

School of Life and Medical Sciences

Title of Programme: **BSc (Hons) Applied Biomedical Science (Work-Based)**

Programme Code: LMDAABS

# Programme Specification

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

Associate Dean of School (Academic Quality Assurance):  
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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 apprentices (students)<sup>1</sup> to help them choose the right programme of study, to current students on the programme, and to staff teaching and administering the programme.

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## Summary of amendments to the programme

Date	Section	Amendment
2/3/2020	Table 1a outline programme structure page 11	L6 Semester AB for Clinical Biochemistry and Immunology

If you have any queries regarding the changes please email [AQO@herts.ac.uk](mailto:AQO@herts.ac.uk)

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<sup>1</sup> In this document, “apprentice” and “student” are used interchangeably.

# Programme Specification Applied Biomedical Science (Work-Based)

This programme specification (PS) is designed for prospective apprentices (students), enrolled apprentices (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 apprentice 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

<b>Awarding Institution/Body</b>	University of Hertfordshire
<b>Teaching Institution</b>	University of Hertfordshire
<b>University campuses</b>	College Lane/De Havilland
<b>Programme accredited by</b>	Institute of Biomedical Science
<b>Final Qualification</b>	BSc (Hons)
<b>All Final Award titles (Qualification and Subject)</b>	Applied Biomedical Science (Work-Based)

<b>FHEQ level of award</b>	6
<b>UCAS code(s)</b>	B990
<b>Language of Delivery</b>	English

### A. Programme Rationale

The degree apprenticeship is a four year part-time programme which is designed for individuals employed within a pathology laboratory approved for training by the Institute of Biomedical Science (IBMS) who wish to combine their employment with university study to achieve a degree award. The programme will address the standards detailed under the 'Degree Apprenticeship Standard for Health Care Science Practitioner (HCSP) (Level 6)' which have been developed by employers in the healthcare sector. For individuals employed as an apprentice the paid contract must be a minimum of 30 hours/week and the employer will be responsible for university fees.

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. It 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 and how this fits into the patient pathway. The programme will be underpinned by an extensive practical programme to allow understanding and experience of the range of core and discipline-specific techniques. Professional modules will feature at each level to support the apprentices' knowledge and understanding of the professional and regulatory bodies associated with Biomedical Scientists and the expected conduct of the profession. Successful apprentices will develop their competence in the workplace by i) participation in the laboratory training programme ii) completing summative work-based assessments for credit-bearing modules, iii) successful verification of the IBMS Registration portfolio and iv) receiving a minimum pass for all elements of the End Point Assessment (EPA) to meet the HCSP Apprenticeship Standards. The Institute for Apprenticeships and Technical Education (IfATE) are the approving body for apprenticeship standards and the EPA plans. The integrated approach to academic scientific teaching combined with related employment in a diagnostic laboratory and within a hospital environment, will encourage synthesis of knowledge, facilitation of problem-solving skills and reflective practice, enabling the student to become an autonomous practitioner. Apprentices who complete the IBMS accredited degree, achieve successful verification of the IBMS Registration portfolio and pass the EPA will

gain the award of BSc (Hons) Applied Biomedical Science (Work-Based) and will be eligible to apply to the Health and Care Professions Council (HCPC) for registration as a Biomedical Scientist.

A distinctive feature of the programme is the blended approach to delivery of modules offering compatibility to a working apprentice. In this programme the work-based learning is instrumental in facilitating the integration of theoretical knowledge with its application in practice. The programme is designed to produce a graduate who can be adaptable and flexible, manage diagnostic activities and be responsive to changes in the health service, whilst working as part of a multidisciplinary team.

## B. Educational Aims of the Programme

The programme mirrors the aims and learning outcomes for the Applied Biomedical Science degree pathway with respect to the QAA Subject Benchmarking Statement for Biomedical Science (2015) and achievement of the Certificate of Competence from the IBMS. For the integrated degree apprenticeship programme higher degree level apprenticeship standards must be addressed and the associated End Point Assessment included in the programme. The combination of relevant employment in the biomedical field and study of an accredited degree seeks to produce graduates with a rounded understanding of how their academic knowledge can be applied in the workplace and enables them to become competent scientists in their profession.

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 apprentices to develop knowledge, understanding and investigative skills relevant to:

- scientific principles and methods underpinning life sciences in relation to the biomedical science profession and research, development and innovation in this field.
- the technical and intellectual skills that will 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.
- 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.

In addition, to enable the achievement of:

- the award of BSc (Hons) Applied Biomedical Science (Work-Based)
- the Certificate of Competence through successful external verification of the IBMS Registration Training Portfolio to fulfil both the academic and training requirements for HCPC registration as a Biomedical Scientist.
- successful completion of the End Point Assessment to meet the Level 6 HCSP Apprenticeship Standard.

## 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) and the Standard for the Level 6 Degree Apprenticeship for Health Care Science Practitioner (HCSP) have been used as a guiding framework for curriculum design.

Knowledge and Understanding	Teaching and learning methods	Assessment strategy
<p>Successful students will be able to:</p> <p>A1 acquire the specific knowledge appropriate to Biomedical Science.</p> <p>A2 understand and apply the fundamental chemical and biological principles on which Biomedical Science is based.</p> <p>A3 appreciate the interactions between major body systems.</p> <p>A4 explain the biological processes leading to disease at a genetic, biochemical, cellular and physiological level.</p> <p>A5 apply the principles of analysis to an understanding of the role of the clinical laboratory in the diagnosis and monitoring of disease.</p> <p>A6 relate the interactions between microorganisms and humans to the development of infections and their control.</p> <p>A7 appreciate the relationship between theoretical concepts and the diagnosis and monitoring of disease.</p>	<p>Acquisition of A1 – A7 is through a combination of lectures, laboratory classes, workshops and clinical case studies featured throughout the course using core modules to address fundamentals and discipline focused modules for specific areas in pathology. This is complemented by the research project and the workplace experience.</p> <p>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.</p> <p>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.</p> <p>A5 is achieved by introducing chemical principles at Level 4 and building on this foundation in Blood Sciences and Research and Professional Skills (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.</p> <p>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 6.</p> <p>A7 is achieved in lectures, practicals and workshops in Blood Sciences, Cytology and Histopathology, Cell and Molecular Biology, Genes and Genomes and Microbiology of Disease at Level 5 and is extended in all Level 6 taught modules. The Applied and Integrated Biomedical Science module will reinforce cross specialism aspects of disease diagnosis.</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>Testing of knowledge and understanding are assessed by a combination of laboratory reports, seminars, group work, problem-solving exercises, vivas, interpretative exercises written assignments, online tests, and unseen examinations. (A1 – A7).</p>

Intellectual skills	Teaching and learning methods	Assessment strategy
<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 demonstrate 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>B7 synthesise knowledge and evaluate research to support practice in the clinical setting.</p>	<p>Problem analysis and solving skills (B1) will be developed in all Level 4 and 5 modules but focused on in Research and Professional Skills 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 (Apprenticeship).</p> <p>Apprentices 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 Research and Professional Skills. L6 Applied and Integrated Biomedical Science (Apprenticeship) continues to consider ethical aspects of Biomedical Science.</p> <p>Aspects relevant to independent research (B3) are introduced in the Level 5 module, Research and Professional Skills 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 training in the workplace which is a requirement of the apprenticeship programme.</p> <p>Workshop exercises in all modules make a significant contribution to B5 and this is enhanced by taught material in Research and Professional Skills.</p> <p>To acquire B6 the student is introduced to the analysis of published literature as part of Research and Professional Skills at 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 Professional 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 Professional Skills at level 4, developed in assignments and Research and Professional Skills at Level 5 and reinforced in Clinical Biochemistry and Immunology and the project at Level 6.</p> <p>B7 is developed throughout the apprentice's employment in an IBMS approved laboratory and reinforced by taught material and assessments in modules; L4 Practical and Professional Skills, L5 Research and Professional Skills and L6 Applied and Integrated Biomedical Science (Apprenticeship).</p>	<p>B1, B2 and B4 are assessed in laboratory reports and written assignments. In addition B1 is assessed by unseen examinations and online tests. The development of the project proposal in Research and Professional Skills demonstrates B1, B2 and B4.</p> <p>The completion of the IBMS registration portfolio requires evidence which addresses 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 is by the successful completion of an IBMS Registration portfolio of evidence to demonstrate meeting the HCPC Standards of Proficiency for Biomedical Scientists. Completion of e-Portfolio components for L4 Practical and Professional Skills, L5 Research and Professional Skills and L6 Applied and Integrated Biomedical Science (Apprenticeship) further reinforces the application of theory to practice.</p>

Practical skills	Teaching and learning methods	Assessment strategy
Successful students will be able to:		Learning outcomes associated with employment in an approved laboratory (C1 – C7) is assessed by e-Portfolio evidence required for L4 Practical and Professional Skills, L5 Research and Professional Skills and L6 Applied and Integrated Biomedical Science (Apprenticeship). Evidence summatively assessed will include Direct Observed Practical Skills (DOPS), response to professional practice scenarios and reflective pieces. Successful completion and verification of a IBMS Registration portfolio of evidence to demonstrate meeting the HCPC Standards of Proficiency for Biomedical Scientists evidences the student has addressed C1-C7.
C1 show knowledge of the standards required of a Biomedical Scientist.	C1 is initiated in the Practical and Professional Skills module and progresses with the L5 Research and Professional Skills and L6 Applied and Integrated Biomedical Science (Apprenticeship) by covering HCPC standards, the IBMS code of conduct, HCSP apprenticeship standards and the importance of quality in diagnostic investigations. Addressed overall by completion of the IBMS registration portfolio.	
C2 gain experience from employment within a suitable training laboratory.	C2 is achieved during their employment required for the apprenticeship.	
C3 gain an understanding of the professional aspects of Biomedical Science from the workplace in an approved training laboratory.	C3, C4 and C5, C6, C7 are achieved by employment in an IBMS approved training laboratory. C5-C7 is further reinforced by professional practice discussions within L4 Practical and Professional Skills, L5 Research and Professional Skills and L6 Applied and Integrated Biomedical Science (Apprenticeship).	
C4 successfully complete an IBMS Registration portfolio of evidence to demonstrate meeting the HCPC Standards of Proficiency for Biomedical Scientists.	The work-based learning enables C8 and C9 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.	C8 and C9 relates to assessment carried out within the workplace specifically. L4 Practical and Professional Skills, L5 Research and Professional Skills require Direct Observed Practical Skills (DOPS) assessments which evaluate skills related to C8 & C9.
C5 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 to treatment	Through alternating learning in this manner, practice informs theory and theory informs practice.	Assessment of C10 is by both formative and summative assessment in laboratory classes and the workplace; laboratory reports; viva voces; problem-solving exercises; interpretative exercises; and the Project.
C6 demonstrate knowledge of information governance and the impact this has in patient care	The majority of laboratory-based practicals will be taught in Practical and Professional Skills at Level 4. All modules in Level 5 contain a substantial practical component. Practical skills and safe working practices (C10) are therefore built up during Level 4 and applied to experiments in Level 5 and 6, consolidated in the workplace and culminate in an individual project.	The successful completion of the IBMS Registration portfolio of evidence to demonstrate meeting the HCPC Standards of Proficiency for Biomedical Scientists includes competency in areas C6-C10, C12-C13.
C7 understand the importance of considering patient needs, beliefs and rights and apply this knowledge to professional practice to support patients/service users	Computer skills (C11) are developed throughout the programme with subject specific software being introduced and used where appropriate.	Completion of e-Portfolio components for L4 Practical and Professional Skills, L5 Research and Professional Skills and L6 Applied and Integrated Biomedical Science (Apprenticeship) further reinforces the application of theory to practice.
C8 perform safe receipt, handling and disposal of biological samples.	Throughout, the learner is expected to consolidate their development of practical computer skills by use of computers available in the Learning Resource Centre and in the workplace.	C11 is evaluated in multiple modules to support varying assignment formats and use of the e-Portfolio. Multiple modules involve computer based sessions to support module learning outcomes and assessments.
C9 undertake quality control methods and audit	C12, C13 and C14 are developed throughout the apprentice's employment in an IBMS approved laboratory and reinforced by taught material and assessments in modules; L4 Practical and Professional Skills, L5 Research and Professional Skills and L6 Applied and Integrated Biomedical Science (Apprenticeship).	C14 is the assessment for the L6 Applied and Integrated Biomedical Science (Apprenticeship) module.
C10 acquire appropriate laboratory skills across a range of disciplines, including safe working practices.		
C11 acquire appropriate computer skills.		
C12 demonstrate the necessary skills and attributes for further professional development.		
C13 understand professional accountability and work within the framework set out in the standards of conduct.		

C14 successfully complete the apprenticeship End Point Assessment to demonstrate meeting the L6 Apprenticeship Standards for Healthcare Science Practitioner.		
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 during the project) and as part of a team (e.g. in group work, during group discussions and workshops).</p> <p>D5 be numerate.</p> <p>D6 develop the skills required for continued self-managed professional development, reflective practice and life-long learning.</p> <p>D7 appreciate the importance of graduate attributes through reflective practice.</p> <p>D8 show an awareness of individual social and cultural factors that may impact on the patient care pathway</p> <p>D9 relate theory to practice using decision-making skills</p> <p>D10 demonstrate appropriate people management skills.</p> <p>D11 demonstrate effective written communication for research purposes</p> <p>D12 be able to communicate methodology using appropriate language</p> <p>D13 reflect critically on their performance and practice.</p>	<p>Although transferable skills are embedded in the constituent modules of the programme, they are brought together in Level 4 in Practical and Professional Skills and at Level 5 in Research and Professional Skills. 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 presentations can be delivered in a non-threatening atmosphere and tutors give feedback. Varied assessments continue into L5 and L6 which require students to communicate in poster presentations, seminars, vivas, DOPS and in appropriate written formats to address data interpretations, case studies and literature-based assignments.</p> <p>Acquisition of D2 is through induction sessions at all three levels and in lectures and workshops in Level 4, in particular in Practical and Professional Skills and Level 5, Research and Professional Skills; scientific writing is throughout the course and the Project module in which information seeking will be facilitated by the project tutor.</p> <p>The teaching of D3 is initiated in Practical and Professional Skills with exercises on report writing, exam responses and oral communications; during year 1 tutors give feedback on written assignments for numerous modules to facilitate the development of skills; Level 5 Research and Professional Skills include formative exercises to analyse the arguments contained in a research paper. Level 6 and the project introduction make a significant contribution to the development of this skill. At all levels, and within all modules, feedback is provided to encourage students to enhance their arguments in different formats.</p> <p>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.</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 using the e-Portfolio used throughout the programme and assessed in modules; L4 Practical and Professional Skills, L5 Research and Professional Skills and L6 Applied and Integrated Biomedical Science (Apprenticeship).</p> <p>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. Evaluation of this skill is a major component reviewed within the workplace.</p> <p>D5 (numeracy) is assessed in numerous assignments throughout the programme and monitored by the personal tutor in Practical and Professional Skills and Research and Professional Skills.</p> <p>D6 is assessed in L4 Practical and Professional Skills, L5 Research and Professional Skills and L6 Applied and Integrated Biomedical Science (Apprenticeship). The IBMS registration portfolio includes these areas as part of the required competencies. The project also requires these skills.</p> <p>D7 is assessed in by e-Portfolio components required of modules; L4 Practical and Professional Skills, L5 Research and Professional Skills and L6 Applied and Integrated Biomedical Science (Apprenticeship). Practice based learning outcomes (D8-D10) will be assessed as part of the IBMS Registration portfolio of evidence to demonstrate meeting the HCPC Standards of</p>

The acquisition of D5 (numeracy) is initiated in lectures, workshops and class exercises in Practical and Professional 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 Research and Professional Skills 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 apprenticeship programme requires students to balance their employee responsibilities and academic study and is a requirement of the IBMS registration portfolio.

The importance of graduate attributes (D7) is discussed in Practical and Professional Skills in Level 4 and focused upon in Level 5 induction programme and Research and Professional Skills where students prepare their CV and reflect on their career development. Finally the importance of graduate attributes is a key part of the apprentice's employment and the Applied and Integrated Biomedical Science (Apprenticeship) module.

Practice-based learning outcomes (D8-D10) will be developed as part of the apprentice's employment in an approved training laboratory.

D11 is developed in the L5 Research and Professional Skills module and the L6 Bioscience project module to develop the communications expected for research proposals and using challenging literature to formulate the written assessments including the final project report.

D12 is a requirement of the Applied and Integrated Biomedical Science (Apprenticeship) module as students are expected to communicate the methodology for an assessed practical following an SOP (Standard Operating Procedure) format.

D13 is developed throughout the apprentice's employment in an IBMS approved laboratory and reinforced by taught material and assessments in modules; L4 Practical and Professional Skills, L5 Research and Professional Skills and L6 Applied and Integrated Biomedical Science (Apprenticeship).

Proficiency for Biomedical Scientists.

D11 is assessed by the L5 Research and Professional Skills module and the L6 Bioscience Research Project from assessments including a grant proposal and overall thesis report. Submission will test the appropriate communication for research associated work.

D12 requires a full laboratory report including a methods section in the format of a Standard Operating Procedure (SOP) for the L6 Applied and Integrated Biomedical Science (Apprenticeship)

Assessment of D13 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 e-Portfolio components for L4 Practical and Professional Skills, L5 Research and Professional Skills and L6 Applied and Integrated Biomedical Science (Apprenticeship).

Throughout, the learner is encouraged to develop transferable skills and graduate attributes by maintaining a record of evidence using their e-Portfolio and their Individual Learning Plan.

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

The programme is offered part-time (4 years) and leads to the award of a BSc (Hons) Applied Biomedical Science (Work-Based).

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

### Professional and Statutory Regulatory Bodies

The award of BSc (Hons) Applied Biomedical Science (Work-Based) is accredited by the Institute of Biomedical Science. Apprentices who are successful in the academic component of the programme and achieve i) successful verification of the Institute of Biomedical Science (IBMS) Registration Training Portfolio and ii) a pass for the End Point Assessment (EPA) will gain the award of BSc (Hons) Applied Biomedical Science (Work-Based) and will be eligible to apply to the Health and Care Professions Council (HCPC) for registration as a Biomedical Scientist. In addition, students will be required to pass all modules at Levels 5 and 6 as final compensatory credit for failed modules at these levels cannot be applied due to professional body requirements.

### Employment Status

Students who wish to complete this programme need to be in full time employment in an IBMS approved training laboratory and be sponsored by their employer for a Degree Apprenticeship. An award is only made to students who maintain full-time employment for the programme duration, although this does not need to be with the same employer throughout the programme.

### Work-Based Learning

The degree apprenticeship programme is an employer-led initiative which requires the individual to be employed in an IBMS approved training laboratory to support the development of the apprentice to become a competent Biomedical Scientist working in healthcare. The degree apprenticeship requires a minimum of 20% 'off the job' (OTJ) training to satisfy apprenticeship funding requirements. This must take place during contracted working hours and can be at the site of employment or off-site at the HEI or via distance learning. The degree programme involves a blended learning delivery to meet the minimum 20% OTJ training through day and block release at the University, distance learning and work-based training in the laboratory. Apprentices will use an e-Portfolio tool to reflect each apprentice's growing competence in practice and the development of skills and knowledge required of a Biomedical Scientist. The e-Portfolio will capture evidence required for; the IBMS training portfolio, the Apprenticeship End Point Assessment (EPA) professional discussion, and work-based learning assessments for professional based modules on the programme at levels 4, 5 & 6. The EPA is completed as part of the degree programme within the year 4 module 6LMS0182 Applied and Integrated Biomedical Science (Apprenticeship). The purpose of the EPA is to assess how the apprentice can demonstrate the knowledge and skills developed through the apprenticeship outlined in the HCSP Apprenticeship Standard. It consists of three parts examined by an independent assessor; i) Readiness for Practice ii) Professional Discussion and iii) Research Presentation. The EPA plan indicates how each part of the EPA addresses each theme in the HCSP standard. The laboratory training programme and taught modules that include professional practice learning outcomes will give apprentices the opportunity to learn theory related to professional practice and develop practical competency in the workplace which supports the EPA expectations. Apprentices will undertake preparation activities to enhance each apprentice's readiness to undertake the EPA through formative and summative exercises. Reflection by the apprentice on their personal and professional development forms a significant part of the expected work-based assessments and preparation for the EPA professional discussion. This engages the learner with the HCSP standards whilst encouraging continuing professional development.

## 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** Part Time.

The part-time study is across 4 years with each student studying 90cr across an extended academic year comprising semesters A, B & C.

**Entry point** Semester A

Table 1a Outline Programme Structure

### Level 4

	Module Code	Credit Points	Language of Delivery	% Examination	% Coursework	% Practical	Semesters	Year of Delivery
<b>Compulsory Modules</b>								
<u>Module Title</u>								
Cell and Microbiology (Apprenticeship)	4LMS0205	15	English	50	50	0	A	1
Human Physiology with Pharmacology (Apprenticeship)	4LMS0206	30	English	0	70	30	ABC	1
Molecular Biology and Genetics (Apprenticeship)	4LMS0207	15	English	0	100	0	B	1
Practical and Professional Skills (Apprenticeship)	4LMS0208	30	English	0	100	0	ABC	1
Chemistry for the Biological Sciences (Apprenticeship)	4LMS0209	15	English	0	100	0	A	2
Core Biochemistry (Apprenticeship)	4LMS0210	15	English	0	100	0	BC	2

### Level 5

	Module Code	Credit Points	Language of Delivery	% Examination	% Coursework	% Practical	Semesters	Year of Delivery
<b>Compulsory Modules</b>								
<u>Module Title</u>								
Genes and Genomes (Apprenticeship)	5LMS0128	15	English	50	50	0	A	2
Principles of Immunology (Apprenticeship)	5LMS0129	15	English	0	100	0	AB	2
Cell and Molecular Biology (Apprenticeship)	5LMS0130	15	English	0	50	50	B	2
Cytology and Histopathology (Apprenticeship)	5LMS0131	15	English	0	70	30	C	2
Blood Sciences (Apprenticeship)	5LMS0132	30	English	0	50	50	ABC	3
Research and Professional Skills (Apprenticeship)	5LMS0133	15	English	0	100	0	AB	3
Microbiology of Disease (Apprenticeship)	5LMS0134	15	English	0	100	0	C	3

## Level 6

Module Title	Module Code	Credit Points	Language of Delivery	% Examination	% Coursework	% Practical	Semesters	Year of Delivery
Cellular and Molecular Pathology (Apprenticeship)	6LMS0178	30	English	100	0	0	AB	3
Clinical Biochemistry and Immunology (Apprenticeship)	6LMS0179	30	English	50	50	0	AB	4
Clinical Microbiology (Apprenticeship)	6LMS0180	15	English	0	100	0	BC	4
Bioscience Research Project (Apprenticeship)	6LMS0181	30	English	0	70	30	AB	4
Applied and Integrated Biomedical Science (Apprenticeship)	6LMS0182	15	English	0	40	60	ABC	4

Progression to Year 2 requires successful completion of 90 credits from Year 1.

Progression to Year 3 requires successful completion of 90 credits from Year 2.

Progression to Year 4 requires successful completion of 90 credits from Year 3.

The award of an Honours degree requires 360 credit points passed with a minimum of at least 120 credits at Level 6 including the 6LMS0181 Bioscience Research Project (Apprenticeship) and 6LMS0182 Applied and Integrated Biomedical Science (Apprenticeship).

### 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 (Work-Based)	360 credit points including 240 at level 6/5 of which 120 must be at level 6	6	All programme learning outcomes, including C4 and C14 completion.
Interim Award	Award Title	Minimum requirements	Available at end of Level	Programme Learning Outcomes developed (see above)
BSc	Bioscience	300 credit points	6	A1, A2, A3, A4, A5, A6, A7, B1, B2, B3, B4, B5, B6, B7, C1, C2, C3, C5, C6, C7, C8, C9, C10, C11, C12, C13, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D13, D14.
University Certificate		45 credit points at level 4	4	See UPR AS11, section 13: <a href="http://sitem.herts.ac.uk/secreg/upr/AS11.htm">http://sitem.herts.ac.uk/secreg/upr/AS11.htm</a>
Certificate of Higher Education		120 credit points at level 4	4, 5	See UPR AS11, section 13: <a href="http://sitem.herts.ac.uk/secreg/upr/AS11.htm">http://sitem.herts.ac.uk/secreg/upr/AS11.htm</a>
Diploma of Higher Education		240 credit points including at least 120 at level 5	5, 6	See UPR AS11, section 13: <a href="http://sitem.herts.ac.uk/secreg/upr/AS11.htm">http://sitem.herts.ac.uk/secreg/upr/AS11.htm</a>

Named interim awards are not appropriate for this degree pathway. An apprentice identified as not meeting the learning outcomes for the Applied Biomedical Science (Work-Based) programme will be counselled on options for them. Apprentices will be advised to consider transferring to the full-time/part-time BSc (Hons) Biomedical Science pathway or BSc (Hons) Biological Science pathway within the Bioscience programme. (See Programme Specification for BSc (Hons) Biomedical Science and BSc (Hons) Biological Science for details of the Learning Outcomes that are developed).

An apprentice who has successfully passed the IBMS Registration Training Portfolio and the End Point Assessment will gain the award of BSc (Hons) Applied Biomedical Science (Work-Based) 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	Award Title	Modules (child instance codes and Title)	Must be included in Award degree algorithm
LMDAABS	BSc (Hons) Applied Biomedical Science (Work-Based)	6LMS0181 Bioscience Research Project (Apprenticeship)	Yes
LMDAABS	BSc (Hons) Applied Biomedical Science (Work-Based)	6LMS0182 Applied and Integrated Biomedical Science (Apprenticeship)	Yes

Further programme-specific regulations are given below:

- Progression to year 2 requires a minimum of 90 credits.
- Progression to year 3 requires a minimum of 90 credits.
- Progression to year 4 requires a minimum of 90 credits.
- A pass grade in 6LMS0181 Bioscience Research Project (Apprenticeship) and 6LMS0182 Applied and Integrated Biomedical Science (Apprenticeship) is required for the award of BSc (Hons) Applied Biomedical Science (Work-Based).
- Successful verification of a completed IBMS Registration Training Portfolio is required for the award of BSc (Hons) Applied Biomedical Science (Work-Based).
- 6LMS0182 Applied and Integrated Biomedical Science (Apprenticeship) module is compulsory for inclusion in the credit points total and degree algorithm. This is determined by the successful pass of the EPA in all three components i) Readiness for Practice ii) Professional Discussion and iii) Research Presentation.
- All constituent 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 will result in a capped grade of 40% even where the overall grade and respective examination or coursework elements have been passed.
- When considering students for a final award the Programme Board will not award additional compensatory credit (UPR AS/C/5 D4.4.1 refers)
- The maximum period within which a student may gain an award on the programme is normally 7 years from their date of registration as a part-time student.
- Apprentices are subject to the following policies; SA15 Student Fitness to Practise; SA 13 Student Discipline and the School Confidentiality Policy.
- An aegrotat award is not a permissible award for registration as a Biomedical Scientist.

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## E. Management of Programme & Support for student learning.

### Management

The programme is managed and administered through:

- Dean of School.
- Deputy Dean of School.
- Associate Deans of School (AQA and L&T) who have delegated responsibility for programmes in the School of Life and Medical Sciences.
- A Programme Leader and Year Tutors who are responsible for the day-to-day management; each of these year tutors is responsible for a specific year of the programme but can also advise students on the programme as a whole.
- An Admissions Tutor, with specific responsibility for open days, selection and interview processes.
- A designated Administrator to deal with day-to-day administration associated with the programme.
- Module leads who are responsible for individual modules.
- A programme committee, the membership of which includes apprentices, academic and professional staff, employers, service users and IH representation.
- An Employer Liaison Tutor to manage communications with employers and conduct external visits.

**The Programme Leader** has overall day-to-day responsibility for the programme including induction, administration, chairing the Programme Committee and submission of the Annual Monitoring and Evaluation Report (AMER). The member of staff assigned to the role will be a HCPC registered Biomedical Scientist.

#### **The Programme Committee will:**

- determine policy in relation to the programme;
- ensure consistency of practice and treatment of apprentices 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 targets set for the programme;
- monitor, evaluate and review the operation of the programme;
- monitor work-based experience;
- report on service user involvement;
- 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.

The Programme Committee consists of:

- The Programme Leader (Chair)
- Deputy Programme Leaders
- Programme Administrator (Clerk)
- Head of Department, Biological and Environmental Sciences (Ex-officio)
- Associate Dean Academic Quality Assurance (Ex-officio)
- Appropriate Subject Leads
- Module leads
- Admissions Tutor
- Employer Liaison Tutor
- IH representative
- Representative of the technical staff
- Apprentice representatives
- Employers
- Service User

## Support

Apprentices are supported by:

- A Programme Leader to help apprentices 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 an Employer Liaison Tutor.
- Personal Tutors to provide academic and pastoral support.
- Employer Liaison Tutor; member of academic staff who supports and visit students on in the workplace.
- Training Coordinator, training leads and mentors for support and guidance in the workplace.
- 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
- English language support using Academic English and Study Skills Development workshops and drop in sessions.
- Support for studies delivered by UHSU, by the Counselling Service and online through the IH I-Spy series.
- StudyNet and Canvas; 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
- Maths Support Service
- University Disability Advisors
- An Equal Opportunities Officer
- The Students' Union
- Guided student-centred learning on StudyNet module sites
- A Careers, Enterprise and Employment Service for all current students and graduates

### **In the Workplace**

A signed commitment statement is required to allow the apprentice to begin employment and study. This is a tri-partite agreement that sets out the commitments that each party will make to ensure that the apprentice can successfully complete the programme. This is signed by the Employer, UH and the apprentice. This outlines the expectations of the student, employer and educational provider. The support in place for apprentices in the workplace will involve a training team including an individual training lead with day-to-day supervision of the apprentice and a training coordinator with overarching responsibility for apprentices in the department and the liaison with the education provider. A workplace mentor will be a further support in the workplace to monitor apprentice progress and well-being. These individuals will support work-based assignments and professional portfolio alongside pastoral support. An Employer Liaison Tutor is in place to manage the communication between the employer and education provider and to conduct visits to apprentices in the workplace.

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## **F. Other sources of information**

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

- A Programme (or Apprentice) Handbook;
- A Definitive Module Document (DMD) for each constituent module;
- A Canvas site for each constituent module.
- Degree Apprenticeship Standard for Health Care Science Practitioner ([HCSP \(Level 6\)](#)).
- Degree Apprenticeship End-Point Assessment Plan for Healthcare Science Practitioners ([Level 6](#))

- University of Hertfordshire Course website: <http://www.herts.ac.uk/courses/>
- ESFA [Apprenticeship funding rules for training providers](#)

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://www.ibms.org/qualifications/accredited-degrees/>

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>

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## G. Entry requirements

Applicants to be considered for the degree apprenticeship in Biomedical Science must evidence learning at L3 in relevant subject areas as outlined under 'normal entry requirements' or be experienced individuals who are employed/previously employed in a pathology laboratory with prior experience of academic study at L3 or equivalent. For applicants currently employed their laboratory must be approved by the Institute of Biomedical Science (IBMS) for training to allow the completion of the IBMS registration training portfolio and support the apprentice in off the job training and successful completion of the End Point Assessment.

The normal entry requirements for the programme include:

- 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). A pass in the practical element of the science A Level is required.
- For BTEC Extended Diploma in Applied Science a minimum DMM profile 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). A minimum Level 2 functional skills in English and Mathematics are a requirement for entry onto the programme.

Applications are also welcomed from those holding other equivalent qualifications including, but not limited to:

- Successful completion of Access to Science (or approved equivalent) with Merit profile in 45 credits at Level 3.
- Those holding equivalent qualifications will be required to discuss their individual circumstances with the appropriate Admissions Tutor.

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).

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If you would like this information in an alternative format please contact:

Student Administrator: [icadmin@herts.ac.uk](mailto: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](mailto:aqo@herts.ac.uk)

## **BSc (Hons) Applied Biomedical Science (Apprenticeship)**

### **Table 2: Development of Intended Programme Learning Outcomes in the Constituent Modules**

This map identifies where the programme learning outcomes are assessed in the constituent modules. It provides (i) an aid to academic staff in understanding how individual modules contribute to the programme aims (ii) a checklist for quality control purposes and (iii) a means to help students monitor their own learning, personal and professional development as the programme progresses.

Programme Learning Outcomes (as identified in section 1 and the following page)

		Knowledge & Understanding							Intellectual Skills							Practical Skills														Transferable Skills														
Module Title		Code	A1	A2	A3	A4	A5	A6	A7	B1	B2	B3	B4	B5	B6	B7	C1	C2*	C3*	C4*	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	
Level 4	Cell and Microbiology (Apprenticeship)	4LMS0205	x	x				x		x					x																x	x	x	x	x	x								
	Chemistry for the Biological Sciences (Apprenticeship)	4LMS0209	x	x						x					x												x				x	x	x	x	x	x								
	Human Physiology with Pharmacology (Apprenticeship)	4LMS0206	x	x	x	x				x					x											x	x				x	x	x	x	x	x								
	Practical and Professional Skills (Apprenticeship)	4LMS0208	x	x						x	x			x	x		x	x	x	x	x	x	x	x		x	x			x	x	x	x	x	x	x					x	x		
	Core Biochemistry (Apprenticeship)	4LMS0210	x	x	x	x				x					x												x			x	x	x	x	x	x									
	Molecular Biology and Genetics (Apprenticeship)	4LMS0207	x	x		x				x					x												x			x	x	x	x	x	x									
Level 5	Blood Sciences (Apprenticeship)	5LMS0132	x	x	x	x	x			x	x			x	x	x								x	x	x			x	x	x	x	x	x										
	Genes and Genomes (Apprenticeship)	5LMS0128	x	x	x	x	x			x	x			x	x										x	x			x	x	x	x	x	x										
	Cell and Molecular Biology (Apprenticeship)	5LMS0130	x	x	x	x	x			x	x			x	x										x	x			x	x	x	x	x	x										
	Microbiology of Disease (Apprenticeship)	5LMS0134	x	x			x	x	x	x					x	x										x				x	x	x	x	x	x									
	Principles of Immunology (Apprenticeship)	5LMS0129	x	x	x	x	x	x			x				x	x										x				x	x	x	x	x	x							x		
	Research and Professional Skills (Apprenticeship)	5LMS0133	x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Cytology and Histopathology (Apprenticeship)	5LMS0131	x	x	x	x	x			x	x			x	x	x								x		x	x		x	x	x	x	x	x										
Level 6	Cellular and Molecular Pathology (Apprenticeship)	6LMS0178	x	x	x	x	x	x	x	x			x	x	x														x	x	x	x	x	x										
	Clinical Biochemistry and Immunology (Apprenticeship)	6LMS0179	x	x		x	x	x	x				x	x	x										x	x			x	x	x	x	x	x										
	Clinical Microbiology (Apprenticeship)	6LMS0180	x	x		x	x	x	x				x	x	x										x				x	x	x	x	x	x										
	Applied and Integrated Biomedical Science (Apprenticeship)	6LMS0182	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
	Bioscience Research Project (Apprenticeship)	6LMS0181	x	x						x	x	x	x	x	x										x	x			x	x	x	x	x	x	x		x		x	x				

## 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.

### Practical Skills Successful students will be able to:

- C1 show knowledge of the standards required of a Biomedical Scientist.
- C2 gain experience from employment within a suitable training laboratory
- C3 gain an understanding of the professional aspects of Biomedical Science from the workplace in an approved training laboratory
- C4 successfully complete an IBMS Registration portfolio of evidence to demonstrate meeting the HCPC Standards of Proficiency for Biomedical Scientists.
- C5 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.
- C6 demonstrate knowledge of information governance and the impact this has in patient care
- C7 understand the importance of considering patient needs, beliefs and rights and application of this knowledge to professional practice to support patients/service users
- C8 perform safe receipt, handling and disposal of biological samples
- C9 undertake quality control methods and audit
- C10 acquire appropriate laboratory skills, including safe working practices.
- C11 acquire appropriate computer skills.
- C12 demonstrate the necessary skills and attributes for further professional development
- C13 understand professional accountability and work within the framework set out in the standards of conduct
- C14 successfully complete the apprenticeship End Point Assessment to demonstrate meeting the L6 Apprenticeship Standards for Healthcare Science Practitioner.

### 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 demonstrate 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 synthesise knowledge and evaluate research to support practice in the clinical setting.

### 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 show an awareness of individual social and cultural factors that may impact on the patient care pathway.
- D9 relate theory to practice using decision-making skills.
- D10 demonstrate appropriate people management skills.
- D11 demonstrate effective written communication for research purposes.
- D12 be able to communicate methodology using appropriate language.
- D13 reflect critically on their performance and practice.

## Section 2

### Programme management

<b>Relevant QAA subject benchmarking statements</b>	QAA Biomedical Science (2015)
<b>Type of programme</b>	Undergraduate
<b>Date of validation/last periodic review</b>	April 19
<b>Date of production/ last revision of PS</b>	April 19
<b>Relevant to level/cohort</b>	Level 4 entering September 2020
<b>Administrative School</b>	School of Life and Medical Sciences

Table 3 Course structure

Course details		
Course code	Course description	HECOS
LMDAABS	BSc (Hons) Applied Biomedical Science (Degree Apprenticeship)	100265