Programme Specification: Undergraduate

For students starting in Academic Year 2024/25

1. Course Summary

Names of programme and award title(s)	BSc (Hons) Biomedical Science BSc (Hons) Biomedical Science with International Year BSc (Hons) Biomedical Science with Work Placement Year BSc (Hons) Applied Biomedical Science BSc (Hons) Medical Sciences BSc (Hons) Medical Sciences with International Year BSc (Hons) Medical Sciences with Work Placement Year
Award type	Single Honours
Mode of study	Full-time
Framework of Higher Education Qualification (FHEQ) level of final award	Level 6
Normal length of the programme	3 years, or 4 years for students that take a 46-week clinical placement, or who complete our Industrial Placement or International Year options. 1 year
Maximum period of registration	The normal length as specified above plus 3 years
Location of study	Keele Campus
Accreditation (if applicable)	All awards, excluding those with Medical Sciences in the title, are accredited by the Institute of Biomedical Science (IBMS) and Royal Society of Biology (RSB). The Applied Biomedical Science award is also approved by the Health and Care Professions Council (HCPC).
Regulator	Office for Students (OfS)
Tuition Fees	**UK students:** Fee for 2024/25 is £9,250* **International students:** Fee for 2024/25 is £20,700** The fee for the international year abroad is calculated at 15% of the standard year fee The fee for the work placement year is calculated at 20% of the standard year fee

How this information might change: *Please read the important information at http://www.keele.ac.uk/student-agreement/. This explains how and why we may need to make changes to the information provided in this document and to help you understand how we will communicate with you if this happens.*

** These fees are regulated by Government. We reserve the right to increase fees in subsequent years of study in response to changes in government policy and/or changes to the law. If permitted by such change in policy or law, we may increase your fees by an inflationary amount or such other measure as required by government policy or the law. Please refer to the accompanying Student Terms & Conditions. Further information on fees can*

be found
at http://www.keele.ac.uk/studentfunding/tuitionfees/

*** We reserve the right to increase fees in subsequent years of study by an inflationary amount. Please refer to the accompanying Student Terms & Conditions for full details. Further information on fees can be found at http://www.keele.ac.uk/studentfunding/tuitionfees/*

2. Overview of the Programme

Biomedical Science is a study of the human body and the disorders that can affect it. We start by looking at normal function including whole systems and organs right down to a cellular, molecular and genetic level. We then explore the comprehensive range of diseases and disorders that can affect our body including infective entities such as bacteria and viruses. Ultimately, you will gain real insight into how we can exploit the difference between 'normal' bodily functions and 'abnormal' in order to make a difference. That could be through better diagnostic tests, more accurate monitoring systems, improved treatment strategies and so on.

Biomedical Science is a multi- and inter-disciplinary subject. You will combine knowledge and understanding of different areas of biology to solve real-life problems. This will include: human physiology, biochemistry, pathobiology, immunology, molecular biology and neuroscience.

Our programme is accredited by the Institute of Biomedical Science (IBMS). This means that our programme puts clinical, diagnostic laboratories and patient pathways at the heart of your learning experience. You will learn how Biomedical Scientists working in UK Pathology Laboratories fulfil their role and contribute to healthcare delivery.

Students often choose this programme as a stepping stone to other professions such as Medicine, to become vocational Biomedical Scientists, train for a career in research or to work in the private, scientific community.

3. Aims of the programme

The broad aims of the programme are to:

- provide you with core knowledge, understanding and skills relevant to Biomedical Science;
- allow you to evidence compliance with the HCPC Standards of Education, and an opportunity to evidence compliance against the HCPC Standards of Proficiency. This is required to work as a Biomedical Scientist in a clinical diagnostic laboratory;
- produce skilled and motivated graduates who are suitably prepared for further study or for employment within or outside their field;
- cultivate interest in the biosciences, particularly at the cellular and molecular level, within a caring and intellectually stimulating environment;
- promote the development of a range of employability skills, for use in all areas where numeracy and an objective, scientific approach to problem-solving are valued;
- promote the development of independent research skills to enable you to undertake relevant postgraduate study.

4. What you will learn

The intended learning outcomes of the programme (what students should know, understand and be able to do at the end of the programme), can be described under the following headings:

- Subject knowledge and understanding
- Subject specific skills
- Intellectual skills
- Key employability skills

Subject Knowledge and Understanding

Successful students will be able to demonstrate knowledge and understanding of:

Level 4

- Core biological topics that underpin biomedical science including: anatomy, molecular biology; molecular genetics; biochemistry; macromolecular structure and function; enzymes and catalysis; metabolism and its control; cell biology; cell signalling; membranes and transport; human physiology and pathology
- Key subjects in biomedical science with a focus on Cellular Pathology (histology and cytology) and Medical Microbiology

Level 5

- Greater detail of those subjects listed above, plus biotechnology, information technology and both

structural and cellular immunology
- Key subjects in biomedical science with a focus on Haematology (including transfusion science), Clinical Biochemistry and Medical Immunology

Level 6

- Greater insight into those subjects listed above, plus pathobiology, data analysis and science communication
- The importance of interdisciplinarity in problem solving and patient pathways
- The scientific method, hypothesis-driven investigation and the critical nature of evidence and scientific debate
- Analytical methods and techniques, including bioinformation such as interpretation of data extracted from molecular databases
- Appropriate terminology and nomenclature
- Biomedical ethics

Subject Specific Skills

Successful students will be able to:

- Use a range of laboratory techniques for the acquisition and analysis of information relevant to biomedical science
- Design, conduct, analyse, report and evaluate biomedical experiments
- Work safely and responsibly in the laboratory with awareness of standard procedures, COSHH and good laboratory practice (GLP)
- Apply biomedical understanding to familiar and unfamiliar problems
- Apply scientific method, planning and analytical skills to carry out a research project
- Recognise philosophical and ethical issues relevant to the subject
- Applied Biomedical Science students will be able to demonstrate compliance with the Health and Care Professions Council Standards of Proficiency for Biomedical Scientists

Intellectual Skills

Successful students will be able to:

- Assess the merits of contrasting theories and explanations and develop reasoned arguments
- Identify, analyse and solve problems, whether familiar or unfamiliar, individually and/or co-operatively
- Make evidence-based decisions and critical judgements
- Extract and synthesise information and make critical interpretations of quantitative and qualitative scientific findings
- Take responsibility for their own learning and reflect upon that learning
- Construct grammatically correct documents in an appropriate academic style, using and referencing relevant ideas and evidence
- Understand the importance of academic and research integrity

Key Employability Skills

Successful students will be able to:

- Develop and sustain effective approaches to learning and study, including time management, flexibility, creativity and intellectual integrity
- Acquire, analyse, synthesise, summarise and present information and ideas from a wide range of sources: textual, numerical, verbal and graphical
- Prepare, process and present data using appropriate qualitative and quantitative techniques: statistical programmes, spreadsheets and programmes for presenting data visually
- Use the Internet and other electronic resources, effectively and critically, as a means of communication and a source of information
- Communicate effectively by written, spoken and graphical means using appropriate techniques and scientific language
- Work with others to identify and achieve collaborative goals and responsibilities and perform in a respectful manner that is accepting of the viewpoints and opinions of others
- Develop skills necessary for self-managed and lifelong learning, including working independently, organisational, enterprise and knowledge transfer skills
- Motivate yourself and sustain that motivation over an extended period of time
- Cite and reference work in an appropriate manner, ensuring academic integrity and the avoidance of plagiarism, whether intentional or not

The Keele Graduate Attributes

The Keele Graduate Attributes are the qualities (skills, values and mindsets) which you will have the opportunity

to develop during your time at Keele through both the formal curriculum and also through co- and extra-curricular activities (e.g., work experience, and engagement with the wider University community such as acting as ambassadors, volunteering, peer mentoring, student representation, membership and leadership of clubs and societies). Our Graduate Attributes consist of four themes: **academic expertise, professional skills, personal effectiveness, and social and ethical awareness.** You will have opportunities to engage actively with the range of attributes throughout your time at Keele: through your academic studies, through self-assessing your own strengths, weaknesses, and development needs, and by setting personal development goals. You will have opportunities to discuss your progress in developing graduate attributes with, for example, Academic Mentors, to prepare for your future career and lives beyond Keele.

5. How is the programme taught?

Diversity, flexibility and inclusivity is at the heart of our Education Strategy. Your Student Voice helps us to shape what we do and we include students and local employers in our decision-making process.

The delivery of our programme will include the following types of activities:

Laboratory practicals: Take place in one of our labs. These give you first-hand experience in a range of scientific techniques and have been designed to ensure you develop both independent and team-based skills.

Digital material: Traditional 'lectures' are often redesigned for online consumption, giving you more flexibility to decide how, when and where to study. This can include provision of short videos, directed reading, key learning outcomes and Forms that allow you to ask questions anonymously.

Live, campus-based seminars: Delivered by experts in the field - and often external, guest speakers - seminars are ordinarily recorded on the day so you can focus better on the discussion during the live event.

Live, campus-based tutorials and workshops: Often designed to support online lectures. Tutorials and workshops help promote social learning, develop a sense of community and give you an opportunity to deepen your understanding of core issues, ask questions and discuss content with other students and your tutors.

Live, case-based learning (CBL) tutorials: In CBL, you will work in small groups to discuss patient cases that help you to contextualise much of the content taught across the programme and develop key skills such as leadership, communication and evidence-based problem solving.

Live, online tutorials, workshops and drop-in sessions: Often used to host plenary sessions. These plenary sessions are optional, added value and may cover topics common to all students such as: note taking and meet your alumni at Level 4; IT and data analysis at Level 5 and writing retreats and careers at Level 6.

6. Teaching Staff

University life is not just about the content of your degree. It is also an opportunity to network, to speak to people working in fields that excite you. Here in Life Sciences, you will meet a diverse range of staff that you can see by using the following link: (https://www.keele.ac.uk/lifesci/people/).

We will also invite speakers from the School of Pharmacy, Medicine and local NHS Trusts.

Our staff include world-leading researchers, clinical practitioners and experts in learning and teaching. As part of their training, all staff complete post-graduate courses on learning and teaching. Some take this to Masters level and beyond, choosing to specialise in pedagogic research to ensure that our programmes are taught to the very highest standards.

The University will attempt to minimise changes to our core teaching teams, however, delivery of the programme depends on having a sufficient number of staff with the relevant expertise to ensure that the programme is taught to the appropriate academic standard.

Staff turnover, for example where key members of staff leave, fall ill or go on research leave, may result in changes to the programme's content. The University will endeavour to ensure that any impact on students is limited if such changes occur.

7. What is the structure of the Programme?

The academic year is divided into two taught semesters. Each semester will generally have twelve weeks of teaching followed by three weeks of final assessments. Details of each semester can be found using the following link: https://www.keele.ac.uk/students/academiclife/keydates/.

Our programme is organised into discrete modules. Each module is assessed independently and awarded a set number of credits (usually 15 or 30). A 15-credit module equates to 150 hours of student work. Some modules are compulsory and you are required to complete them. Others are optional, giving you some choice in what you want to study.

At Level 4, all of our modules are compulsory to ensure that you are given a solid foundation to your degree programme regardless of your academic background. Here, we assume no prior knowledge and will make sure that Level 4 prepares you for Level 5 and 6.

At Level 5, 25% of the modules are optional. At Level 6, 75% of your modules are optional. This allows you to increasingly specialise in those areas of the programme that interest you most.

At Levels 5 and 6, optional modules include Global Challenge Pathways - a choice of modules from different subject areas that count towards the overall credit requirement but not the number of subject-related credits.

Global Challenge Pathways can only be taken as one 15-credit module at Levels 5 and 6 (except for the TESOL pathway). **Information about Global Challenge Pathways can be found after the module lists for Level 6.**

Language modules: You are able to take up to 60 credits across your degree programme as Faculty Funded additional Modern Language modules in order to graduate with the Enhanced Degree Title. [Please see link for more information on Enhanced degree titles.]

For further information on the content of modules currently offered, please visit: https://www.keele.ac.uk/recordsandexams/modulecatalogue/

A summary of the credit requirements per year is as follows.

Year	Compulsory	Optional	
		Min	Max
Level 4	120	0	0
Level 5	90	30	30
Level 6	30	90	90

Module Lists

Level 4

Compulsory modules	Module Code	Credits	Period
Biochemistry	LSC-10064	30	Semester 1
Clinical Applications of Biomedical Science I	LSC-10070	30	Semester 1-2
Physiology and Anatomy	LSC-10074	30	Semester 1-2
Core Practical Skills	LSC-10087	0	Semester 1-2
Molecular Cell Biology	LSC-10066	30	Semester 2

LSC-10087 is a compulsory lab-based module. Students who fail this module will transfer to our alternative degree programme, *Medical Science*. This is not accredited by the IBMS or RSB.

LSC-10070 contains qualified fails so that students have to attain a threshold mark of 40% or above in each item of assessment. This is a requirement of IBMS accreditation. Students who do not reach this threshold after reassessment can repeat the year, or transfer to our non-accredited route, *Medical Science*.

Note, LSC 10070 cannot be condoned due to IBMS requirements, unless students transfer to the non-accredited *Medical Science* pathway.

Level 5

Compulsory modules	Module Code	Credits	Period
Gene and Protein Engineering	LSC-20003	15	Semester 1
Molecular, Cellular and Structural Immunology	LSC-20015	15	Semester 1
Clinical Applications of Biomedical Science II	LSC-20089	30	Semester 1-2
Practical Skills in Bioscience	LSC-20107	0	Semester 1-2
Metabolism in Health and Disease	LSC-20016	15	Semester 2
Research and Analytical Skills	LSC-20056	15	Semester 2

Optional modules	Module Code	Credits	Period
Human Genetics	LSC-20050	15	Semester 1
Microbes, Viruses and Parasites	LSC-20073	15	Semester 1
Professional Relationships	LSC-20040	15	Semester 1-2
Cell Signalling	LSC-20085	15	Semester 2

Level 5 Module Rules

Students considering applying for our clinical placement and subsequent transfer to the *Applied Biomedical Science* must choose LSC-20040 as one of their options, as this module is compulsory for *Applied Biomedical Science*

LSC-20107 is a compulsory lab-based module. Students who fail this module will transfer to our alternative degree programme, *Medical Science*. This is not accredited by the IBMS or RSB.

LSC-20089 contains qualified fails so that students have to attain a threshold mark of 40% or above in each item of assessment. This is a requirement of IBMS accreditation. Students who do not reach this threshold after reassessment can repeat the year, or transfer to our non-accredited route, *Medical Science*.

Note, LSC 20089 cannot be condoned due to IBMS requirements, unless students transfer to the non-accredited *Medical Science* pathway.

NB: Global Challenge Pathways (GCPs) - students have the option of taking a Global Challenge Pathway, which can only be taken as one 15-credit module at Levels 5 and 6 (except for the TESOL pathway). Information on GCPs is shown under the Level 6 modules below.

Level 6

Compulsory modules	Module Code	Credits	Period
Bioinformatics and Science Communication	LSC-30057	15	Semester 1-2
Case Studies in Biomedical Sciences	LSC-30026	15	Semester 2

Optional modules	Module Code	Credits	Period
Structural Biology & Macromolecular Function	LSC-30016	15	Semester 1
Advances in Medicine	LSC-30028	15	Semester 1
Human Parasitology	LSC-30036	15	Semester 1
Biomedical Engineering	LSC-30055	15	Semester 1
Brain Disease	LSC-30063	15	Semester 1
Tropical Biology Field Course	LSC-30066	15	Semester 1
Applied Regenerative Medicine	LSC-30068	15	Semester 1
Biology of Disease - ISP	LSC-30015	15	Semester 1-2
Double Applied Life Sciences Placement - ISP	LSC-30038	30	Semester 1-2
Double Applied Biomedical Science Placement - ISP	LSC-30044	30	Semester 1-2
Life Sciences Double Experimental Project (with research skills assessment)	LSC-30045	30	Semester 1-2
Professional Development	LSC-30090	0	Semester 1-2
Clinical Pathology	LSC-30009	15	Semester 2
Cancer Biology	LSC-30061	15	Semester 2
Epidemiology	LSC-30084	15	Semester 2

Level 6 Module Rules

LSC-30026 and LSC-30044 are both compulsory modules for *Applied Biomedical Science* students.

LSC-30038, LSC-30045 and LSC-30044 are all 30-credit modules based on an independent student research project. You must choose only one of these modules as follows:

- *Applied Biomedical Science* students take LSC-30044
- *Biomedical Science with Industrial Placement* students take LSC-30038
- All other *Biomedical Science* students take LSC-30045

Note, LSC 30045 cannot be condoned due to IBMS requirements, unless students transfer to the non-accredited *Medical Science* pathway.

Global Challenge Pathways (GCPs)

Students have the option of taking a Global Challenge Pathway, with one 15-credit module at Levels 5 and 6. Students joining Global Challenge Pathways at Level 5 can join any pathway (except TESOL). Students at Level 6 will continue with the same Global Challenge Pathway they studied at Level 5.

Global Challenge Pathways offer students the chance to fulfil an exciting, engaging route of interdisciplinary study. Choosing a pathway, students will be presented with a global issue or 'challenge' which directly relates to societal issues, needs and debates. They will be invited to take part in academic and external facing projects which address these issues, within an interdisciplinary community of students and staff. Students completing a Global Challenge Pathway will receive recognition on their degree certificate.

Digital Futures	The Digital Futures pathway offers you the opportunity to take an active role in current debates, cutting-edge research, and projects with external partners, addressing both the exciting potential and the challenges of disruptive digital transformation across all spheres of life. Part of a diverse and interdisciplinary pathway community, you will engage in exciting, impactful collaborative project work in innovative formats on areas that matter most to you. Engaged in real-world scenarios as digital citizens, you will expand, deepen, and mobilise knowledge and skills to drive inclusive, empowering, and sustainable change at local and global levels. **Level 5 Module: Digital World - People, Spaces, and Data (GCP-20005)** **Level 6 Module: Digital Citizenship and Sustainable Futures (GCP-30005)**
Climate Change & Sustainability	Through the Climate Change & Sustainability pathway you will develop the skills, understanding and drive to become agents of change to tackle climate change and wider sustainability challenges. You will hear from international partners to learn about climate change and sustainability in different international contexts; lead your own projects to drive real change in your communities; and be part of educating and supporting others to help achieve a more sustainable future. **Level 5 Module: Climate Change and Sustainability: Action and Activism (GCP-20009)** **Level 6 Module: Skills for Sustainability (GCP-30009)**
Social Justice	The Social Justice pathway is based upon a transformative methodology which centres the student's role as 'agents of change' to reflect upon decolonising and feminist, perspectives on social justice, to forge critical outputs to transform the Sustainable Development Goals. You will develop research and engagement skills with local, national, and international partners from Universities, NGOs, International Human Rights frameworks. You will engage with key societal challenges focused upon the Sustainable Development Goals, to develop an intersectional response from identity-based perspectives on race, gender, sexualities and disabilities. The pathway will allow you to monitor and critically evaluate policies and human rights treaties, and produce and disseminate digitally fluent, international and sustainable project findings. **Level 5 Module: Strategic Interventions for Social Justice (GCP-20003)** **Level 6 Module: Transforming Social Justice; Global Perspectives (GCP-30003)**
Enterprise & the Future of Work	In order to meet the challenges set out in the UN's Sustainable Development Goals we need to understand the power of enterprise and prepare for the future contexts of work, creativity and disruption. By providing you with the skills, knowledge and understanding of global challenges this pathway will prepare you to be part of future-facing solutions. This module will support you in developing creative, original thinking, allowing you to collaborate on projects that persuade and effect change, setting you up to thrive in future environments of work and innovation. **Level 5 Module: Enterprise and the Future of Work: Collaborate to Innovate (GCP-20007)** **Level 6 Module: Enterprise and the Future of Work: Designing Change (GCP-30007)**

Global Health Challenges	By taking the global health challenge pathway you will develop solutions to improve the health and quality of life for particular people and communities, engaging with these groups to co-design interventions. This pathway will provide you with skills that go beyond a focus on health and will allow you to develop your ability to work in a team and lead change in society. The knowledge, skills and work experience will complement your core degree and enhance your career opportunities and graduate aspirations. **Level 5 Module: Using Evidence to Improve Global Health (GCP-20001)** **Level 6 Module: Working to Improve Global Health (GCP-30001)**
Languages & Intercultural Awareness	Communication within and across cultures is inseparable from language, and development of intercultural awareness can enable you to actively contribute to the shaping of an international future. The Language and Intercultural Awareness pathway allows you to engage in genuine interdisciplinary and international exchange and to understand and explore the link between language, culture and communication. Each of the strands we offer provides you with skills and direct experience for active engagement in working to face global challenges. **The Language Specialist**: Become a specialist in one of our languages and graduate with a degree title that includes '... with competency in (Language)' or '... with advanced competency in (Language)'. **The Language Taster:** Explore a new language every year. **The Intercultural Explorer:** Through an interdisciplinary understanding of intercultural communication - as both an academic discipline and as a tool to promote and engage in global activity, you will explore the concept of culture. Module content and assessments allow you to examine in-depth the role of both culture and language in, for example, the UN sustainability goals. **Modules available:** **The Language Specialist:** Any Semester 1 Language Module (the level at which you enter will be determined by your previous language learning experiences). **The Language Taster:** Any Semester 1 Language Module (the level at which you enter will be determined by your previous language learning experiences) **NB: The Certificate in TESOL is not available on this programme**

Information on Global Challenge Pathways can be found here:
https://www.keele.ac.uk/study/undergraduate/globalchallengepathways/

Learning Outcomes

The table below sets out what students learn in the programme and the modules in which that learning takes place. Details of how learning outcomes are assessed through these modules can be found in module specifications.

Level 4

Learning outcomes are achieved in compulsory modules.

Subject Knowledge and Understanding	
Learning Outcome	**Module in which this is delivered**
Demonstrate knowledge and understanding of core biological topics that underpin biomedical science including: anatomy, molecular biology; molecular genetics; biochemistry; macromolecular structure and function; enzymes and catalysis; metabolism and its control; cell biology; cell signalling; membranes and transport; human physiology and pathology	All modules
Demonstrate knowledge and understanding of key subjects in biomedical science with a focus on Cellular Pathology (histology and cytology) and Medical Microbiology	Clinical Applications of Biomedical Science I - LSC-10070

Subject Specific Skills	
Learning Outcome	**Module in which this is delivered**
Use a range of laboratory techniques for the acquisition and analysis of information relevant to biomedical science	Core Practical Skills - LSC-10087
Work safely and responsibly in the laboratory with awareness of standard procedures, COSHH and good laboratory practice (GLP)	Core Practical Skills - LSC-10087
Apply biomedical understanding to familiar and unfamiliar problems	All modules, but particularly Clinical Applications of Biomedical Science I
Recognise philosophical and ethical issues relevant to the subject	All modules, but particularly Clinical Applications of Biomedical Science I

Intellectual skills	
Learning Outcome	**Module in which this is delivered**
Identify, analyse and solve problems, whether familiar or unfamiliar, individually and/or co-operatively	All modules, but particularly Clinical Applications of Biomedical Science I
Make evidence-based decisions and critical judgements	All modules, but particularly Clinical Applications of Biomedical Science I
Take responsibility for their own learning and reflect upon that learning	All modules, but particularly Clinical Applications of Biomedical Science I
Construct grammatically correct documents in an appropriate academic style, using and referencing relevant ideas and evidence	Biochemistry - LSC-10064 Clinical Applications of Biomedical Science I - LSC-10070 Molecular Cell Biology - LSC-10066

Key or Transferable Skills (graduate attributes)	
Learning Outcome	**Module in which this is delivered**
Develop and sustain effective approaches to learning and study, including time management, flexibility, creativity and intellectual integrity	All modules
Acquire, analyse, synthesise, summarise and present information and ideas from a wide range of sources: textual, numerical, verbal and graphical	Biochemistry - LSC-10064 Clinical Applications of Biomedical Science I - LSC-10070 Molecular Cell Biology - LSC-10066
Prepare, process and present data using appropriate qualitative and quantitative techniques: statistical programmes, spreadsheets and programmes for presenting data visually	Physiology and Anatomy - LSC-10074 Biochemistry - LSC-10064
Use the Internet and other electronic resources, effectively and critically, as a means of communication and a source of information	All modules
Communicate effectively by written, spoken and graphical means using appropriate techniques and scientific language	Clinical Applications of Biomedical Science I - LSC-10070 Molecular Cell Biology - LSC-10066 Biochemistry - LSC-10064
Work with others to identify and achieve collaborative goals and responsibilities and perform in a respectful manner that is accepting of the viewpoints and opinions of others	Core Practical Skills - LSC-10087 Clinical Applications of Biomedical Science I - LSC-10070
Develop skills necessary for self-managed and lifelong learning, including working independently, organisational, enterprise and knowledge transfer skills	Clinical Applications of Biomedical Science I - LSC-10070
Cite and reference work in an appropriate manner, ensuring academic integrity and the avoidance of plagiarism, whether intentional or not	Molecular Cell Biology - LSC-10066 Clinical Applications of Biomedical Science I - LSC-10070 Biochemistry - LSC-10064

Level 5

Learning outcomes are achieved in compulsory modules and reinforced in optional modules.

Subject Knowledge and Understanding	
Learning Outcome	**Module in which this is delivered**
Critical understanding of core biological topics that underpin biomedical science including: anatomy, molecular biology; molecular genetics; biochemistry; macromolecular structure and function; enzymes and catalysis; metabolism and its control; cell biology; cell signalling; membranes and transport; human physiology and pathology	All Level 5 modules, particularly Clinical Applications of Biomedical Science II, Research & Analytical Skills and Molecular, Cellular & Structural Immunology
Demonstrate knowledge and understanding of biotechnology, information technology and both structural and cellular immunology	Gene and Protein Engineering - LSC-20003 Molecular, Cellular and Structural Immunology - LSC-20015 Metabolism in Health and Disease - LSC-20016 Clinical Applications of Biomedical Science II - LSC-20089
Demonstrate knowledge and understanding of key subjects in biomedical science with a focus on Haematology (including transfusion science), Clinical Biochemistry and Medical Immunology	Clinical Applications of Biomedical Science II - LSC-20089

Subject Specific Skills	
Learning Outcome	**Module in which this is delivered**
Use a range of laboratory techniques for the acquisition and analysis of information relevant to biomedical science	Practical Skills in Bioscience - LSC-20107
Design, conduct, analyse, report and evaluate biomedical experiments	Research and Analytical Skills - LSC-20056 Molecular, Cellular and Structural Immunology - LSC-20015 Metabolism in Health and Disease - LSC-20016
Work safely and responsibly in the laboratory with awareness of standard procedures, COSHH and good laboratory practice (GLP)	Practical Skills in Bioscience - LSC-20107 All modules with practical sessions
Apply biomedical understanding to familiar and unfamiliar problems	All modules
Recognise philosophical and ethical issues relevant to the subject	All modules, particularly Clinical Applications of Biomedical Science II and Professional Relationships

Intellectual skills	
Learning Outcome	**Module in which this is delivered**
Identify, analyse and solve problems, whether familiar or unfamiliar, individually and/or co-operatively	All modules
Make evidence-based decisions and critical judgements	Clinical Applications of Biomedical Science II - LSC-20089 Research and Analytical Skills - LSC-20056 All modules
Extract and synthesise information and make critical interpretations of quantitative and qualitative scientific findings	All modules
Take responsibility for their own learning and reflect upon that learning	All modules, particularly Clinical Applications of Biomedical Science II and Professional Relationships
Construct grammatically correct documents in an appropriate academic style, using and referencing relevant ideas and evidence	All modules
Understand the importance of academic and research integrity	All modules, particularly Research & Analytical Skills

Key or Transferable Skills (graduate attributes)	
Learning Outcome	**Module in which this is delivered**
Develop and sustain effective approaches to learning and study, including time management, flexibility, creativity and intellectual integrity	All modules
Acquire, analyse, synthesise, summarise and present information and ideas from a wide range of sources: textual, numerical, verbal and graphical	All modules
Prepare, process and present data using appropriate qualitative and quantitative techniques: statistical programmes, spreadsheets and programmes for presenting data visually	Research and Analytical Skills - LSC-20056 Metabolism in Health and Disease - LSC-20016 Clinical Applications of Biomedical Science II - LSC-20089 Microbes, Viruses and Parasites - LSC-20073 Molecular, Cellular and Structural Immunology - LSC-20015 Human Genetics - LSC-20050
Use the Internet and other electronic resources, effectively and critically, as a means of communication and a source of information	All module, particularly Human Genetics and Research & Analytical Skills
Communicate effectively by written, spoken and graphical means using appropriate techniques and scientific language	All modules
Work with others to identify and achieve collaborative goals and responsibilities and perform in a respectful manner that is accepting of the viewpoints and opinions of others	Professional Relationships - LSC-20040 Practical Skills in Bioscience - LSC-20107 Human Genetics - LSC-20050 Research and Analytical Skills - LSC-20056
Develop skills necessary for self-managed and lifelong learning, including working independently, organisational, enterprise and knowledge transfer skills	All modules, particularly Professional Relationships
Cite and reference work in an appropriate manner, ensuring academic integrity and the avoidance of plagiarism, whether intentional or not	All modules

Level 6

Learning outcomes are achieved by compulsory modules and any combination of optional modules.

Subject Knowledge and Understanding	
Learning Outcome	**Module in which this is delivered**
Insight into core biological topics discussed across Level 4 and 5 with greater focus into pathobiology, data analysis and science communication	All modules, particularly Biology of Disease and Bioinformatics & Science Communication
Appreciate the importance of interdisciplinarity in problem solving and patient pathways	Case Studies in Biomedical Sciences - LSC-30026 Applied Regenerative Medicine - LSC-30068 Biology of Disease - ISP - LSC-30015
Insight into the scientific method, hypothesis-driven investigation and the critical nature of evidence and scientific debate	All modules, particularly our 30-credit independent student research project
Apply analytical methods and techniques, including bioinformation such as interpretation of data extracted from molecular databases	Life Sciences Double Experimental Project (with research skills assessment) - LSC-30045 Double Applied Life Sciences Placement - ISP - LSC-30038 Bioinformatics and Science Communication - LSC-30057 Double Applied Biomedical Science Placement - ISP - LSC-30044
Use appropriate terminology and nomenclature	All modules
Insight into Biomedical ethics, including areas of public concern	All modules

Subject Specific Skills	
Learning Outcome	**Module in which this is delivered**
¿ Use a range of laboratory techniques for the acquisition and analysis of information relevant to biomedical science	Life Sciences Double Experimental Project (with research skills assessment) - LSC-30045 Double Applied Biomedical Science Placement - ISP - LSC-30044 Double Applied Life Sciences Placement - ISP - LSC-30038
Design, conduct, analyse, report and evaluate biomedical experiments	Life Sciences Double Experimental Project (with research skills assessment) - LSC-30045 Double Applied Life Sciences Placement - ISP - LSC-30038 Double Applied Biomedical Science Placement - ISP - LSC-30044
Work safely and responsibly in the laboratory with awareness of standard procedures, COSHH and good laboratory practice (GLP)	Double Applied Life Sciences Placement - ISP - LSC-30038 Life Sciences Double Experimental Project (with research skills assessment) - LSC-30045 Double Applied Biomedical Science Placement - ISP - LSC-30044
Apply biomedical understanding to familiar and unfamiliar problems	All modules
Apply scientific method, planning and analytical skills to carry out a research project	Double Applied Life Sciences Placement - ISP - LSC-30038 Life Sciences Double Experimental Project (with research skills assessment) - LSC-30045 Double Applied Biomedical Science Placement - ISP - LSC-30044
Recognise philosophical and ethical issues relevant to the subject	All modules, particularly Case Studies in Biomedical Science, Bioinformatics & Science Communication and Applied Regenerative Medicine
Applied Biomedical Science students will be able to demonstrate compliance with the Health and Care Professions Council Standards of Proficiency for Biomedical Scientists	Double Applied Biomedical Science Placement - ISP - LSC-30044

Intellectual skills	
Learning Outcome	**Module in which this is delivered**
Assess the merits of contrasting theories and explanations and develop reasoned arguments	All modules
Identify, analyse and solve problems, whether familiar or unfamiliar, individually and/or co-operatively	All modules
Make evidence-based decisions and critical judgements	All modules
Extract and synthesise information and make critical interpretations of quantitative and qualitative scientific findings	All modules, particularly our 30-credit independent student research project
Take responsibility for their own learning and reflect upon that learning	All modules, particularly our 30-credit independent student research project
Construct grammatically correct documents in an appropriate academic style, using and referencing relevant ideas and evidence	All modules
Understand the importance of academic and research integrity	All modules, particularly Case Studies in Biomedical Science, Applied Regenerative Medicine, Bioinformatics & Science Communication and our 30-credit independent student research project

Key or Transferable Skills (graduate attributes)	
Learning Outcome	**Module in which this is delivered**
Develop and sustain effective approaches to learning and study, including time management, flexibility, creativity and intellectual integrity	All modules, particularly our 30-credit independent student research project
Acquire, analyse, synthesise, summarise and present information and ideas from a wide range of sources: textual, numerical, verbal and graphical	All modules
Prepare, process and present data using appropriate qualitative and quantitative techniques: statistical programmes, spreadsheets and programmes for presenting data visually	All modules, particularly Bioinformatics & Science Communication, Tropical Biology Field Course and our 30-credit independent student research project
Use the Internet and other electronic resources, effectively and critically, as a means of communication and a source of information	All modules
Communicate effectively by written, spoken and graphical means using appropriate techniques and scientific language	All modules
Work with others to identify and achieve collaborative goals and responsibilities and perform in a respectful manner that is accepting of the viewpoints and opinions of others	Life Sciences Double Experimental Project (with research skills assessment) - LSC-30045 Double Applied Biomedical Science Placement - ISP - LSC-30044 Double Applied Life Sciences Placement - ISP - LSC-30038 Advances in Medicine - LSC-30028 Applied Regenerative Medicine - LSC-30068
Develop skills necessary for self-managed and lifelong learning, including working independently, organisational, enterprise and knowledge transfer skills	All modules, particularly Biology of Disease, Case Studies in Biomedical Science, Applied Regenerative Medicine and our 30-credit independent student research project
Motivate yourself and sustain that motivation over an extended period of time	All modules, particularly Biology of Disease and our 30-credit independent student research project
Cite and reference work in an appropriate manner, ensuring academic integrity and the avoidance of plagiarism, whether intentional or not	All modules

8. Final and intermediate awards

Credits required for each level of academic award are as follows:

Honours Degree	360 credits	You will require at least 120 credits at Levels 4, 5 and 6 You must accumulate at least 270 credits in *Biomedical Science* or *Applied Biomedical Science* (out of 360 credits overall), with at least 90 credits in each of the three years of study*, to graduate with a named single honours degree in *Biomedical Science* or *Applied Biomedical Science*. *An exemption applies for students transferring from a Combined Honours programme - see point 3.4 here: https://www.keele.ac.uk/regulations/regulationc3/ N.B. The award will be '*Medical Sciences*' if a pass standard is not achieved in the Level 4 *Core Practical Skills*, Level 5 *Practical Skills in Bioscience* or in your Level 6 *Independent Student Research* modules. '*Medical Sciences*' pathways are not accredited by the Institute of Biomedical Science or Royal Society of Biology.
Diploma in Higher Education	240 credits	You will require at least 120 credits at level 4 or higher and at least 120 credits at level 5 or higher
Certificate in Higher Education	120 credits	You will require at least 120 credits at level 4 or higher

International Year option: In addition to the above students must pass all the modules covering the international year in order to add '*with international year*' to the degree title. Students who fail to complete the international year will revert to the standard degree title.

Work Placement Year option: in addition to the above students must pass a non-credit bearing module covering the work placement year in order to graduate with a named degree including the '*with Work Placement Year*' wording. Students who do not complete, or fail the work placement year, will be transferred to the three-year version of the programme.

9. How is the Programme Assessed?

Our assessment strategy is designed to be authentic and diverse so that you can develop key skills that meet academic, professional body and employer expectations. Module managers will provide appropriate guidance for each assessment and the marking criteria that will be used to assess your work.

Our assessment strategy will help you to develop and evidence your ability to:

Provide evidence-based solutions to current scientific problems: Most often this is assessed through a range of essays, portfolios and literature reviews.

Critically reflect on current issues: Reflective writing is an increasingly important skill in the workforce, particularly to healthcare professions. It can help you to identify personal strengths and weaknesses so that you can learn from your experience and maximise your potential.

Present scientific findings: Often these are lab reports or experimental projects that test your ability to pose scientific hypotheses, design experiments, understand methodologies, present findings, analyse data and situate your work in the current literature.

Communicate effectively with a range of audiences: These can include scientific posters, patient information leaflets, wikis, blogs or oral presentations.

Work professionally: Your final year, independent research project will give you an opportunity to demonstrate a range of professional skills such as leadership, innovation, time keeping, communication and the ability to work safely and ethically.

Work effectively in a team: Most often this is assessed through group presentations but can also include competencies such as working together in the lab.

Solve problems in a time-limited fashion: Often in the work environment we are asked to solve problems in a relatively short amount of time. Our online tests and end-of-semester, online, open-book examinations will help you to evidence these skills.

We aim to provide constructive feedback within 3 weeks of submission for all assessed work. This is often phrased in terms of strengths, weaknesses and ways to improve to help you focus on key areas that can improve the quality of your work in the future.

10. Contact Time and Expected Workload

This contact time measure is intended to provide you with an indication of the type of activity you are likely to undertake during this programme. The data is compiled based on module choices and learning patterns of students on similar programmes in previous years. Every effort is made to ensure this data is a realistic representation of what you are likely to experience, but changes to programmes, teaching methods and assessment methods mean this data is representative and not specific.

Undergraduate courses at Keele contain an element of module choice; therefore, individual students will experience a different mix of contact time and assessment types dependent upon their own individual choice of modules. The figures below are an example of activities that a student may expect on your chosen course by year stage of study. Contact time includes scheduled activities such as: seminar, tutorial, project supervision, demonstration, practical classes and labs, supervised time in labs/workshop, fieldwork and external visits. The figures are based on 1,200 hours of student effort each year for full-time students.

Activity

	Scheduled learning and teaching activities	Guided independent Study	Placements
Year 1 (Level 4)	43.2%	56.8%	0%
Year 2 (Level 5)	45%	55%	0%
Year 3 (Level 6)	31.3%	68.7%	0%

11. Accreditation

All awards, with the exception of *Medical Sciences*, are accredited both by the Institute of Biomedical Science (IBMS) and Royal Society of Biology (RSB). To gain an accredited degree, you must meet the following criteria, otherwise you will be transferred to our non-accredited pathway, *Medical Sciences*.

Laboratory competence: Achieve a pass mark for the two, zero-credit and year-long modules at Level 4 and 5, *Core Practical Skills* and *Practical Skills in Bioscience*. This includes attendance to at least 70% of labs and appropriate sign-off for key lab-based competencies identified at each Level.

Vocational knowledge and understanding: Achieve a pass mark of at least 40% for all assessments delivered as part of the two 30-credit, vocational and year-long modules, *Clinical Applications of Biomedical Science I* and *II*. Evidence personal levels of knowledge and understanding of vocational subjects through satisfactory attendance and engagement with case-based learning, also delivered as key aspects of these two modules.

Independent research and professional skills: Achieve a pass mark of at least 40% for your 30-credit, year-long independent research project module. This includes an assessment of your professional skills across the year.

This programme also includes the opportunity to apply for a clinical placement and transfer to our *Applied Biomedical Science (ABMS)* award. ABMS is accredited by the RSB and IBMS, and approved by the Health and Care Professions Council (HCPC). Successful attainment of this award makes you eligible to apply for registration with the HCPC. You will also receive the IBMS Certificate of Competence, making you eligible for Licentiate membership of the IBMS. In order to gain this award, you must meet the criteria listed above and:

Standards of Proficiency: Demonstrate compliance with the HCPC Standards of Proficiency through successful completion of the IBMS Registration Portfolio and achieving a pass mark of at least 40% for the *Double Applied Biomedical Science Placement* at Level 6.

12. University Regulations

The University Regulations form the framework for learning, teaching and assessment and other aspects of the student experience. Further information about the University Regulations can be found at: http://www.keele.ac.uk/student-agreement/

If this programme has any exemptions, variations or additions to the University Regulations these will be detailed in an Annex at the end of this document titled 'Programme-specific regulations'.

13. What are the typical admission requirements for the Programme?

See the relevant programme page on the website for the admission requirements relevant to this programme: https://www.keele.ac.uk/study/

Applicants who are not currently undertaking any formal study or who have been out of formal education for more than 3 years and are not qualified to A-level or BTEC standard may be offered entry to the University's Foundation Year Programme.

Applicants for whom English is not a first language must provide evidence of a recognised qualification in English language. The minimum score for entry to the Programme is Academic IELTS 6.0 or equivalent.

English for Academic Purposes

Please note: All new international students entering the university will provide a sample of Academic English during their registration Using this sample, the Language Centre may allocate you to an English language module which will become compulsory. This will replace any GCP modules. *NB:* students can take an EAP module only with the approval of the English Language Programme Director and are not able to take any other Language modules in the same academic year.

English Language Modules at Level 4:

- Business - ENL-90003 Academic English for Business Students (Part 1); ENL-90004 Academic English for Business Students (2)
- Science - ENL-90013 Academic English for Science Students
- General - ENL-90006 English for Academic Purposes 2; ENL-90001 English for Academic Purposes 3; ENL-90002 English for Academic Purposes 4

English Language Modules at Level 5:

- Business - ENL-90003 Academic English for Business Students (Part 1); ENL-90004 Academic English for Business Students (2)
- Science - ENL-90013 Academic English for Science Students
- General - ENL-90006 English for Academic Purposes 2; ENL-90001 English for Academic Purposes 3; ENL-90002 English for Academic Purposes 4

English Language Modules at Level 6:

- Business - ENL-90003 Academic English for Business Students (Part 1); ENL-90004 Academic English for Business Students (2); ENL-90005 Advanced Business English Communication
- Science - ENL-90013 Academic English for Science Students
- General - ENL-90006 English for Academic Purposes 2; ENL-90001 English for Academic Purposes 3; ENL-90002 English for Academic Purposes 4

Recognition of Prior Learning (RPL) is considered on a case-by-case basis and those interested should contact the Programme Director. The University's guidelines on this can be found here: https://www.keele.ac.uk/qa/programmesandmodules/recognitionofpriorlearning/

Admission with advanced standing for direct entry into Level 5 is considered on an individual basis for students who have successfully completed studies equivalent to Level 4 of an IBMS-accredited Biomedical Science programme.

Students on the Applied Biomedical Science programme cannot be exempted from any module that assesses any of the HCPC's standards of proficiency.

14. How are students supported on the programme?

The School of Life Sciences operates an open door policy. This means that you can contact any of our staff via email to request a meeting or discus any problem that you may be experiencing.

In addition to the open door policy, you can also contact the following people across Life Sciences for help and support:

- Programme Director or Director of Education for programme-, discipline- or School-related issues
- Module Manager for module-related issues
- Demonstrators for help during labs
- Academic mentors for academic help and guidance
- Student Experience and Support Officers for more personal or pastoral help
- Early Resolution Officer to help advocate for you, for example, if you would like to raise a concern
- Student Voice are a group of students from your programme that can advocate for you to the School

Student Services also offer a comprehensive range of specialist services that help you at any time from enrolment to graduation. The following link will provide more information:
https://www.keele.ac.uk/students/studentservices/

15. Learning Resources

You will be taught in modern, dedicated teaching laboratories (some of which were opened by Sir David Attenborough himself!)

You will have access to an extensive collection of books and journals both at our library here on campus and the health library situated at the University Hospital of North Staffordshire.

You will also have access to a comprehensive range of ebooks, journals and published papers all available online.

We make extensive use of our virtual Keele Learning Environment (KLE) and Microsoft Teams to host a wide range of learning resources such as lectures and guidance materials and to facilitate live debates such as online discussions or Q&As.

16. Other Learning Opportunities

We are committed to offering a rich and diverse student experience that goes far beyond your degree.

Most years, we are able to offer a range of different opportunities to enrich your student experience. These can include:

International year: This is an additional year taken in-between Levels 5 and 6, studying a complementary subject at one of our partner universities around the world. This will give you an excellent international experience and an opportunity to specialise in relevant area such as public health or genetics. More information can be found at: http://www.keele.ac.uk/studyabroad/partneruniversities/

Work placements: You could apply to a range of national and international employers for an work placement. These take place in-between Level 5 and 6 and usually last 9-12 months. They provide excellent work experience and an opportunity to collect data for your Level 6 independent research student project.

Secondments: These are shorter industrial placements that usually take place over the summer in between Level 5 and 6 and usually last between 2-8 weeks. They can be based locally in one of our research labs here at Keele, nationally or internationally. For example, often some our students will travel to Malaysia to work with our partner *Universiti Sains Malaysia*.

Tropical field trip: You could apply for our School tropical field course that takes place in Malaysia. These are often more ecology and conservation in nature, and again provide fantastic international experience.

Operation Wallacea: This is a private company that supports a wide range of student projects with a particular focus on biodiversity and climate research. More information can be found at: https://www.opwall.com

Clinical placements: You could apply for a clinical placement. These differ from industrial placements in that they give you an opportunity to demonstrate compliance with the HCPC Standards of Proficiency. Successful students transfer to our *Applied Biomedical Science* degree that is accredited by the HCPC. Graduates of our *Applied* route receive an IBMS Certificate of Competence along with their degree.

Note: the opportunities described above are limited and dependent on external providers. We may not be able to

offer them every year and there will be additional costs if you do successfully secure a place. We discuss all of these options in more detail across Level 4 and Level 5 so you can make an informed decision.

17. Additional Costs

Applied Biomedical Science students may have to pay for a full course of Hepatitis B vaccination and a Disclosure and Barring Service (DBS) enhanced check prior to starting clinical placement.

These costs have been forecast by the University as accurately as possible but may be subject to change as a result of factors outside of our control (for example, increase in costs for external services). Forecast costs are reviewed on an annual basis to ensure they remain representative. Where additional costs are in direct control of the University we will ensure increases do not exceed 5%.

As to be expected there will be additional costs for inter-library loans and potential overdue library fines, print and graduation. We do not anticipate any further costs for this programme.

18. Quality management and enhancement

The quality and standards of learning in this programme are subject to a continuous process of monitoring, review and enhancement.

- The School Education Committee is responsible for reviewing and monitoring quality management and enhancement procedures and activities across the School.
- Individual modules and the programme as a whole are reviewed and enhanced every year in the annual programme review which takes place at the end of each academic year.
- The programmes are run in accordance with the University's Quality Assurance procedures and are subject to periodic reviews under the Revalidation process.

Student evaluation of, and feedback on, the quality of learning on every module takes place every year using a variety of different methods:

- The results of student evaluations of all modules are reported to module leaders and reviewed by the Programme Committee as part of annual programme review.
- Findings related to the programme from the annual National Student Survey (NSS), and from regular surveys of the student experience conducted by the University, are subjected to careful analysis and a planned response at programme and School level.
- Feedback received from representatives of students in all three years of the programme is considered and acted on at regular meetings of the Student-Staff Voice Committee.

The University appoints senior members of academic staff from other universities to act as external examiners on all programmes. They are responsible for:

- Approving examination questions
- Confirming all marks which contribute to a student's degree
- Reviewing and giving advice on the structure and content of the programme and assessment procedures

Information about current external examiner(s) can be found here:
http://www.keele.ac.uk/qa/externalexaminers/currentexternalexaminers/

19. The principles of programme design

The programme described in this document has been drawn up with reference to, and in accordance with the guidance set out in, the following documents:

a. UK Quality Code for Higher Education, Quality Assurance Agency for Higher Education:
http://www.qaa.ac.uk/quality-code

b. QAA Subject Benchmark Statement: Biomedical Sciences (2023) https://www.qaa.ac.uk/quality-code/subject-benchmark-statements?indexCatalogue=document-search&searchQuery=biomedical&wordsMode=AllWords

c. Keele University Regulations and Guidance for Students and Staff: http://www.keele.ac.uk/regulations

d. Health and Care Professions Council Standards of Education & Training, 2017

e. Health and Care Professions Council Standards of Proficiency - Biomedical Scientists, 2014

f. Health and Care Professions Council Standards of Conduct, Performance & Ethics, 2016

g. Accreditation Guidance Documentation of the Institute of Biomedical Science

20. Annex - International Year

Biomedical Science with International Year

International Year Programme

At Level 5 you can apply to transfer onto our International Year pathway. If successful, you will have an additional year of study at one of our international partner Universities once you have completed Level 5 here at Keele.

Students who successfully complete both the second year (Level 5) and the International Year will be permitted to progress to Level 6. Students who fail to satisfy the examiners in respect of the International Year will normally revert to the standard programme and progress to Level 6 on that basis. The failure will be recorded on the student's final transcript.

Study at Level 4, Level 5 and Level 6 will be as per the main body of this document. The additional information below only applies to those students taking *Biomedical Science with International Year*.

International Year Programme Aims

In addition to the programme aims for *Biomedical Science*, we also aim to:

1. Enhance your personal development give you an insight into the international dimension of Biomedical Science
2. Give you an experience of a different culture, academically, professionally and socially

Entry Requirements for the International Year

Students may apply to the 4-year programme during Level 5. Admission to the International Year is subject to successful application, interview and references from appropriate staff.

The criteria to be applied are:

- Academic Performance (an average of 55% across all modules in Semester 1 at Level 5 is normally required. Places on the International Year are then conditional on achieving an average mark of 55% across all Level 5 modules. Students with up to 15 credits of re-assessment who meet the 55% requirement may progress to the International Year. Where no Semester 1 marks have been awarded performance in 1st year marks and ongoing 2nd year assessments are taken into account)
- General Aptitude (to be demonstrated by application for study abroad, interview during the 2nd semester of year 2 (Level 5), and by recommendation of the student's Academic Mentor, 1st and 2nd year tutors and programme director)

Students may not register for both an International Year and a Placement Year.

Student Support

We have a dedicated Study Abroad tutor within Life Sciences that will will stay in touch with you throughout your International Year, effectively acting as an additional Academic Mentor. There is also support available for Keele's Global Opportunities Team (https://www.keele.ac.uk/study/studyabroad/)

Learning Outcomes

In addition to the learning outcomes for *Biomedical Science*, students who graduate with *Biomedical Science with International Year* will be able to:

1. Describe, discuss and reflect upon the cultural and international differences and similarities of different learning environments
2. Discuss the benefits and challenges of global citizenship and internationalisation
3. Explain how their perspective on their academic discipline has been influenced by locating it within an international setting.
4. Use independent research skills to identify relevant information resources on a range of subjects related, or complementary, to Biomedical Science.
5. Demonstrate the use of critical thinking skills, augmented by creativity and curiosity, in discussing the application of their International Year studies to Biomedical Science.

These learning outcomes will all be assessed by the submission of a satisfactory individual learning agreement, the successful completion of assessments at the partner institution and the submission of the reflective portfolio element of the international year module.

Regulations

Students registered for the International Year are subject to the programme-specific regulations (if any) and the University regulations. In addition, during the International Year, the following regulations will apply:

Students undertaking the International Year must complete 120 credits, which must comprise at least 40%in the student's discipline area.

This may impact on your choice of modules to study, for example you will have to choose certain modules to ensure you have the discipline specific credits required.

Students are barred from studying any module with significant overlap to the Level 6 modules they will study on their return. Significant overlap with Level 5 modules previously studied should also be avoided.

Additional costs for the International Year

Tuition fees for students on the International Year will be charged at 15% of the annual tuition fees for that year of study, as set out in Section 1. The International Year can be included in your Student Finance allocation, to find out more about your personal eligibility see: www.gov.uk

Students will have to bear the costs of travelling to and from their destination university, accommodation, food and personal costs. Depending on the destination they are studying at additional costs may include visas, study permits, residence permits, and compulsory health checks. Students should expect the total costs of studying abroad be greater than if they study in the UK, information is made available from the Global Education Team throughout the process, as costs will vary depending on destination.

Students who meet external eligibility criteria may be eligible for grants as part of this programme. Students studying outside of this programme may be eligible income dependent bursaries at Keele.

Students travel on a comprehensive Keele University insurance plan, for which there are currently no additional charges. Some Governments and/or universities require additional compulsory health coverage plans; costs for this will be advised during the application process.

21. Annex - Work Placement Year

Biomedical Science with Work Placement Year

Work Placement Year summary

At Level 4 or 5 you can apply to transfer onto our Work Placement Year pathway.

Students registered for this programme may either be admitted for or apply to transfer during their studies to the 'with Work Placement Year' option (NB: for Combined Honours students the rules relating to the work placement year in the subject where the placement is organised are to be followed). Students accepted onto this programme will have an extra year of study (the Work Placement Year) with a relevant placement provider after they have completed Year 2 (Level 5) at Keele.

Students who successfully complete both the second year (Level 5) and the Work Placement Year will be permitted to progress to Level 6. Students who fail to satisfactorily complete the Work Placement Year will normally revert to the 3-year programme and progress to Level 6 on that basis. The failure will be recorded on the student's final transcript.

Study at Level 4, Level 5 and Level 6 will be as per the main body of this document. The additional information below only applies to those students taking *Biomedical Science with Work Placement Year*.

Work Placement Year Programme Aims

In addition to the programme aims for *Biomedical Science*, we also aim to:

1. Provide experience of working in a subject-related laboratory or work place within an industrial, academic or public institution either in the UK or abroad.

Entry Requirements for the Work Placement Year

Admission to the Work Placement Year is subject to successful application, interview and references from appropriate staff. Students have the opportunity to apply directly for the 4-year 'with work placement year' degree programme, or to transfer onto the 4-year programme at the end of Year-1 and in Year-2 at the end of Semester 1. Students who are initially registered for the 4-year degree programme may transfer onto the 3-year degree programme at any point in time, prior to undertaking the year-long work placement. Students who fail to pass the work placement year, and those who fail to meet the minimum requirements of the work placement year module, (* or equivalent, work placement), will be automatically transferred onto the 3- year degree programme.

* We recommend where possible students undertake a placement of between 9 - 12 months on a full-time basis to maximize academic and personal growth. However, the Faculty of Natural Sciences Work / Professional Placement Year mandates a minimum of 24 weeks in duration, ideally on a full-time basis, but no less than 21 hours per week. This enables those undertaking an unpaid placement to work on a part-time basis alongside their placement.

The criteria to be applied are:

- A good University attendance record and be in 'good academic standing'.
- Academic Performance (an average of 50% across all modules in Semester 1 at Level 5 is normally required. Places on the Work Placement Year are then conditional on achieving an average mark of 50% across all Level 5 modules. Students with up to 15 credits of re-assessment who meet the 50% requirement may progress to the Work Placement Year. Where no Semester 1 marks have been awarded performance in 1st year marks and ongoing 2nd year assessments are taken into account)
- General Aptitude (to be demonstrated by application(s) to relevant placement providers with prior agreement from the Programme Lead, interview during the 2nd semester of year 2 (Level 5), and by recommendation of the student's Academic Mentor, 1st and 2nd year tutors and Programme Lead)
- Students undertaking work placements will be expected to complete a Health and Safety checklist prior to commencing their work experience and will be required to satisfy the Health and Safety regulations of the company or organisation at which they are based.
- *(International students only)* Due to visa requirements, it is not possible for international students who require a Tier 4 Visa to apply for direct entry onto the 4-year with Work Placement Year degree programme. Students wishing to transfer onto this programme should discuss this with student support, the academic tutor for the work placement year, and the Programme Lead. Students should be aware that there are visa implications for this transfer, and it is the student's responsibility to complete any and all necessary processes to be eligible for this programme. There may be additional costs, including applying for a new Visa from outside of the UK for international students associated with a transfer to the work placement programme.

Students may not register for both an International Year and a Work Placement Year.

Student Support

We have a dedicated Industrial Placement tutor within Life Sciences that can act as a point of contact for you before, during or after your placement year. You will also be assigned a Placement Supervisor. This will be an academic member of the School who will maintain regular contact with you throughout your placement and will become your project supervisor at Level 6. The School Director of Education will also act as a whistleblower. This means that you can contact them in strict confidence at any point during your placement if you have any concerns about your placement provider or overall experience.

Learning Outcomes

In addition to the learning outcomes for *Biomedical Science*, students who graduate with *Biomedical Science with Placement Year* will be able to:

1. Demonstrate an ability to successfully work within their placement institution and to learn practical skills and develop their science base within the scope of their work project.

These learning outcomes will be assessed through successful completion of Work Placement module LSC-30038.

Regulations

In addition to the regulations for *Biomedical Science*, the following additional regulations apply:

- Compliance with any contractual obligations expected by the placement provider
- Complete a minimum of 24 weeks in duration, ideally on a full-time basis, but no less than 21 hours per week, on placement
- Successful completion of Work Placement module LSC-30038
- The placement student will also sign up an agreement outlining his/her responsibilities in relation to the requirements of each organisation.

You are be expected to behave professionally at all times on placement. This means conforming to the work practices of your placement provider and remembering that you are a representative of Keele University.

Additional costs for the Work Placement Year

Tuition fees for students on the Work Placement Year will be charged at 20% of the annual tuition fees for that year of study, as set out in Section 1. The Work Placement Year can be included in your Student Finance allocation; to find out more about your personal eligibility see: www.gov.uk

You will have to bear the costs of travelling to and from your placement provider, accommodation, food and personal costs. Depending on the placement provider additional costs may include parking permits, travel and transport, suitable clothing, DBS checks, and compulsory health checks.

A small stipend may be available to students from the placement provider during the placement but this will need to be explored on a placement-by-placement basis as some organisations, such as charities, may not have any extra money available. You should budget with the assumption that your placement will be unpaid.

Eligibility for student finance will depend on the type of placement and whether it is paid or not. If it is paid, this is likely to affect student finance eligibility, however if it is voluntary and therefore unpaid, should not affect student finance eligibility. You are required to confirm eligibility with your student finance provider.

International students who require a Tier 4 visa should check with the Immigration Compliance team prior to commencing any type of paid placement to ensure that you are not contravening visa requirements.

22. Annex - Programme-specific regulations

Programme Regulations: Biomedical Science (Single Honours)

Final Award and Award Titles	BSc (Hons) Biomedical Science BSc (Hons) Biomedical Science with International Year BSc (Hons) Biomedical Science with Work Placement Year BSc (Hons) Applied Biomedical Science BSc (Hons) Medical Sciences BSc (Hons) Medical Sciences with International Year BSc (Hons) Medical Sciences with Work Placement Year
Intermediate Award(s)	Diploma in Higher Education Certificate in Higher Education
Last modified	November 2022
Programme Specification	https://www.keele.ac.uk/qa/programmespecifications

The University's Academic Regulations which can be found on the Keele University website (https://www.keele.ac.uk/regulations/)[1] apply to and regulate the programme, other than in instances where the specific programme regulations listed below over-ride them. These programme regulations list:

- *Exemptions* which are characterised by the omission of the relevant regulation.
- *Variations* which are characterised by the replacement of part of the regulation with alternative wording.
- *Additional Requirements* which set out what additional rules that apply to students in relation to this programme.

The following **exemptions, variations** and **additional requirements** to the University regulations have been checked by Academic Services and have been approved by the Faculty Education Committee.

The following **additional requirements** to the University academic regulations apply to Biomedical Science.

Regulations applying to Biomedical Science

1. A pass mark must be obtained in both of our zero-credit, lab-based modules (one at Level 4 and the other Level 5) and the relevant experimental project module at Level 6 to be awarded an IBMS and RSB accredited programme. Students who do not fulfil these conditions will be transferred to the '*Medical Sciences*' route. This degree is NOT accredited by the IBMS and therefore will not fulfil the required academic qualification for eligibility for HCPC registration as a Biomedical Scientist. The degree award of '*Medical Sciences*' in not accredited by the Royal Society of Biology.

Regulations applying to Biomedical Science and Applied Biomedical Science

1. Wearing a laboratory coat is compulsory in all laboratories. Students will not be allowed to attend the laboratory class without a laboratory coat.
2. Students must wear appropriate clothing in the laboratories, including sensible footwear. Closed shoes and low heels should be worn. This is to avoid tripping and to protect the feet in the case of spillages. Long hair must be tied back. Students who are inappropriately dressed may, at the discretion of the member of staff in charge, be excluded from the class and recorded as being absent without good cause.
3. Students who arrive late to laboratory classes may, at the discretion of the member of staff in charge, be excluded from the class and recorded as being absent without good cause.
4. Students who display serious misconduct in any class may, at the discretion of the member of staff in

charge, be excluded from the class and recorded as being absent without good cause. Serious misconduct involves wilful damage to property, injury or threat to persons, or persistent disruption of teaching.
5. The unauthorised use of mobile phones or headphones is not permitted in any class.
6. Students are not permitted to record, video or photograph taught sessions or meetings with staff, except with the permission in advance of the staff concerned. Permission will be given where this is part of an approved disability adjustment. Any permission to record, video or photograph is for personal use only and all recordings, videos or photographs remain the property of the presenter and Keele University.
7. Students are required to read and follow the procedures in the School of Life Sciences Safety Handbook, which is available from the School Noticeboard on KLE.

Applied Biomedical Science-specific regulations

The Applied Biomedical Science programme is subject to further criteria required by the Health and Care Professions of Council (HCPC):

1. Students on the Applied Biomedical Science programme are subject to the University Regulation on Fitness to Practise (University Regulation B5).
2. Demonstrate that they have no medical/health issues that may affect their fitness to practise. This will be assessed by the University's Occupational Health department either before (if medical issues have been identified) or at the start of the programme. A health screening questionnaire must be completed by students holding a place on prior to the start of their Level 5 studies.
3. Applied Biomedical Science students must attend full-time at their allocated hospital(s) during the full period of their vacation placement periods, abide by their conditions of contract and partake fully in the provided training programme. Students who do not fulfil the conditions of this regulation satisfactorily will revert to the Biomedical Science route.
4. Applied Biomedical Science students must achieve a pass grade for the Double Applied Biomedical Science Placement module. If this module is failed, the student will revert to the *Biomedical Science* route (or *Studies in Biomedical Sciences* award, if all of the requirements of the Biomedical Science award are not met (i.e. if a mark of less than 40% is achieved: see point 9 above (see BMS-specific regulations above)). In this case, the mark for the Double Applied Biomedical Science Placement module will be substituted *in lieu* of the Life Sciences Double Experimental Project (with research skills assessment) module.
5. Students who are awarded an Applied Biomedical Science degree will have met the HCPC's Standards of Proficiency for Biomedical Scientists and will be eligible to apply for HCPC registration (subject to the conditions given in point 9 above).
6. Applied Biomedical Science students must complete a course of vaccination against hepatitis B before starting their placement.
7. Students should note that an aegrotat award cannot provide eligibility for admission to the HCPC register. In addition, applicants for registration are required to provide further information to the HCPC, including a health reference from a medical practitioner (who must not be a relative) and a character reference from 'someone of professional standing in the community'. Registration is required to work as a qualified Biomedical Scientist in the NHS.
8. Applied Biomedical Science graduates will also receive the IBMS Certificate of Competence and are eligible for Licentiate Membership of the IBMS.
9. Selection criteria apply to transfer onto the Applied Biomedical Science programme from Level 4 Biomedical Science. Successful candidates are required to:
    i. Demonstrate a good command of reading, writing and spoken English, evidenced by their Level 4 coursework;
    ii. Successfully complete Level 4;
    iii. Demonstrate an aptitude for the role of a Biomedical Scientist through interviewers applying the NHS person specification for a trainee Biomedical Scientist post;
    iv. Undergo an enhanced Disclosure and Barring Service (DBS) check prior to acceptance onto the course, including any spent and unspent criminal convictions and cautions. The University follows the DBS Code of Practice and can provide a copy of this Code on request.
    (see https://www.gov.uk/government/publications/dbs-code-of-practice).

Please note that having a criminal record is not necessarily a bar to obtaining a place on this course. Disclosure is mandatory but each case will be considered individually. demonstrate that they have completed a course of Hepatitis B vaccination prior to undertaking their placement.

Additional requirement: Study Abroad and Field Course

3.1 A student who has completed a Clinical or Industrial Placement will not normally be eligible to transfer onto the International Year option.

3.2 Students taking the final year module LSC-30066: *Tropical Biology Field Course* will undertake field work in Malaysia between level 5 and 6. Students must achieve the following criteria to be eligible to attend:

- **Academic Performance:** an average of 55% across all modules in Semester 1 at Level 5 is normally required. Places on the course are then conditional on achieving an average mark of 55% across all Level 5 modules. You will still be eligible to apply if you have up to 15 credits of re-assessment, but still meet the

55% requirement. Where no Semester 1 marks have been awarded, performance at Level 4 and ongoing Level 5 assessments are considered.
- **General Aptitude:** demonstrated through interview during Level 5, semester 2 and by recommendation of your academic mentor, year tutors and/or programme director.

At least one male and one female academic member of staff from the School of Life Sciences will accompany you on the field course to offer support.

There are additional costs associated with the tropical field course that change each year. These will be discussed at Level 5 before you need to decide to apply.

---

[1] References to University Regulations in this document apply to the content of the University's Regulatory Framework as set out on the University website here https://www.keele.ac.uk/regulations/.

Version History

This document

Date Approved: 14 June 2024

Previous documents

Version No	Year	Owner	Date Approved	Summary of and rationale for changes
1	2023/24	GLENN HUSSEY	08 February 2023	
1	2022/23	GLENN HUSSEY	01 February 2022	
1	2021/22	GLENN HUSSEY	08 February 2021	
1	2020/21	GLENN HUSSEY	18 December 2019	
1	2019/20	GLENN HUSSEY	18 December 2019	