



# **AQH-B2-3a Undergraduate Programme Specification Template**

August 2015

**Faculty of Health Sciences & Wellbeing  
School of Nursing & Health Sciences**

***BSc Biomedical Science***  
***BSc Biomedical Science (Sandwich)***  
***BSc Applied Biomedical Science***

**2017-18**

**PROGRAMME SPECIFICATION**

## Version History

<b>Version</b>	<b>Occasion of Change</b>	<b>Change Author</b>	<b>Last Modified</b>
1.0	Version presented for approval	<i>Dr A Cunningham</i>	<i>30/3/11</i>
2.0	Amendments following institutional approval	<i>Dr A Cunningham</i>	<i>17/11/11</i>
3.0	Revisions at annual review after first year of operation	<i>Dr. R. Pullen</i>	<i>May 2013</i>
4.0	Revisions to project	<i>Dr. R. Pullen</i>	<i>Sept 2013</i>
5.0	HCS202 & HCS203 replaced with HCS226	<i>Dr J Armstrong</i>	<i>Aug 2016</i>
6.0	Revision for periodic review (template AQH-B2-3a)	<i>Dr J Armstrong</i>	<i>Aug-Sept 2016</i>
7.0	Programme specific regulations amended to prevent compensation of modules relating to subject specific benchmark statements (requirement of IBMS accreditation) (HCS106, HCS2xx modules)	<i>Dr J Armstrong</i>	<i>November 2016</i>

## SECTION A: CORE INFORMATION

1. Name of programme

**Biomedical Science**

2. Award title

BSc Honours

3. Programme linkage **Yes**

This is a group of related programmes which includes:

**Biomedical Science (Sandwich),**

**Applied Biomedical Science**

**Biomedical Studies**

**Extended Biomedical Science**

At the end of Stage 2 (level 5) transfer from Biomedical Science to Biomedical Science (Sandwich) or Applied Biomedical Science is possible and is subject to certain transfer criteria.

It is also possible to transfer to from Biomedical Science to the Healthcare Science suite of programmes during Stage 1 (level 4), subject to certain transfer criteria.

4. Is the programme a top-up only? **No**

5. Does the programme have a Foundation Year (level 3) associated with it so that students enter for a four-year programme and progress directly from the Foundation Year to Stage 1 (level 4) without having to re-apply? **Yes**

Please see the programme specification for Extended Biomedical Science

6. Level of award: Level 6

7. Awarding body: University of Sunderland

8. Which department is it in? School of Nursing & Health Sciences

9. Programme Studies Board? BioSciences

10. Programme Leader:

Biomedical Science: Dr Noel Carter

Biomedical Science (Sandwich): Dr Noel Carter

Applied Biomedical Science: Dr Noel Carter

**11. How and where can I study the programme?**

<b>At Sunderland:</b>	
Full-time on campus	X
Part-time on campus	X
As work-based learning full-time	
As work-based learning part-time	
As a full-time sandwich course	X for Applied and Sandwich
As a part-time sandwich course	
By distance learning	

<b>At a partner college:</b>	
Full-time in the UK	
Part-time in the UK	
Full-time overseas	
Part-time overseas	
By distance learning	
As a full-time sandwich course in the UK	
As a part-time sandwich course in the UK	
As a full-time sandwich course overseas	
As a part-time sandwich course overseas	
As work-based learning full-time in the UK	
As work-based learning part-time overseas	
Other (please specify)	

**12. How long does the programme take?**

**Biomedical Science, Biomedical Studies**

	Min number of years / months	Max number of years / months
Full-time	3 years	9 years
Part-time	6 Years	9 years
Distance learning		
Work-based learning		

### Applied Biomedical Science, Biomedical Science (Sandwich):

	Min number of years / months	Max number of years / months
Full-time	4 years	9 years
Part-time		
Distance learning		
Work-based learning	1 year	1 year

For start-dates please see the current edition of the Prospectus or contact the relevant department at the University. For start-dates for programmes delivered in a partner college, please contact the college.

### SECTION B – FURTHER CORE INFORMATION

Use Outline Programme Proposal Form for ADC ([AQH-B2-2](#)), for questions 13 to 25 (new programmes only)

#### 26. Learning and teaching strategy

All aspects of the learning environment and course organisation support learning, which is at the heart of the University of Sunderland culture. In line with the University's Learning and Teaching Plan, the methods employed on this programme aim to produce graduates competent in a range of subject-specific knowledge and skills appropriate to biomedical science, as well as transferrable skills that are universal for graduate employment. The teaching and learning strategy is designed to progressively develop the ability to learn independently and facilitate academic success within a supportive and productive learning environment. The teaching and assessments on the programme have been constructively aligned with the intended outcomes of student achievement. The programme integrates traditional lecture- and laboratory-based learning with active, experiential and enquiry-based learning, promoting inclusivity of different learning styles and cultural backgrounds. The learning and teaching strategy is focussed in two areas:

##### Subject-specific

Curriculum content is driven and informed by QAA subject benchmarks in Biomedical Science, the Institute of Biomedical Science (IBMS) and the Healthcare Science (Life Sciences) Curricula, providing an integrated curriculum and a developmental progression of learning, assessment and feedback. Teaching and learning methods are designed to support and challenge students, develop investigative and problem-solving skills and encourage creativity, and include a range of approaches to reflect different ways of learning, such as lectures, laboratory sessions, workshops/seminars, case-based learning, group work, one-to-one tutorials, as well as directed and independent study and use of the virtual learning environment (VLE). Assessment practices are an integral part of learning and teaching and a variety of formative and summative assessment types are incorporated to reflect the full range of programme learning objectives, with assessments based on threshold levels of learning. Formative feedback is often rapid, for example through the use of peer review or interactive response tool software (which also facilitates monitoring of student learning). Summative assessments have staggered submissions dates to

provide regular assessment and promote constructive use of feedback (which is provided within four working weeks). Both formative and summative assessment feedback contributes to academic development and is intended to support further learning as well as reflection and self-assessment.

The programme is designed to promote advancement in terms of academic understanding from fundamental knowledge and skills towards their application within clinical laboratory medicine disciplines and related basic and translational research. A central aim is to provide a curriculum that is informed by current and emerging developments in research and professional practice, and which draws directly upon staff research expertise (both discipline-specific and pedagogic) as well as external expertise through visiting lecturers. There has recently been significant investment in a 'Living lab' which provides a true interdisciplinary education environment reflecting advances in laboratory medicine, in particular the increasing use of Point of Care technology and the provision of personalised medicine. This will allow students to build on basic laboratory skills learnt at the bench by providing practical experience using real clinical instrumentation, as well as simulation of real-life scenarios, which will dramatically improve understanding of modern healthcare delivery and health research. This environment also promotes opportunity for inter-professional learning as well as contribution of the patient perspective through involvement of practitioners and patient, carer, and public involvement (PCPI) participants.

In addition, all students will have the opportunity to gain experience of the approach to, practice and appraisal of scientific research through an individual research project. Students will use the knowledge and skills learnt in the first two years to generate, analyse and evaluate scientific data and present this in the form of a conference poster and research paper.

#### Transferrable skills and enhanced employability

The prerequisite skills which characterise meaningful learning are also valued by employers. Whilst development of academic skills (analysis, critical thinking, and scientific writing) is embedded within the teaching and learning activities, a key aim of the programme is to enable students to identify and develop transferrable skills (such as numeracy, analytical, problem-solving, teamwork, communication, self-management, application of IT) through personal development planning and the use of a skills e-portfolio to facilitate student reflection on their learning and development as a graduate. The programme also provides opportunity for employer engagement through transfer to a degree with integrated clinical (Applied Biomedical Science, Healthcare Science: Life Science) or industrial (Biomedical Science (Sandwich)) placement, as well as via Careers days and employability-focussed seminars.

This combined approach is designed to continually develop both the subject-specific and transferrable skills required of biomedical science graduates, and students will be equipped for careers in clinical laboratory medicine (as Biomedical Scientists in the NHS), biomedical research or other health-related industries and services, as well as careers beyond those immediately related.

## **27. Retention strategy**

High quality student support (both academic and pastoral) is integrated with the programme and aims to build a culture which enables a sense of belonging and partnership. Successful completion of the programme demands student engagement and appropriate support from those involved in teaching, learning and pastoral care. Inclusivity, equality and diversity are embedded in the Institution values and act to enrich curricular, learning and teaching. A range of practices are implemented to promote student retention, and include support during the student journey

(induction, on-going personal tutoring, attendance monitoring, social events), academic support (inclusive teaching and learning approach, assistive technologies to aid learning, supportive learning environment), placement support (academic placement coordinator, administrative placement officer and work-based supervisor/mentor) as well as systems to support students with personal difficulties and disabilities. Furthermore, consistent and meaningful engagement with the student voice acts as a continual feedback mechanism to improve the student experience.

## **28. Any other information.**

The programme team have a close partnership with NHS employers and regular stakeholder meetings between employers, PCPI participants and the programme team provide a platform for ongoing review and development.

## **SECTION C - TEACHING AND LEARNING**

### **29. What is the programme about?**

The Biomedical Science programme focuses on how the human body functions at the molecular, cellular, organ and system levels, and the application of this knowledge to understand the causes, diagnosis, prevention and treatment of human disease. There is a strong emphasis on graduate employability, integrating employment-related skills into modules and developing laboratory and research skills throughout the course. Thus the programme aims to produce graduates who have significant scientific knowledge and an understanding of its application to the study of human disease, whilst also acquiring the highly valued experimental, analytical and transferrable skills applicable to a wide range of employment opportunities.

### **30. What will I know or be able to do at each Stage of the programme?**

#### **Learning Outcomes Stage 1 (level 4) – Skills**

By the end of this Stage of the programme successful students should know, understand or be able to do the following:

- S1 Analyse data from experimental techniques
- S2 Communicate concepts and ideas using a variety of appropriate methods
- S3 Identify and reflect upon interpersonal, transferable, and study skills

#### **Learning Outcomes Stage 1 (level 4) – Knowledge**

By the end of this Stage of the programme successful students should know, understand or be able to do the following:

- K1 Discuss a wide range of mechanisms and processes of life, from the molecular and cellular level through to those of the whole body systems
- K2 Recognise the role and professional practice of healthcare scientists

K3 Understand the importance of health and safety in the work place

### **Learning Outcomes Stage 2 (level 5) – Skills**

By the end of this Stage of the programme successful students should know, understand or be able to do the following:

S4 Analyse and interpret biomedical data using appropriate techniques

S5 Evaluate and synthesise information, arguments and analyses supported by evidence from appropriate sources

S6 Employ an analytical approach to an important research question in healthcare science

S7 Recognise safety and ethical issues within a scientific investigation

By the end of the placement year of the Biomedical Science (Sandwich) programme successful students should know, understand or be able to do the following:

S8 Identify the skills and knowledge obtained in the workplace relevant to enhanced employability and their application in practice

By the end of the placement year of the Applied Biomedical Science programme successful students should know, understand or be able to do the following:

S9 Demonstrate the competencies and professional standards of conduct expected of a Biomedical Scientist

### **Learning Outcomes Stage 2 (level 5) – Knowledge**

By the end of this Stage of the programme successful students should know, understand or be able to do the following:

K4 Articulate using appropriate terminology fundamental knowledge of cellular and physiological processes relevant to human health and disease

K5 Differentiate the clinical laboratory specialities specific to the investigation of disease processes

K6 Explain the principles of current techniques underpinning modern healthcare science

By the end of the placement year of the Biomedical Science (Sandwich) programme successful students should know, understand or be able to do the following:

K7 Theoretically underpin principles of biomedical science to the workplace environment

By the end of the placement year of the Applied Biomedical Science programme successful students should know, understand or be able to do the following:

K8 Theoretically underpin principles of biomedical science to the role of a Biomedical Scientist within clinical laboratory medicine

### **Learning Outcomes Stage 3 (level 6) – Skills**

By the end of this Stage of the programme successful students should know, understand or be able to do the following:

S10 Evaluate the application of a range of established techniques that form the basis of pathological diagnosis

S11 Evaluate the relevance and significance of scientific information

S12 Apply research and analytical methodologies to an individual research project

### **Learning Outcomes Stage 3 (level 6) – Knowledge**

By the end of this Stage of the programme successful students should know, understand or be able to do the following:

K9 Explain the pathophysiology of clinically relevant human diseases

K10 Summarise advanced understanding of current biomedical specialities and their application to patient care

K11 Theoretically underpin how emerging science and technology will impact the future of healthcare delivery

In addition, we offer an interim award **BSc (Hons) Biomedical Studies**. This is a non-accredited programme. The alternate Stage 3 (level 6) learning outcomes for this named award are as follows:

K9b Explain the pathophysiology of some clinically relevant human diseases

K10b Summarise advanced understanding of some current biomedical specialities and their application to patient care

K11b Theoretically underpin how emerging science and technology will impact the future of the biological sciences

#### **Note:**

To be awarded the BSc (Hons) Applied Biomedical Science the graduate must have gained all the required university credits **and** must also have successfully completed and had external verification of the Institute of Biomedical Science (IBMS) registration portfolio for the certificate of competence (which is required in order to enable registration with the HCPC as a Biomedical Scientist). An Aegrotat degree does not allow the student to register with HCPC.

#### **Interim awards**

In cases, where the student does not fulfil all the above requirements for the BSc (Hons) Biomedical Science degree, they could be eligible for a University interim award of:

- Certificate of Higher Education in Biomedical Science
- Diploma in Higher Education in Biomedical Science
- BSc (Hons) Biomedical Science Studies

As mentioned above, none of these allow registration with HCPC or carry accreditation by IBMS.

## Ordinary degree

If you are awarded an Ordinary degree you will have achieved the majority of the learning outcomes for the programme studied. However you will have gained fewer credits at Stage 3 than students awarded an Honours degree, your knowledge will typically be less broad and you will typically be less proficient in higher-level skills such as independent learning.

### 31. What will the programme(s) consist of?

Each undergraduate programme consists of a number of Stages from a minimum of 1 to a maximum of 4, each of which is equivalent to a year's full-time study. The summary below describes briefly what is contained in each Stage. Most programmes have a mixture of core (ie compulsory) modules and optional ones, often with increasing choice as you move through the programme and gain in experience. In some programmes the choice of optional modules gives you particular 'routes' through the programme. The programme structure including a detailed list of modules can be found in the Appendix.

The Biomedical Science programme is designed to meet the requirements of the Institute of Biomedical Science (IBMS) as well as the UK Health and Care Professions Council (HCPC) Standards of Proficiency. The programme is constructed to promote advancement in terms of academic understanding from fundamental knowledge and skills towards their application within clinical laboratory medicine disciplines and related basic and translational research, and consists of three stages, with core modules at Stages 1 (level 4) and 2 (level 5), and optional modules available at Stage 3 (level 6). Core and optional modules are identical across the programmes, with inclusion of an additional placement module in Biomedical Science (Sandwich) and Applied Biomedical Science.

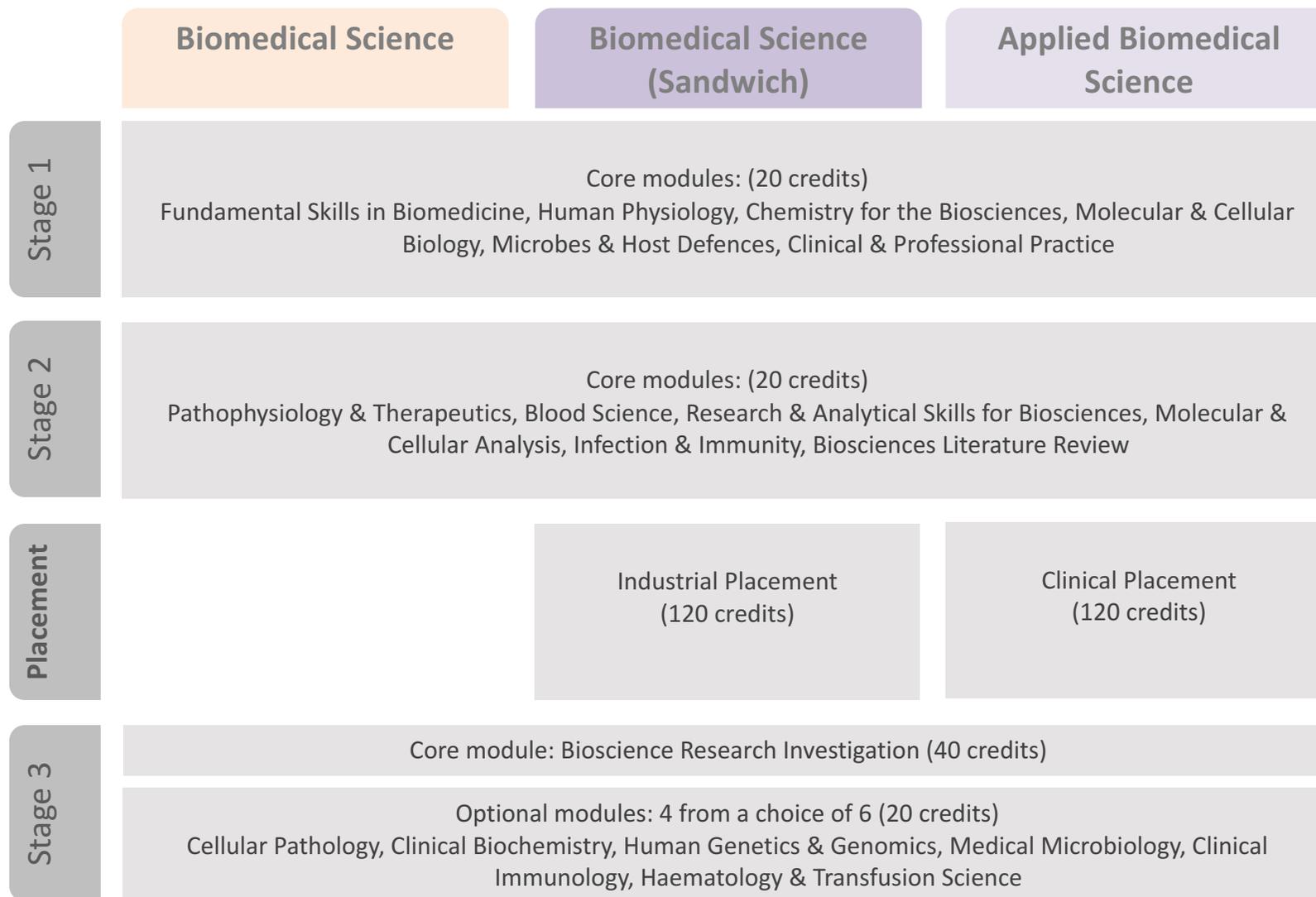
- **Biomedical Science** is delivered usually delivered on-campus in full-time mode over three years.

However, the course can be taken in a part time mode. This will not be advertised but will be available as a route for students transferring into the programme from another routes such as foundation degrees or apprenticeships where the student is already in the workplace. It also allows some flexibility for students to go part time if this is deemed appropriate for their circumstances and academic success

- **Biomedical Science (Sandwich)** is delivered both on-campus and via a placement, in full time mode over four years. Students undertake a placement in an industrial setting at the end of year 2.
- **Applied Biomedical Science** is delivered both on-campus and via a 40 week clinical placement, in full time mode over four years. Students undertake a placement in an IBMS approved training laboratory at the end of year 2. Completion and external verification of the Institute of Biomedical Science (IBMS) registration portfolio for the certificate of competence is required in order to graduate with the named award and enable registration with the HCPC as a Biomedical Scientist.

Students undertaking placements will be subject to the University Fitness to Practice Regulations (AQH-F-11).

The structure of BSc Biomedical Science, Biomedical Science (Sandwich), and Applied Biomedical Science are shown:



### Stage 1 (Level 4)

Module	Code	Credits
Fundamental Skills in Biomedicine	HCS111	20
Human Physiology	HCS102	20
Chemistry for the Biosciences	HCS112	20
Molecular and Cellular Biology	HCS113	20
Microbes and Host Defences	HCS114	20
Clinical and Professional Practice	HCS106	20

The aim of this year is to ensure all students have reached the same level of scientific development in core scientific subject areas. These core concepts and principles will provide the underpinning science for Stages 2 and 3, and meet the requirements of the Institute of Biomedical Science. Four core modules (HCS102, HCS112, HCS113, HCS114) in Stage 1 of the programme introduce students to human physiology, cell biology, chemistry and biochemistry, genetics, molecular biology, immunology and microbiology. Each module has a significant practical component, allowing development of subject-specific practical skills, alongside transferrable skills (numeracy, data handling, and use of information technology). A skills module (HCS111) will provide students with the tools to acquire the fundamental skills required in biomedical and healthcare sciences. This includes development of basic competency in laboratory skills and an understanding of laboratory health and safety, as well as science study skills. A further module allows students to put their studies into a professional context (HCS106). This module introduces the principles and practices of working in a clinical environment, relevant professional standards and appropriate attitudes and behaviours, as well as self-management and reflective practice.

### Stage 2 (Level 5)

Module	Code	Credits
Pathophysiology and Therapeutics	HCS201	20
Blood Science	HCS206	20
Research and Analytical Skills for Biosciences	HCS226	20
Molecular and Cellular Analysis	HCS227	20
Infection and Immunity	HCS228	20
Biosciences Literature Review	HCS229	20
Clinical Placement	HCS223	120
Industrial Placement	HCS224	120

In the second year, using fundamental knowledge developed in Stage 1, students are introduced to the clinical specialities within laboratory medicine, as well as an appreciation of the biology of disease and its analysis (HCS206, HCS227, HCS228). Students will further develop their practical skills beyond the basic competencies, with direct experience of a range of techniques relevant to the diagnosis and investigation of disease. An integrative module in Pathophysiology and Therapeutics (HS201) will provide students with a holistic understanding of selected disease processes and the scientific basis of pharmacology and the therapeutic management of disease, enabling students to reflect on the broader role of clinical laboratory specialisms.

A research and analytical skills module (HCS226) will focus on the role statistics in healthcare research and evidence-based medicine, as well as the principles and practice of scientific research. Students will also have the opportunity to work in a state of the art Instrumentation Analysis Laboratory as well as the Point of Care Centre within the newly developed 'Living Lab', allowing experience of real clinical instrumentation as well as simulation of real-life scenarios which will dramatically improve understanding of the science behind modern healthcare delivery. Students will additionally have the opportunity to undertake a literature-based bioscience research investigation relevant to the study of the nature, causes and development of human disease (HCS229), so developing a critical approach to research and information literacy. To extend the range of transferrable skills, analytical and problem-solving skills are introduced at this Stage, which will enable students to appreciate some of the issues related to the laboratory investigation of disease.

Students can transfer to Biomedical Sciences (Sandwich) or Applied Biomedical Science (subject to certain transfer / placement criteria):

**Biomedical Science (Sandwich):** A work placement takes place at the end of year 2. A work-based module (HCS224) will extend the principles learned at Stages 1 and 2 to gain practical and professional experience of a work environment within a biomedical industrial workplace.

**Applied Biomedical Science:** A clinical placement in an IBMS approved training laboratory takes place at the end of year 2. A work-based module (HCS223) will extend the principles learned at Stages 1 and 2 to gain practical experience of working in laboratory medicine whilst working towards the IBMS certificate of competence registration portfolio and the HCPC Standards of Proficiency.

### Stage 3 (Level 6)

Module	Code	Credits
Cellular Pathology	HCS303	20
Clinical Biochemistry	HCS304	20
Human Genetics and Genomics	HCS308	20
Medical Microbiology	HCS309	20
Bioscience Research Investigation	HCS324	40
Clinical Immunology	HCS328	20
Haematology and Transfusion Science	HCS329	20

The final year of the programme focuses on the theoretical and practical knowledge underpinning the specialisms within clinical laboratory medicine as defined by the IBMS, which is reflected in the suite of modules available as optional choices (HCS303, HCS304, HCS308, HCS309, HCS328, HCS329 - four modules are selected from a choice of six). Innovation in both basic and applied research (such as omics technologies, bioinformatics, point of care technology and personalised medicine) is embedded within the modules where appropriate, ensuring the next generation of scientists are equipped to deal with advances in healthcare. The final year research project (HCS324) gives students the opportunity to carry out novel research over an extended period and promotes independent learning in an area of Biomedical Science of their choice. Dedicated research laboratories and the Point of Care Centre, as well as collaboration between students,

academics, researchers, regional NHS Trusts and employers, provides the opportunity for students to be at the forefront of health research.

To further extend the range of transferrable skills, analytical and problem-solving skills are applied to more complex clinical cases and research questions, with an emphasis on engaging in critical assessment and intellectual argument. Skills such as self-management and workload organisation will be put into practice in preparation for employment.

### 32. How will I be taught?

Scheduled teaching activities	lectures, interactive laboratory and simulation practicals, computing sessions and seminars and workshops, including verbal presentations and posters, group work, case-based learning, directed learning, research project supervision
Independent study	Virtual learning environment
Placement	Work-based learning (Biomedical Science (Sandwich) & Applied Biomedical Science)

The strategy behind the teaching and learning approach used on the programme is to utilise a broad range of methods that reflect the different types of learning students undertake in terms of both skill development and knowledge acquisition, as well as to provide a diverse learning experience which addresses different learning styles. The programme integrates traditional lecture- and laboratory-based learning with active, experiential and enquiry-based learning, and is designed to encourage a progressive acquisition of subject knowledge and skills by moving from study methods that have a greater degree of support gradually towards more independence and self-direction.

#### Seminal lectures

Key subject knowledge will be delivered in lectures throughout the programme. These sessions incorporate various methods to convey ideas and concepts (such as verbal and visual presentation of information, demonstrations, multimedia and external speakers) with integrated active learning approaches (such as quizzes, brainstorming activities, and use of interactive response tool software) which can be used to inform teaching practice as well as assess learning and monitor progression. The active learning approach will progress from the early stage (Level 4), where activities test the acquisition of knowledge and understanding, to the final stage (Level 6) where activities are designed to promote analytical and critical thinking (in line with summative assessments).

#### Laboratory and practical classes

Laboratory and practical classes are an essential part of the learning experience, and are designed to promote development of a wide range of discipline-specific techniques and transferrable skills, as well as to demonstrate and reinforce material taught in lectures. A key feature is the extensive training in laboratory-based skills relevant to clinical laboratory medicine. Skills are developed sequentially during the programme, from developing competence in basic practical skills and an awareness of safe working practices in Stage 1 (level 4), discipline-specific techniques and analytical skills in stage 2 (level 5), towards the opportunity to develop skills of scientific inquiry and investigation at Stage 3 (level 6), alongside development of transferrable skills such as self-dependence and management of resources which are of significant value beyond the programme.

### Enquiry-based learning

A number of strategies for learning through enquiry-based approaches have been adopted, such as the use of case studies, small-scale investigations and engagement with research activity. These activities can be taken from real life or areas of professional practice, and the process of enquiry is facilitated by academic staff. This form of learning promotes a research-orientated approach to a problem and helps gain essential skills that are highly valued by employers.

### E-learning

Independent study is facilitated through the virtual learning environment (VLE) which gives access to learning materials, self-assessment exercises, sample data and virtual experiments, and discussion group facilities, as well as submission of work electronically. Links are provided to enable access to web-based tutorials, webinars and videos, which are central to the learning experience.

### Work-based learning (Biomedical Science (Sandwich) or Applied Biomedical Science)

Work-based learning offers the opportunity to develop problem-solving and practical skills that can only be learned by practising, and promotes development of an analytical, reflective approach to professional practice. For Applied Biomedical Science, work-based training takes place in recognised training laboratories that meet the criteria for an IBMS approved placement (as demonstrated by University audit).

A list of the modules in each Stage of the programme can be found in the Appendix.

A summary of the types of teaching, learning and assessment in each module of the programme can be found in the Matrix of Modes of Teaching (Appendix)

### **33. How will I be assessed and given feedback?**

Written examinations	Multiple choice questions Short/long answer questions Problem-solving Case study & data interpretation
Coursework	Laboratory report, Portfolio, Health & safety review, media summary, Essay (descriptive and reflective), Case study, Oral presentation, Poster, Research proposal Dissertation, Science communication exercise, Research report, Evaluative analysis, Professional portfolio
Practical assessments	Laboratory work

A summary of the types of teaching, learning and assessment in each module of the programme can be found in the **Matrix of Modes of Teaching (Appendix)**

The generic assessment criteria which we use can be found [here](#). Some programmes use subject-specific assessment criteria which are based on the generic ones.

This programme uses the Generic University Assessment Criteria	<b>YES</b>	
This programme uses the Subject Specific Assessment Criteria	<b>YES</b>	

The University assessment regulations can be found [here](#).

The assessment strategy has been developed in line with University policy, but also aims to build on good practice developed in the department to date. Assessments are designed to become more demanding as the programme progresses in line with the development of skills in the interpretation and evaluation of scientific information.

#### Written examinations

Written examinations are included in most modules, with an emphasis on knowledge retention at Stage 1 (Level 4), short answer/essay and problem solving questions demonstrating understanding and application at Stage 2 (Level 5), and long essay questions focussed on interpretation and evaluation of scientific information at Stage 3 (Level 6).

#### Coursework

Laboratory reports are a key assessment type and are used throughout the programme to practice the ability to analyse and interpret data and place experimental results within a broader scientific context, and to underpin professional standards of presenting scientific reports. This is highlighted in the final year where the research project assessment is a report in the style of a research paper suitable for submission to Bioscience Horizons (an online journal which publishes undergraduate and taught masters bioscience research).

A range of additional coursework assessments are included at different stages, which progress from short descriptive essay writing, oral presentation and media summary (designed to identify appropriate sources of information and promote communication of scientific concepts to a variety of audiences) in Stage 1 (level 4), to the introduction of problem solving questions and case studies as well as a scientific research proposal and a literature-based dissertation (all of which have a greater emphasis on application and analysis) in Stage 2 (level 5). In Stage 3 (level 6), assessment methods are designed to encourage critical evaluation of information and data interpretation in the context more complex problems, clinical cases or areas of emerging technology and innovation in healthcare.

#### Practical and portfolio assessments

Basic laboratory competencies are assessed at Stage 1 (level 4), forming a platform for the acquisition of discipline-specific practical skills during the programme. Assessments involving the production of a portfolio (such as to review practical skills, professional standards, or health and safety issues) provide a structured opportunity for self-assessment and reflection and facilitate personal development planning.

For **Applied Biomedical Science**, completion and external verification of the Institute of Biomedical Science (IBMS) registration portfolio for the certificate of competence is required in order to graduate with the named award and enable registration with the HCPC as a Biomedical Scientist.

Marking guidelines are used for all assessments, which undergo internal and external review, and are used to ensure consistency of marking. Assessments are marked according to the University of Sunderland generic assessment criteria, and all modules undergo standard moderation procedures to ensure fair assessment. Formative feedback is given throughout the programme, either

informally through interactive learning activities, or formally in selected modules. Summative assessment feedback is provided within four working weeks, promoting constructive feed-forward throughout the programme. Past examination papers are provided for revision purposes, and sessions are scheduled to discuss exam technique using past questions as examples.

The VLE is used extensively to deliver assessments and provide feedback, with significant use of *Turnitin* and *Grademark*. This is a very useful strategy to promote information literacy as originality reports generated by *Turnitin* are available, therefore identifying inappropriate writing practices.

**34.** Teaching, learning and assessment matrix – see **Appendix**

**35.** How does research influence the programme?

The Faculty considers research to be central to its activities and ethos. Many of the staff in the teaching team are research active, and engaged in research projects at the cutting edge of the discipline. The majority of permanent staff have a PhD qualification and most members of the team currently supervise PhD students in their areas of research. A significant proportion of the teaching staff on the programme was submitted to the last research exercise framework (REF) which measures research quality nationally.

The programme is strengthened by both academic research and clinical experience of the teaching staff, and the programme is underpinned by a research active curriculum (where appropriate teaching is supported by examples grounded in the basic and translational research of academic staff or visiting lecturers). Students learn about the work lecturers do as researchers, and in doing so, develop their own research skills. This is developed most during the final year project at Stage 3 (level 6) where students undertake new research in collaboration with staff in their research field. Additionally, many of the Stage 2 (level 5) and 3 (level 6) modules draw on staff research interests, providing students with a learning and teaching experience that is guided by expertise and enthusiasm. Staff research interests are diverse, and include developing personalised treatments for cancer, improving the outcomes and availability of organs for transplantation, understanding the role of proteins called “chemokines” in inflammation, antibiotic resistance, how cells communicate in cancer, the role of stem cells in cancer and food biotechnology. Staff are also engaged in reach-out activities, applying their expertise to projects in local industry or by collaboration with biomedical science laboratories within the NHS. Recent projects that have facilitated student research engagement include:

- Working with the microbiology department in City Hospitals Sunderland to use mass spectrometry as a way of detecting antibiotic resistance in bacteria. The Faculty have just invested £220,000 in a new MALDI-TOF mass spectrometer for use in teaching and research.
- Research in collaboration with transplant surgeons at the Newcastle Freeman hospital to expand the number of available donor organs (eg. feasibility of using kidneys that have had tumours removed as a source of new donor organs).
- Projects investigating at the role of stem cell genes in the progression and relapse of childhood cancers, and using stem cell models to a) improve our understanding of childhood cancer development and relapse, and b) to study the ways treatments can induce neurotoxicity.

- Projects investigating the role of proteins (chemokines) that can drive the inflammatory response in a wide range of processes from cancer to transplantation, and how drug treatments can be developed to reduce harmful inflammatory events.
- Projects in collaboration with regional, national and international Universities and research institutes, investigating aberrant cell signalling pathways in the development and progression of cancer. The research is focused on both early detection of cancer (prognostic biomarkers) and how to determine the best course of treatment - so called “personalised medicine”.

## SECTION D EMPLOYABILITY

### 36. How will the programme prepare me for employment?

The programme gives you the opportunity to develop skills which you can use in the future. Some skills are more specific than others to the subject area, or to a particular type of activity, but all skills can be applied in a range of employment situations, sometimes in quite unexpected ways. The skills which this programme is designed to develop are listed below

Academic study skills: avoiding plagiarism, time management, reading, note taking, referencing, revision analysis, and scientific writing

Practical skills: laboratory competency, experimental skills and techniques

Transferrable skills: numeracy, analytical, problem-solving, teamwork, communication, self-management & organisation, application of IT, consideration of ethical and safety requirements, critical thinking, personal development planning and reflection

A high value is placed on employability and the requirements of the Employability Curriculum Framework are embedded into the programme across all Stages. In line with the University’s Learning and Teaching Plan, the methods employed on this programme aim to produce graduates competent in a range of subject-specific knowledge and skills, as well as transferrable skills appropriate to biomedical science. Graduates will be equipped with specialist knowledge about how major diseases can be diagnosed and treated, as well as the ability to research, evaluate and synthesise information from a variety of sources. The emphasis on practical skills throughout the programme means graduates have a range of experience with the theory and practise of discipline specific and research methodology, which is not only relevant to the practice of clinical laboratory medicine and related research, but promotes the opportunity to actively develop a range of transferrable skills such as organisation and teamwork. The approach to the acquisition of transferrable skills is co-ordinated via scheduled activities throughout each module. Furthermore, personal development planning (PDP) is embedded within specific the modules (HCS111, HCS106, HCS223, HCS224, HCS226, HCS324), so that graduates develop to their full potential as reflective practitioners. PDP is also achieved through the personal tutoring system whereby new students are allocated a Personal Tutor who is able to provide advice and support throughout the programme.

**Skill e-portfolio :** The programme will develop the use of e-portfolios for students to continuously reflect on career-related activities and skills development. An e-portfolio can provide ready to use evidence of relevant work experience and transferrable skills gained during the programme, showcasing achievement and suitability when applying for graduate jobs.

The programme provides opportunity for employer engagement through transfer to a degree with integrated clinical (Applied Biomedical Science, Healthcare Science: Life Science) or industrial

(Biomedical Science (Sandwich)) placement, as well as via Careers days and employability-focused seminars.

**The BSc (Hons) Biomedical Science is accredited by the Institute of Biomedical Science (IBMS),** the professional body for those who work within the field of biomedical science. Accreditation confirms the course achieves a standard that allows its graduates to satisfy IBMS membership criteria as well as be acceptable as a preliminary academic qualification for registration with the Health and Care Professions Council (HCPC). Graduates are therefore prepared for suitable employment in biomedical science and may seek employment in the NHS, industry (pharmaceuticals, biotechnology, chemical or cosmetics) or undertake in medical or veterinary research in universities or research institutes. There are many career options that do not involve laboratory work, such as working health and safety or quality assurance roles, customer services, sales or IT. A number of graduates choose to continue in education, by studying for a Postgraduate Certificate in Education (PGCE), a Masters or PhD degree, or other programmes such as pharmacy or medicine.

**BSc (Hons) Applied Biomedical Science is accredited by the Institute of Biomedical Science (IBMS) and approved by the Health & Care Professions Council (HCPC)** and leads to eligibility to join the HCPC register as a Biomedical Scientist following graduation.

The programme team have a close partnership with NHS employers and regular stakeholder meetings between employers, PCPI participants and the programme team provide a platform for ongoing review and development. This enables employers to inform the University of any relevant changes within clinical laboratory medicine which may impact on the employability of graduates. The University offers a 'Preparation for Mentorship' course for NHS staff who act as mentors and verifiers for graduates of Applied Biomedical Science who then enter the NHS as Biomedical Scientists. The University (in collaboration with Northumbria University) also holds annual 'Train the Trainer' events for updates on issues within the education sector and NHS and for exchange of other relevant information.

There are also opportunities for on-campus students outside the programme of study. These include the opportunity to attend regional seminar series or conferences for national discipline-specific learning societies, or internal research seminars (given by University research students or external speakers). It is also possible to apply (in collaboration with a prospective supervisor) for a vacation research scholarship funded by a number of national societies, providing the opportunity to engage with an individual research project between Stages 2 and 3 of the programme.

For information about other opportunities available to our students who study on campus, click [here](#).

Additional opportunities to develop your experiences more widely will vary if you study at one of our partner colleges. For information about the extra-curricular activities available in any of our colleges please contact the college direct.

### **37. Particular features of the qualification**

**Biomedical Science (Sandwich):** graduates of this programme will have undertaken a placement in an industrial setting in the third year of study and students have to pass the placement module (HCS224).

**Applied Biomedical Science:** graduates of this programme will have undertaken approximately 1500 hours professional practice and students have to pass the placement module (HCS223). Completion of this programme entitles the graduate to join the HCPC register as a Biomedical Scientist.

**38.** Professional statutory or regulatory body (PSRB) accreditation. *Choose one of the following.*

PSRB accreditation is not relevant to this programme	
PSRB accreditation is currently being sought for this programme	
This programme currently has PSRB accreditation	X

**Biomedical Science, Biomedical Science (Sandwich) and Applied Biomedical Science** programmes are currently accredited by IBMS until: September 2017

**Applied Biomedical Sciences** is also approved by HCPC

The relevant PSRB(s) is/are:

Institute of Biomedical Science (IBMS): <https://www.ibms.org/>

Health and Care Professions Council (HCPC): <http://www.hcpc-uk.org/>

The terms of the accreditation are as follows: Successful completion of the programme and all modules passed. Applied Biomedical Science additionally requires successful completion of the placement module (HCS223).

There are programme-specific regulations relating to the following. Details are given in the programme regulations:

The modules to be studied	
Pass-marks for some or all modules and/or parts (elements) of modules	X
Requirements for progression between one Stage and another	
Placement requirements	
Attendance requirements	
Professional practice requirements	
Degree classification	
Other	

## SECTION E PROGRAMME STRUCTURE AND REGULATIONS

See Programme Regulations Form, for questions 39 and 40 in Appendix

## SECTION F ADMISSIONS, LEARNING ENVIRONMENT AND SUPPORT

### 41. What are the admissions requirements?

The University's standard admissions requirements can be found in the [university regulations](#). Programme-specific requirements which are in addition to those regulations are given below.

Our typical offer is 112 UCAS points from a minimum of two A Levels or equivalent (e.g. 1 x AVCE double award) including biology or chemistry. Please note we do not accept General Studies AS or A Level. Read more on the new [UCAS Tariff point system for 2017](#).

We accept a maximum of 20 points from Level 3 Key Skills qualifications. We also require three passes at GCSE grade C or above, which must include Mathematics and English Language, or a minimum of Level 2 Key Skills in Communication, Application of Number and Information Technology.

At the end of Stage 2 transfer from Biomedical Science to Biomedical Science (Sandwich) or Applied Biomedical Science is possible and is subject to certain transfer criteria. Students must have 120 credits at Level 4 and 120 credits at Level 5 in order to transfer.

In order to undertake the work-based training you will need a satisfactory disclosure from the Disclosure and Barring Service (DBS) and a medical check and be subject to interview by the hospital or industrial work placement provider. This selection process will be undertaken during the second year of the course.

**Access Courses:** We would require successful completion of an Access to Higher Education course that is accredited by the Quality Assurance Agency. We would also require a minimum of grade C in GCSE in Mathematics and English Language or the equivalent as part of your course.

If English is your second language we require a minimum of IELTS 6.0 (or equivalent).

Can students enter with advanced standing?	Yes	
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If yes, to which Stages?

Stage 1	X
Stage 2	X
Stage 3	X
Stage 4	

The University has a process by which applicants whose experience to date already covers one or more modules of the programme they are applying for may seek Accreditation of Prior Learning

(APL). Full details can be found [here](#) but if you think that this may be relevant to you, please contact the Faculty which offers the programme you are interested in. Eligibility for APL is decided on a case by case basis by the Admissions Tutor.

#### **42. What kind of support and help will there be?**

The university has several initiatives for providing help and support for students across the academic programme. The majority of our support processes are individually tailored to specific faculties and programmes so that personalised help can be offered wherever possible.

##### **a) The Personal Tutoring System**

The personal tutor is a source of personal and academic support where the student finds themselves in academic difficulty, and a source of 'referrals on' where s/he encounters personal difficulties. Personal tutorial meetings are primarily concerned with looking at the progress the student is making and identifying areas where they need to improve on the basis of overall module feedback and results. The meetings are also intended to ensure that the student has all of the information necessary to follow his/her programme and gain the most from it, and that s/he is aware of technical requirements (eg. module choices, policy on extensions). Students are assigned to a personal tutor who will remain with them for the duration of their programme. All personal tutors are equipped to provide specific and personal guidance about pastoral issues and will readily support students who might be finding a particular element of the programme challenging or unmanageable. Depending on the nature of issues with which students present, the personal tutor can become a channel for communication between academic and clinical or industrial placement provisions and can liaise directly with the relevant programme or module leaders, and can escalate concerns as required.

The personal tutor system is supported by the central University of Sunderland Support Services and it may be that following discussion, more specialist help needs to be provided for students, for example student counselling, to which students can be referred confidentially. Students will be advised that they can contact their personal tutor for one-to-one support if they wish to discuss issues in confidence, a service provided as and when required across the programme. Otherwise, personal tutor meetings should occur three times during the course of the year.

##### **Biomedical Science (Sandwich) and Applied Biomedical Science**

Students are allocated a clinical (registered Biomedical Scientist) or industrial mentor, as well as the placement module leader who is responsible for support within the placement area and provides tripartite support.

##### **b) In the university:**

The University provides a range of professional support services including [health and well-being](#), [counselling](#), [disability support](#), and a [Chaplaincy](#). Click on the links for further information.

##### **c) in a partner college:**

Please see the relevant college prospectus or website for details of student support if you are planning to study in one of our partner colleges.

**43. What resources will I have access to?**

On campus	x	In a partner college		By distance learning	
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**On campus**

General Teaching and Learning Space	X
IT	X
Library	X
VLE	X
Laboratory	X
Studio	
Performance space	
Other specialist	
Technical resources	X

The programme has excellent teaching resources including our new multi-million pound development in the Sciences Complex which includes:

- The latest teaching and learning facilities, including a problem-learning facility and IT suites, simulation areas linked to seminar rooms to facilitate use of state of the art simulation technology (eg. ‘sim man’ which will enable interactive learning of human physiology and pharmacology).
- A brand new MALDI-TOF MS and nanoHPLC MALDI spotter for both 2D-gel based proteomics and bacterial identification.
- A number of flow cytometers, including a brand new BD Accuri bench top flow cytometer for cell based assays
- Imaging suite including facilities for light, confocal and electron microscopy
- Social learning spaces including
  - Student learning lounge
  - Open access computers with PC help area (with access to relevant software)
- Exhibition space to promote science to industry and health professionals
- The Point of Care Centre provides a true interdisciplinary education environment reflecting advances in laboratory medicine. The centre includes the technology to monitor many physiological and biochemical variables, including devices such as a biphasic defibrillator, ECG monitors, audiometry equipment, as well as hand-held and bench-top biochemical analysers.

Further information about the University’s facilities can be found [here](#).

Please see the relevant college prospectus or website for details of college learning resources if you are planning to study in one of our partner colleges.

**44. Are there any additional costs on top of the fees?**

No, but all students buy some study materials such as books and provide their own basic study materials.	X
Yes (optional) All students buy some study materials such as books and provide their own basic study materials. In addition there are some are additional costs for optional activities associated with the programme (see below)	
Yes (essential) All students buy some study materials such as books and provide their own basic study materials. In addition there are some are essential additional costs associated with the programme (see below)	

**45. How are student views represented?**

All taught programmes in the University have student representatives for each Stage (year-group) of each programme who meet in a Student-Staff Liaison Committee (SSLC) where they can raise students' views and concerns. The Students' Union and the faculties together provide training for student representatives. SSLCs and focus groups are also used to obtain student feedback on plans for developing existing programmes and designing new ones. Feedback on your programme is obtained every year through module questionnaires and informs the annual review of your programme. Student representatives are also invited to attend Programme and Module Studies Boards which manage the delivery and development of programmes and modules. Various Faculty committees, particularly Faculty Student Success Committee, Academic Development Committee and Quality Management Sub-Committee also have student representation. This allows students to be involved in higher-level plans for teaching and learning. There is a parallel structure at university level on which students are represented by sabbatical officers who are the elected leaders of the Students' Union. The University's student representation and feedback policy can be found [here](#).

*Undergraduate programmes only:* Final-year students are also invited to complete a National Student Survey (NSS) which asks a standard set of questions across the whole country. The results of this are discussed at Programme Studies Boards and at Faculty Student Success Committee to identify good practice which can be shared and problems which need to be addressed. We rely heavily on student input to interpret the results of the NSS and ensure that we make the most appropriate changes.

*Programmes offered in partner colleges:* If you are studying in one of our partner colleges the college will have its own mechanisms for obtaining student feedback. Some of these may be the same as that on-campus at the University but others may be different. You should ask your college for further information.

## SECTION G QUALITY MANAGEMENT

### 46. National subject benchmarks

The Quality Assurance Agency for Higher Education publishes benchmark statements which give guidance as to the skills and knowledge which graduates in various subjects and in certain types of degree are expected to have. These can be found [here](#).

Are there any benchmark statements for this programme?	YES	
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The subject benchmark(s) for this programme are: [Subject Benchmark Statement: Biomedical Sciences](#)

The QAA also publishes a Framework for Higher Education Qualifications (FHEQ) which defines the generic skills and abilities expected of students who have achieved awards at a given level and with which our programmes align. The FHEQ can be found [here](#).

### 47. How are the quality and standards of the programme assured?

The programme is managed and quality assured through the University's standard processes. Programmes are overseen by Module and Programme Studies Boards which include student representatives. Each year each module leader provides a brief report on the delivery of the module, identifying strengths and areas for development, and the programme team reviews the programme as a whole. The purpose of this is to ensure that the programme is coherent and up-to-date, with suitable progression from one Stage to another, and a good fit (alignment) between what is taught and how students learn and are assessed - the learning outcomes, content and types of teaching, learning and assessment. Student achievement, including progress between Stages of the programme and degree classification, is kept under review. The programme review report is sent to the Faculty Quality Management Sub-Committee which in turn reports issues to the University's Quality Management Sub-Committee (QMSC) and Academic Development Committee (ADC).

External examiners are appointed to oversee and advise on the assessment of the programme. They ensure that the standards of the programme are comparable with those of similar programmes elsewhere in the UK and are also involved in the assessment process to make sure that it is fair. They are invited to comment on proposed developments to the programme. Their reports are sent to the Deputy Vice-Chancellor (Academic) as well as to the Faculty so that issues of concern can be addressed.

All programmes are reviewed by the University on a six-yearly cycle to identify good practice and areas for enhancement. Programmes are revalidated through this review process. These reviews include at least one academic specialist in the subject area concerned from another UK university. The University is subject to external review by the Quality Assurance Agency for Higher Education on a six-year cycle. Their review reports for Sunderland can be found [here](#).

Further information about our quality processes can be found [here](#).

# **APPENDIX**

**PART A****Teaching, Learning and Assessment Matrix  
BIOMEDICAL SCIENCES SUITE****Stage 1 (level 4):**

Module	Code	Core / Option	Modes of T&L	Modes of Assessment	LO K1	LO K2	LO K3	LO S1	LO S2	LO S3
<b>Fundamental Skills in Biomedicine</b>	HCS111	Core	L, LP, W, DS, IS, GW, RE	P, E			TD	TD	TDA	TDA
<b>Human Physiology</b>	HCS102	Core	L, LP, W, DS, IS, GW	Ex, Pr	TDA			TD	TDA	TD
<b>Chemistry for the Biosciences</b>	HCS112	Core	L, LP, W, DS, IS, GW	Ex, LR	TDA		T	TDA	TDA	TD
<b>Molecular and Cellular Biology</b>	HCS113	Core	L, LP, W, DS, IS, GW	Ex, LR	TDA		T	TDA	TDA	TD
<b>Microbes and Host Defences</b>	HCS114	Core	L, LP, W, DS, IS, GW	Ex, MS	TDA	TDA	TD	TD	TDA	TD
<b>Clinical and Professional Practice</b>	HCS106	Core	L, W, DS, IS	HSR, P		TDA	TDA			TDA

Modes of T&L: DS = Directed Study, GW = Group Work, IT = Individual Tutorial, IS = Independent Study, L = Lecture, LP = Laboratory practical, PBL = Problem Based Learning, RE = Research Engagement, W = Workshop.

Modes of Assessment: E = essay, Ex = Examination, LR = Laboratory Report, MS = Media Summary, P = Portfolio, Pr = Presentation, HSR = Health & Safety Review.

T = Taught, D = Developed, A = Assessed

## Stage 2 (level 5):

Module	Code	Core / Option	Modes of T&L	Modes of Assessment	LO K4	LO K5	LO K6	LO K7	LO K8	LO S4	LO S5	LO S6	LO S7	LO S8	LO S9
Pathophysiology and Therapeutics	HCS201	Core	L, LP, W, DS, IS, GW, CBL	Ex, LR	TDA		TD			TD	TDA				
Blood Science	HCS206	Core	L, LP, W, DS, IS, GW, CBL	Ex, C	TDA	TDA	TDA			TDA	TDA				
Research and Analytical Skills for Biosciences	HCS226	Core	L, LP, W, DS, IS, RE, EBL	Ex, RP			TD			TD	TDA	TDA	TDA		
Molecular and Cellular Analysis	HCS227	Core	L, LP, W, DS, IS, GW	Ex, SC	TD	TDA	TDA			TDA	TDA				
Infection and Immunity	HCS228	Core	L, LP, W, DS, IS, GW, CBL	Ex, LR	TDA	TDA	TD			TDA	TDA				
Biosciences Literature Review	HCS229	Core	L, DS, IS, IT, RE	D	TDA						TDA	TDA			
Clinical Placement	HCS223	Core	IS, PPr, DS	PP		D			TDA	D			D		TDA
Industrial Placement	HCS224	Core	IS, PPr, DS	P				TDA		D			D	TDA	

Modes of T&L: CBL = Case-Based Learning, DS = Directed Study, EBL = Enquiry-based Learning, GW = Group Work, IT = Individual Tutorial, IS = Independent Study, L = Lecture, LP = Laboratory practical, RE = Research Engagement, W = Workshop, PPr=Professional Practice.

Modes of Assessment: C = case study, D = Dissertation, Ex = Examination, LR = Laboratory Report, P = Portfolio, Pr = Presentation, PP = Professional Portfolio, RP = Research Proposal, RR = Research Report, SC= Science Communication exercise

T = Taught, D = Developed, A = Assessed

### Stage 3 (level 6):

Module	Code	Core / Option	Modes of T&L	Modes of Assessment	LO K9	LO K10	LO K11	LO S10	LO S11	LO S12
Cellular Pathology	HCS303	Option	L, LP, W, DS, IS, GW, CBL	Ex, C	TDA	TDA	TD	TDA	TDA	
Clinical Biochemistry	HCS304	Option	L, LP, W, DS, IS, GW, CBL	Ex, EA	TDA	TDA	TDA	TDA	TDA	
Human Genetics and Genomics	HCS308	Option	L, LP, W, DS, IS, GW, CBL	Ex, EA	TD	TDA	TDA	TDA	TDA	
Medical Microbiology	HCS309	Option	L, LP, W, DS, IS, GW	Ex, EA, Co	TD	TDA	TDA	TDA	TDA	
Bioscience Research Investigation	HCS324	Core	L, LP, IT, DS, IS, RE, EBL	SE, Po, RR			D		TDA	TDA
Clinical Immunology	HCS328	Option	L, LP, W, DS, IS, GW, CBL	Ex, LR	TDA	TD	TD	D	TDA	
Haematology and Transfusion Science	HCS329	Option	L, LP, W, DS, IS, GW, CBL	Ex, C	TDA	TDA	TD	TDA	TDA	

Modes of T&L: CBL = Case-Based Learning, DS = Directed Study, EBL = Enquiry-based Learning, GW = Group Work, IT = Individual Tutorial, IS = Independent Study, L = Lecture, LP = Laboratory practical, RE = Research Engagement, W = Workshop

Modes of Assessment: C = case study, Co = competency test, D = Dissertation, Ex = Examination, EA = Evaluative analysis, LR = Laboratory Report, Po = Poster, Pr = Presentation, RR = Research Report, SE = Supervisor evaluation

T = Taught, D = Developed, A = Assessed

## **PART B - Programme Regulation/s**

**Name of programme:** **Biomedical Science**

**Title of final award:** BSc with Honours in Biomedical Science

**Interim awards**<sup>1</sup>: Certificate in Higher Education; Diploma in Higher Education, Ordinary degree

**Biomedical Studies is a non-accredited programme.** *The BSc (Hons) Biomedical Studies is awarded to students who gain a degree under the University's progression regulations but do not meet the additional progression requirements to meet PSRB requirements (the 360 credits may include other non-accredited HCS modules from other bioscience programmes)*

**Accreditation:** BSc with Honours in Biomedical Science is accredited from 2016-2021 by the Institute of Biomedical Science (IBMS). The other awards are not accredited.

**University Regulation** (please state the relevant University Regulation)

AQH-F1-1: <https://docushare.sunderland.ac.uk/docushare/dsweb/View/Collection-2780>

### **Programme specific regulations to meet Professional Body requirements:**

Modules which relate to QAA subject specific benchmark statements cannot be compensated (after appropriate resit opportunities are offered in line with University regulations) to comply with IBMS accreditation guidance. This applies to HCS106 at Stage 1, all modules at Stage 2, and all modules at Stage 3.

**Regulations apply to students commencing their studies from** (please state the date / intake that these regulations will apply to students for each Stage):

<b>Regulations apply to students</b>	<b>Date the regulations apply</b>	<b>Intakes affected</b>
Stage 1	September 2017	2017 onwards
Stage 2	September 2017	2017 onwards
Stage 3	September 2017	2017 onwards

### **Stage 1**

Code	Title	Credits
HCS111	Fundamental Skills in Biomedicine	20
HCS102	Human Physiology	20
HCS112	Chemistry for the Biosciences	20
HCS113	Molecular and Cellular Biology	20
HCS114	Microbes and Host Defences	20
HCS106	Clinical and Professional Practice	20

### **Progression Regulations**

*To meet the requirements of the IBMS the following restrictions have been approved by Academic Board on the provisions of the university regulations:*

*HCS106 cannot be compensated so you must pass this module with an overall mark of 40%.*

<sup>1</sup> Same as main award unless agreed otherwise at validation – eg to meet PSRB requirements

<sup>2</sup> This will be the norm – university regulations apply

## Stage 2

Code	Title	Credits
HCS201	Pathophysiology and Therapeutics	20
HCS206	Blood Science	20
HCS226	Research and Analytical skills for Biosciences	20
HCS227	Molecular and Cellular Analysis	20
HCS228	Infection and Immunity	20
HCS229	Biosciences Literature Review	20

### Progression Regulations

*To meet the requirements of the IBMS the following restrictions have been approved by Academic Board on the provisions of the university regulations:*

*Stage 2 (level 5) modules cannot be compensated so you must pass each module with an overall mark of 40%.*

## Stage 3

### Core modules

Code	Title	Credits
HCS324	Bioscience Research Investigation	40

### Optional modules: to the value of 80 credits

Code	Title	Credits
HCS303	Cellular Pathology	20
HCS304	Clinical Biochemistry	20
HCS308	Human Genetics and Genomics	20
HCS309	Medical Microbiology	20
HCS328	Clinical Immunology	20
HCS329	Haematology and Transfusion Science	20

### Progression Regulations

*To meet the requirements of the IBMS the following restrictions have been approved by Academic Board on the provisions of the university regulations:*

*Stage 3 (level 6) modules cannot be compensated so you must pass each module with an overall mark of 40%.*

## **PART B - Programme Regulation/s**

**Name of programme:** **Biomedical Science (Sandwich)**

**Title of final award:** BSc with Honours in Biomedical Science (Sandwich)

**Interim awards<sup>2</sup>:** None

**Accreditation:** BSc with Honours in Biomedical Science (Sandwich) is accredited from 2016-2021 by the Institute of Biomedical Science (IBMS).

**University Regulation** (please state the relevant University Regulation)

AQH-F1-1: <https://docushare.sunderland.ac.uk/docushare/dsweb/View/Collection-2780>

### **Programme specific regulations to meet Professional Body requirements:**

Modules which relate to QAA subject specific benchmark statements cannot be compensated (after appropriate resit opportunities are offered in line with University regulations) to comply with IBMS accreditation guidance. This applies to HCS106 at Stage 1, all modules at Stage 2, and all modules at Stage 3.

**Regulations apply to students commencing their studies from** (please state the date / intake that these regulations will apply to students for each Stage):

<b>Regulations apply to students</b>	<b>Date the regulations apply</b>	<b>Intakes affected</b>
Stage 1	September 2017	2017 onwards
Stage 2	September 2017	2017 onwards
Stage 3	September 2017	2017 onwards

### **Stage 1**

Code	Title	Credits
HCS111	Fundamental Skills in Biomedicine	20
HCS102	Human Physiology	20
HCS112	Chemistry for the Biosciences	20
HCS113	Molecular and Cellular Biology	20
HCS114	Microbes and Host Defences	20
HCS106	Clinical and Professional Practice	20

### **Progression Regulations**

*To meet the requirements of the IBMS the following restrictions have been approved by Academic Board on the provisions of the university regulations:*

*HCS106 cannot be compensated so you must pass this module with an overall mark of 40%.*

<sup>2</sup> Same as main award unless agreed otherwise at validation – eg to meet PSRB requirements

<sup>2</sup> This will be the norm – university regulations apply

## Stage 2

Code	Title	Credits
HCS201	Pathophysiology and Therapeutics	20
HCS206	Blood Science	20
HCS226	Research and Analytical skills for Biosciences	20
HCS227	Molecular and Cellular Analysis	20
HCS228	Infection and Immunity	20
HCS224	Industrial Placement	120

### Progression Regulations

To meet the requirements of the IBMS the following restrictions have been approved by Academic Board on the provisions of the university regulations:

Stage 2 (level 5) modules cannot be compensated so you must pass each module with an overall mark of 40%.

## Stage 3

### Core modules

Code	Title	Credits
HCS324	Bioscience Research Investigation	40

### Optional modules: to the value of 80 credits

Code	Title	Credits
HCS303	Cellular Pathology	20
HCS304	Clinical Biochemistry	20
HCS308	Human Genetics and Genomics	20
HCS309	Medical Microbiology	20
HCS328	Clinical Immunology	20
HCS329	Haematology and Transfusion Science	20

### Progression Regulations

To meet the requirements of the IBMS the following restrictions have been approved by Academic Board on the provisions of the university regulations:

Stage 3 (level 6) modules cannot be compensated so you must pass each module with an overall mark of 40%.

## **PART B - Programme Regulation/s**

**Name of programme:** Applied Biomedical Science

**Title of final award:** BSc with Honours Applied Biomedical Science

**Interim awards:** None

**Accreditation:** BSc with Honours Applied Biomedical Science is accredited from 2016-2021 by the Institute of Biomedical Science (IBMS) and approved by the Health and Care Professions Council (HCPC).

**University Regulation** (please state the relevant University Regulation)

AQH-F1-1: <https://docushare.sunderland.ac.uk/docushare/dsweb/View/Collection-2780>

### **Programme specific regulations to meet Professional Body requirements:**

Modules which relate to QAA subject specific benchmark statements cannot be compensated (after appropriate resit opportunities are offered in line with University regulations) to comply with IBMS accreditation guidance. This applies to HCS106 at Stage 1, all modules at Stage 2, and all modules at Stage 3.

**Regulations apply to students commencing their studies from** (please state the date / intake that these regulations will apply to students for each Stage):

<b>Regulations apply to students</b>	<b>Date the regulations apply</b>	<b>Intakes affected</b>
Stage 1	September 2017	2017 onwards
Stage 2	September 2017	2017 onwards
Stage 3	September 2017	2017 onwards

### **Stage 1**

Code	Title	Credits
HCS111	Fundamental Skills in Biomedicine	20
HCS102	Human Physiology	20
HCS112	Chemistry for the Biosciences	20
HCS113	Molecular and Cellular Biology	20
HCS114	Microbes and Host Defences	20
HCS106	Clinical and Professional Practice	20

### **Progression Regulations**

*To meet the requirements of the IBMS the following restrictions have been approved by Academic Board on the provisions of the university regulations:*

*HCS106 cannot be compensated so you must pass this module with an overall mark of 40%.*

## Stage 2

Code	Title	Credits
HCS201	Pathophysiology and Therapeutics	20
HCS206	Blood Science	20
HCS226	Research and Analytical skills for Biosciences	20
HCS227	Molecular and Cellular Analysis	20
HCS228	Infection and Immunity	20
HCS223	Clinical Placement	120

### Progression Regulations

*To meet the requirements of the IBMS the following restrictions have been approved by Academic Board on the provisions of the university regulations:*

*Stage 2 (level 5) modules cannot be compensated so you must pass each module with an overall mark of 40%.*

## Stage 3

### Core modules

Code	Title	Credits
HCS324	Bioscience Research Investigation	40

### Optional modules: to the value of 80 credits

Code	Title	Credits
HCS303	Cellular Pathology	20
HCS304	Clinical Biochemistry	20
HCS308	Human Genetics and Genomics	20
HCS309	Medical Microbiology	20
HCS328	Clinical Immunology	20
HCS329	Haematology and Transfusion Science	20

### Progression Regulations

*To meet the requirements of the IBMS the following restrictions have been approved by Academic Board on the provisions of the university regulations:*

*Stage 3 (level 6) modules cannot be compensated so you must pass each module with an overall mark of 40%.*