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:

<table>
<thead>
<tr>
<th>Date</th>
<th>Section</th>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>30.03.21</td>
<td>Table 1a and 2</td>
<td>Correction of error for module name of Chemistry for Biologists 4LMS0004, changed from Chemistry for the Biological Sciences to Chemistry for Biologists</td>
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<tr>
<td>30.03.21</td>
<td>Table 1a</td>
<td>Correction of error, the wording Bioscience Work Experience* (available for Biomedical Sciences only) has been changed to Bioscience Work Experience, as all students studying Biomedical Science or Applied Biomedical Science can enrol on the Bioscience Work Experience module.</td>
</tr>
<tr>
<td>30.03.21</td>
<td>D</td>
<td>Amended minimum requirements for Sandwich award to 30 weeks as per UPR</td>
</tr>
</tbody>
</table>

If you have any queries regarding the changes please email AQQ@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

<table>
<thead>
<tr>
<th>Awarding Institution/Body</th>
<th>University of Hertfordshire</th>
</tr>
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<tbody>
<tr>
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</tr>
<tr>
<td>University/partner campuses</td>
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</tr>
<tr>
<td>Programme accredited by</td>
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<td></td>
<td>Royal Society of Biology</td>
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<td>Biomedical Science</td>
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<td></td>
<td>Biomedical Science (Sandwich)</td>
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<td>Biomedical Science with a Year Abroad</td>
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<tr>
<td>Language of Delivery</td>
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</table>

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 (2019) 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.

<table>
<thead>
<tr>
<th>Knowledge and Understanding</th>
<th>Teaching and learning methods</th>
<th>Assessment strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Successful students will be able to:</td>
<td>Acquisition of knowledge and understanding 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. 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. Acquisition of A4 is through lectures, practicals and workshops at Level 4 in Cell and Molecular Biology and Genetics; at Level 5 in Cytology and Histopathology, Blood Sciences, Cell and Molecular Biology and Genomes; and in all the level 6 modules. Assignments including a viva and seminar at Level 6 reinforce the outcome. 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</td>
<td>Knowledge and understanding are assessed through a combination of laboratory reports, seminars, group work, problem-solving exercises, interpretative exercises written assignments and unseen examinations. (A1 – A8). 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.</td>
</tr>
</tbody>
</table>
A8 - show knowledge of the standards required of a Biomedical Scientist.

For the award of Applied Biomedical Science only: 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.

Courses will, in turn, extend the consideration to the analysis of specific abnormalities.

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. The Applied and Integrated Biomedical Science module will reinforce the cross specialism aspects of disease diagnosis.

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.

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.

A9, A10 and A11 are achieved during a placement period in an approved laboratory.

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.

<table>
<thead>
<tr>
<th>Intellectual skills</th>
<th>Teaching and learning methods</th>
<th>Assessment strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
<td>Intellectual skills are developed through problem analysis and solving skills (B1) 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.</td>
<td>Intellectual skills are assessed through laboratory reports and written assignments (B1-3). The development of a project proposal in Bioscience Research Methods demonstrates B1, B2 and B4. The Project (B3) is tested by the assessment of</td>
</tr>
</tbody>
</table>
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. 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.

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).

Workshop exercises in all modules make a significant contribution to B5 and this is enhanced by taught material in Bioscience Research Methods.

To acquire B6 the student is introduced to the analysis of published literature as part of Bioscience Research Methods 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 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.

B7- B10 are developed throughout a sandwich placement in an approved laboratory.

Throughout, the learner is encouraged to develop performance whilst undertaking the research, the assessment of the report and a poster. 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. 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.
### Intellectual Skills further by independent study

Successful students will be able to:

**C1** - acquire appropriate laboratory skills across a range of disciplines, including safe working practices.

**C2** - acquire appropriate computer skills.

For the award of Applied Biomedical Science only:

**C3** - perform safe receipt, handling and disposal of biological samples

**C4** - undertake quality control methods and audit

### Teaching and Learning Methods

Practical skills are developed through laboratory-based practicals. These 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. 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. Throughout, the learner is expected to consolidate their development of practical computer skills by use of computers available in the Learning Resource Centre.

### Assessment Strategy

Practical skills are assessed through both formative and summative assessment in laboratory classes; laboratory reports; problem-solving exercises; unseen examinations; interpretative exercises; preparing abstracts; seminars; and the Project. 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.

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### 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 (e.g. on assignments or during the project) and as part of a team (e.g. in group work, during group discussions and workshops).

**D5** - be numerate.

### Teaching and Learning Methods

Transferable skills are developed through 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.

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.

### Assessment Strategy

Transferable skills are assessed through a combination of essays, abstracts, laboratory reports, posters, seminars, group reports, the Project report and written examinations throughout the course (D1-3). Performance in these skills is monitored by personal tutors and assessed as a portfolio in Practical and Transferable Skills and Bioscience Research Methods. D4 is assessed formatively by feedback in the laboratory, workshops and personal tutor groups and
D6 - develop the skills required for continued self-managed professional development, reflective practice and lifelong learning.

D7 - to appreciate the importance of graduate attributes through reflective practice.

D8 - develop skills relevant to a workplace 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.

and tutors give feedback; seminars, viva’s 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 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.
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, and leads to the award of a BSc Degree with Honours in Biomedical Science; BSc Degree with Honours in Applied Biomedical Science; BSc Degree with Honours in Biomedical Science (Sandwich) or BSc Degree with Honours in Biomedical Science with a Year Abroad.

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 (e.g. successful completion of level 4/5 of comparable degrees elsewhere). Intake is normally Semester A.

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). 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.

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.

- 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 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 by maintaining a record of evidence and completing a personal development plan.
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 supervised 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 Clinical, Pharmaceutical & Biological Science. 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 SLMS0003 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 Honours 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

<table>
<thead>
<tr>
<th>Compulsory Modules</th>
<th>Module Title</th>
<th>Module Code</th>
<th>Credit Points</th>
<th>Language of Delivery</th>
<th>% Examination</th>
<th>% Coursework</th>
<th>% Practical</th>
<th>Semesters</th>
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<tr>
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<td>Cell and Microbiology</td>
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<th>% Coursework</th>
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<td></td>
<td>Chemistry for Biologists</td>
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Level 5

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<th>Compulsory Modules</th>
<th>Module Title</th>
<th>Module Code</th>
<th>Credit Points</th>
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<th>% Examination</th>
<th>% Coursework</th>
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### Optional Modules

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<th>Module Title</th>
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<th>% Coursework</th>
<th>% Practical</th>
<th>Semesters</th>
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</table>

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

### Placement year – Biomedical Science

<table>
<thead>
<tr>
<th>Optional modules Module Title</th>
<th>Module Code</th>
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### Placement year – Applied Biomedical Science

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<th>Compulsory modules Module Title</th>
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<th>% Examination</th>
<th>% Coursework</th>
<th>% Practical</th>
<th>Semesters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandwich Year</td>
<td>6LMS0023</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td></td>
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### Level 6

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

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

<table>
<thead>
<tr>
<th>Interim Award</th>
<th>Award Title</th>
<th>Minimum requirements</th>
<th>Available at end of Level</th>
<th>Programme Learning Outcomes developed (see above)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma of Higher Education</td>
<td></td>
<td>240 credit points including at least 120 at level 5</td>
<td>5, 6</td>
<td>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></td>
</tr>
</tbody>
</table>

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:
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 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:

- A Programme Leader and Deputy Programme leader who are responsible for the day-to-day management
- Associate Deans of School (AQA and Education) who have delegated responsibility for programmes in the Department of Clinical, Pharmaceutical & Biological Science
• Academic Lead: Student Experience who has specific responsibility to ensure the programme supports students from a diverse range of backgrounds and abilities.
• Academic lead: Learning and Teaching who oversees continued professional development of academic staff, assessment strategies and pedagogical matters related to the development and delivery of the Programme.
• Year leads who are responsible for overseeing academic and pastoral support for each year in the Programme
• An Admissions Tutor, with specific responsibility for open days and selection
• A Placements Tutor to assist with the procurement of placements
• A designated programme administration team to deal with day to day administration associated with the Programme
• Module leaders who are responsible for individual modules
• The programme committee, the membership of which includes student representatives, academic and professional staff.

Support
Students are supported by:

• An induction week at the beginning of each new academic session
• Personal Tutors to provide academic and pastoral support
• The Programme Leader, Deputy programme leader and Year tutors to help students understand the course/programme structure and provide advice and support.
• Module leaders to help students understand the aims, outcomes and organisation of the modules
• Placement Tutor who oversees the management of placements and individual placement tutors, members of academic staff who support and visit students on placement
• Academic supervisors in partner institutions for students who take a year abroad
• 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
• A student counselling service, within the Student Wellbeing Centre.
• StudyNet, a versatile on-line inter-active intranet and learning environment
• Guided student-centred learning on StudyNet module sites
• Access to extensive digital and print collections of information resources
• Attractive modern study environments in 2 Learning Resources Centres
• A Mathematics Drop-in Centre
• A Medical Centre
• University Disability Advisors
• An Equality Office
• Careers Enterprise and Employment Services
• The Students’ Union
• Student representatives on the programme committee, who are supported by UHSU and the School Community Organiser
• Overseas Orientation
• English language support for overseas students

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.

Professional or Statutory Regulatory Body information:
• 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

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, Physics, ICT and Sports Studies) 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 students from non-majority English speaking countries require proof of English language proficiency, equivalent to an overall IELTS score of 6.0 with a minimum of 5.5 in each band.

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.

For current entry tariff point requirements, please refer to the relevant page for the Course on the University website or on the online prospectus.

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: ask@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
### BSc (Hons) Biomedical Science

**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.

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell and Microbiology</td>
<td>4LMS0155</td>
</tr>
<tr>
<td>Chemistry for Biologists</td>
<td>4LMS0004</td>
</tr>
<tr>
<td>Molecular Structure and Reactivity</td>
<td>4LMS0040</td>
</tr>
<tr>
<td>Human Physiology with Pharmacology</td>
<td>4LMS0002</td>
</tr>
<tr>
<td>Practical and Transferable Skills</td>
<td>4LMS0006</td>
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<tr>
<td>Core Biochemistry</td>
<td>4LMS0154</td>
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<tr>
<td>Molecular Biology and Genetics</td>
<td>4LMS0007</td>
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<tr>
<td>Blood Sciences</td>
<td>5LMS0007</td>
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<tr>
<td>Genes and Genomes</td>
<td>5LMS0091</td>
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<td>Cell and Molecular Biology</td>
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<td>Microbiology of Disease</td>
<td>5LMS0005</td>
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<tr>
<td>Principles of Immunology</td>
<td>5LMS0009</td>
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<td>Bioscience Research Methods</td>
<td>5LMS0001</td>
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<td>Cytology and Histopathology</td>
<td>5LMS0006</td>
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<td>Bioscience Work Experience</td>
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<td>Placement Year</td>
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<td>Year Abroad</td>
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<tr>
<td>Cellular and Molecular Pathology</td>
<td>6LMS0140</td>
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<td>Clinical Biochemistry and Immunology</td>
<td>6LMS0094</td>
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<td>Clinical Microbiology</td>
<td>6LMS0005</td>
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<td>Applied and Integrated Biomedical Science</td>
<td>6LMS0141</td>
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<td>Bioscience Research Project</td>
<td>6LMS0008</td>
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<table>
<thead>
<tr>
<th>Programme Learning Outcomes (as identified in section 1 and the following page)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge &amp; Understanding</td>
</tr>
<tr>
<td>---------------------------</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Bachelor’s Programme Specification / November 2020 / AS Review Date June 2021
KEY TO PROGRAMME LEARNING OUTCOMES

Knowledge and Understanding

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.

Practical Skills

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.

Intellectual Skills

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.

Transferable Skills

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 appreciate the importance of graduate attributes through reflective practice.
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.

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
QAA Biomedical Science (2019)
Type of programme
Undergraduate
Date of validation/last periodic review
November 17
Date of production/ last revision of PS
March 2021
Relevant to level/cohort
Level 4 entering September 2021
Administrative School
School of Life and Medical Sciences

Table 3 Course structure

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course description</th>
<th>HECOS</th>
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<tbody>
<tr>
<td>HHBIOBIM</td>
<td>BSc (Hons) Applied Biomedical Science / Biomedical Science</td>
<td>100265</td>
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