific year of the programme but can also advise students on the programme as a whole
- A Deputy Tutor responsible for Biomedical Science
- An Admissions Tutor, with specific responsibility for open days and selection
- A Placements Tutor to assist with the procurement of placements
- A designated Administrator to deal with day to day administration associated with the programme
- Module Co-ordinators who are responsible for individual modules
- A programme committee, the membership of which includes students, academic and professional staff, IH representation.

The Programme Leader has overall day-to-day responsibility for the programme including induction, administration, chairing the Programme Committee and for the production of the Annual Monitoring and Evaluation Report (AMER).

The Programme Committee will:

- determine policy in relation to the programme in line with University UPRs;
- ensure consistency of practice and treatment of students across the programme;
- ensure the administrative operation and assessment procedures of the programme are undertaken in line with the University and programme regulations;
- develop the programme and in particular stimulate curriculum development;
- monitor admissions in relation to student targets set for the programme;
- monitor, evaluate and review the operation of the programme;
- consider and recommend changes to courses and submit these changes to the School Academic Quality Committee;
- submit for ratification recommendations for external examiners to the School Academic Quality Committee;
- review the AMER action plan;
- respond to concerns raised by students or academic staff during delivery of the programme.

The Programme Committee consists of:

- The Programme Leader (Chair)
- Deputy Programme Leaders
- Programme Administrator (Clerk)
- Academic Lead: Student Experience, Biological and Environmental Sciences
- Head of Department, Biological and Environmental Sciences (Ex-officio)
- Associate Dean Academic Quality Assurance (Ex-officio)
- Appropriate Subject Leads
- Module Co-ordinators
- Admissions Tutor
- Placements tutor
- IH representative
- Representative of the technical staff

Student representatives from each year of the programme attend meetings of the Programme Committee. The reps are supported by the School Community Organiser.

Support

Students are supported by:

- A Programme Leader to help students understand the course/programme structure and provide advice and support.
- Deputy Programme Leaders including: Year Tutors who monitor attendance and performance of students as well as providing support; Admission Tutor; and a Placement Tutor who oversees the management of placements.
- Personal Tutors to provide academic and pastoral support.
- Individual placement tutors, members of academic staff who support and visit students on placement
- Employment supervisors for students who undertake a year's placement or work experience module
- Academic supervisors in partner institutions for students who take a year abroad
- Student representatives, who are supported by UHSU and the School Student Representative Organiser (SSRO), are members of the programme committee.
- An induction week at the beginning of each new academic session
- Overseas Orientation
- English language support for overseas students
- Support for studies delivered by UHSU, by the Counselling Service and online through the IH I-Spy series.
- StudyNet, a versatile on-line inter-active intranet and learning environment
- Access to extensive digital and print collections of information resources
- Telephone and online support for all learning resources
- Attractive modern study environments in 2 Learning Resources Centres which have 24hr access
- A School Information Manager within Information Hertfordshire who supports students in their use of learning resources
- A substantial Student Centre that provides advice on issues such as finance, University regulations, legal matters, accommodation, international student support, etc
- Office of Dean of Students, incorporating Chaplaincy, Counselling and nursery
- Medical Centre
- A Mathematics Drop-in Centre
- University Disability Advisors
- An Equal Opportunities Officer
- The Students' Union
- Guided student-centred learning on StudyNet module sites
- A Careers and Employment Service for all current students and graduates

F. Other sources of information

In addition to this Programme Specification, the University publishes guidance to registered students on the programme and its constituent modules:

- A Programme (or Student) Handbook;
- A Definitive Module Document (DMD) for each constituent module;
- A Module Guide for each constituent module;
- A Student Placement Handbook;
- University of Hertfordshire Course website:
<http://www.herts.ac.uk/courses/>

Additional sources of information include:

- SEEC Credit Level Descriptors for Further and Higher Education (2016): <http://www.seec.org.uk/wp-content/uploads/2016/07/SEEC-descriptors-2016.pdf>
- Information on Programme and Module External Examiners <http://www.studynet1.herts.ac.uk/ptl/common/studentcentre.nsf/Teaching+Documents/184A221E5EECA6B780257A5C00250BA9?OpenDocument>
- Information on the School Confidentiality policy <http://sitem.herts.ac.uk/secreg/documents/General/2016-02-01-LMS-Confidentiality%20Policy.pdf>
- Information on the School Rules of Procedure and Proceedings with respect to a Student's Complaint regarding the quality of the Learning Experience on Practice and Work Placements <http://sitem.herts.ac.uk/secreg/documents/General/2016-02-01-LMS-Practice%20Complaints%20Policy.pdf>
- Institute of Biomedical Science: <https://careers.ibms.org/students/choosing-an-accredited-degree/about-accredited-degrees/>
- Royal Society of Biology: <https://www.rsb.org.uk/education/accreditation>

The [Ask Herts](#) website provides information on a wide range of resources and services available at the University of Hertfordshire including academic support, accommodation, fees, funding, visas, wellbeing services and student societies.

As a condition of registration, all students of the University of Hertfordshire are required to comply with the University's rules, regulations and procedures. These are published in a series of documents called 'University Policies and Regulations' (UPRs). The University requires that all students consult these documents which are available on-line, on the UPR web site, at: <http://www.herts.ac.uk/secreg/upr/>. In particular, [UPR SA07](#) 'Regulations and Advice for Students' Particular Attention - Index' provides information on the UPRs that contain the academic regulations of particular relevance for undergraduate and taught postgraduate students.

In accordance with section 4(5) of the Higher Education and Research Act 2017 (HERA), the UK Office for Students (OfS) has registered the University of Hertfordshire in the register of English higher education providers. The Register can be viewed at: <https://www.officeforstudents.org.uk/advice-and-guidance/the-register/the-ofs-register/>. Furthermore, the OfS has judged that the University of Hertfordshire delivers consistently outstanding teaching, learning and outcomes for its students. It is of the highest quality found in the UK. Consequently, the University received a Gold award in the 2018 Teaching Excellence and Student Outcomes (TEF) exercise. This award was made in June 2018 and is valid for up to 3 years. The TEF panel's report and conclusions can be accessed at: <https://www.officeforstudents.org.uk/advice-and-guidance/teaching/tef-outcomes/#/provider/10007147>

Other information relevant to the programme

The awards of BSc (Hons) Applied Biomedical Science and BSc (Hons) Biomedical Science are accredited by the Institute of Biomedical Science. Students are successful in the academic component of the programme and who undertake a professional training placement and achieve successful verification of the Institute of Biomedical Science (IBMS) Registration portfolio will gain the award of BSc (Hons) Applied Biomedical Science and will be eligible to apply to the Health and Care Professions Council (HCPC) for registration as a Biomedical Scientist.

Students gaining a BSc (Hons) Biomedical Science, BSc (Hons) Biomedical Science (Sandwich) or BSc (Hons) Biomedical Science with a Year Abroad are eligible to apply for Associate Membership of the Royal Society of Biology.

The University of Hertfordshire is a signatory of the Concordat of Openness on animal research and animals are used in research and teaching, when there are no alternatives.

G. Entry requirements

The normal entry requirements for the programme are:

104 UCAS points to include 2 science GCE A Levels (or equivalent) one of which must be a grade C in Biology or Chemistry (Acceptable science A Levels are Human Biology, Psychology, Geography, Maths and Physics) or BTEC Extended Diploma in Applied Science with a minimum DMM profile. A pass in the practical element of the science A Level is required. For IB 104 points from a minimum of 2 HL subjects at H4 or above to include Biology or Chemistry and one other Science (with the remaining points to come from a combination of HL, SL and Core).

Plus GCSE English language, Mathematics and double science (or 2 single sciences) at grade 4 or above (grade C under the old grading structure) (or equivalent).

Successful completion of Access to Science (or approved equivalent) with Merit profile in 45 credits at Level 3.

All International students are required to demonstrate an English Language capability of IELTS 6.0 (with no less than 5.5 in any band) or GCSE English language grade A-C.

All entrants must be a minimum of 18 years of age at the start of the course.

Students who undertake a placement year or enrol on the 5LMS0003 Bioscience Work Experience module may be required to complete a satisfactory Disclosure and Barring Service check prior to taking up the placement, workplace or volunteering opportunity as a requirement of the place of work.

The programme is subject to the University's Principles, Policies and Regulations for the Admission of Students to Undergraduate and Taught Postgraduate Programmes (in [UPR SA03](#)), along with associated procedures. These will take account of University policy and guidelines for assessing accredited prior certificated learning (APCL) and accredited prior experiential learning (APEL).

If you would like this information in an alternative format please contact:
Student Administrator: ICAdmin@herts.ac.uk

If you wish to receive a copy of the latest Programme Annual Monitoring and Evaluation Report (AMER) and/or the External Examiner's Report for the programme, please email a request to aqo@herts.ac.uk

Key to Programme Learning Outcomes

Knowledge and Understanding Successful students will be able to:

- A1 acquire the specific knowledge appropriate to biomedical science.
- A2 understand and apply the fundamental chemical and biological principles on which biomedical science is based.
- A3 appreciate the interactions between major body systems.
- A4 explain the biological processes leading to disease at a genetic, biochemical, cellular and physiological level.
- A5 apply the principles of analysis to an understanding of the role of the clinical laboratory in the diagnosis and monitoring of disease.
- A6 relate the interactions between microorganisms and humans to the development of infections and their control.
- A7 appreciate the relationship between theoretical concepts and the diagnosis and monitoring of disease.
- A8 show knowledge of the standards required of a Biomedical Scientist.
- A9 gain an understanding of the professional aspects of Biomedical Science from a sandwich placement in an approved training laboratory.
- A10 successfully complete an IBMS Registration portfolio of evidence to demonstrate meeting the HCPC Standards of Proficiency for Biomedical Scientists
- A11 understand the dynamics of health, illness and healthcare and their impact on the patient and the care pathway in responding to the management of their health status and related treatment.

Intellectual Skills Successful students will be able to:

- B1 analyse and solve problems related to Biomedical Science.
- B2 understand the ethical implications of their work.
- B3 be able to execute and report a research project in order to develop skills necessary for independent research.
- B4 apply theoretical concepts to the study of biomedical science and evaluate the relationships between theory and practice.
- B5 display an awareness of the existence and nature of value judgements.
- B6 demonstrate a critical approach in enquiry and a readiness to test hypotheses, interpret scientific data and, at Level 6, evaluate published literature.
- B7 demonstrate the necessary skills and attributes for further professional development.
- B8 understand professional accountability and work within the framework set out in the standards of conduct.
- B9 reflect critically on their performance and practice.
- B10 synthesise knowledge and evaluate research to support practice in the clinical setting

Practical Skills Successful students will be able to:

- C1 acquire appropriate laboratory skills, including safe working practices.
- C2 acquire appropriate computer skills.
- C3 perform safe receipt, handling and disposal of biological samples
- C4 undertake quality control methods and audit

Transferable Skills Successful students will be able to:

- D1 communicate effectively using a variety of formats.
- D2 use effectively a range of information sources.
- D3 organise and present intellectual argument commensurate with the level of award.
- D4 work effectively both alone and as part of a team.
- D5 be numerate.
- D6 develop the skills required for continued self-managed professional development, reflective practice and life-long learning.
- D7 to appreciate the importance of graduate attributes through reflective practice.
- D8 develop skills relevant to a work-place environment
- D9 develop the skills necessary to gain a knowledge and understanding of Bioscience topics in a different cultural environment.

D10 show an awareness of individual social and cultural factors that may impact on the care pathway

D11 relate theory to practice using decision-making skills

D12 demonstrate appropriate people management skills.

Section 2

Programme management

Relevant QAA subject benchmarking statements

Type of programme

Date of validation/last periodic review

Date of production/ last revision of PS

Relevant to level/cohort

Administrative School

QAA Biomedical Science (2015)

Undergraduate

November 17

April 19

Level 4 entering September 2020

School of Life and Medical Sciences

Table 3 Course structure

Course details		
Course code	Course description	HECOS
HHBIOBIM	BSc (Hons) Applied Biomedical Science / Biomedical Science	100265