

UNIVERSITY OF PLYMOUTH

Faculty of Health

School of Biomedical Sciences

Programme Specification

BSc (Hons) Biomedical Science with Integrated Foundation Year

September 2020

1. Final Award title

BSc (Hons) Biomedical Science

Students exiting the foundation year will not receive an award unless they progress and achieve appropriate credits on progression programmes

Integrated Foundation Year

Students may also undertake a Foundation Year prior to entry to Level 4 of this award before progressing to the above final award route. The approved content of the Foundation year is described in this Programme Specification. The Foundation year is an integral part of the final award route and is not therefore reflected in the final award title.

Level 5 intermediate award title(s)

Diploma of Higher Education

Level 4 intermediate award title(s)

Certificate of Higher Education

UCAS code (s): B904

HECOS code: 100265 Biomedical Sciences

2. **Awarding Institution:** University of Plymouth

3. **Teaching institution:** University of Plymouth

4. **Accrediting body(ies):** None

5. Distinctive Features of the Programme and the Student Experience

This is a four-year BSc (Hons) degree programme starting at Year Zero. It is designed to provide a route of entry if you are not currently appropriately qualified in subject knowledge, attainment or recent experience for entry to Level 4 of undergraduate programmes in the Biomedical Sciences. If you complete the BSc (Hons) Biomedical Science with Integrated Foundation Year programme you will normally progress to BSc Biomedical Science but as the programme aligns with the QAA benchmark statements for Biomedical Sciences it is possible that students may progress to other degree awards aligned to these outcomes as shown in 10 and Appendix 4.

Distinctive features of this programme are that it:

- is suitable for non-standard entrants, including mature returners to study, those without Science qualifications or with Science qualifications below the standard required for entry to Level 4
- welcomes applications from those who have studied other disciplines
- provides a focussed learning experience examining the science and practice relating to modern human biology and biomedical/healthcare sciences
- provides you with a high proportion of experiential work, and intensive and early assessment, with rapid feedback designed to support learning
- includes inter-professional study opportunities to develop understanding of the broad spectrum of health services and how they interlink across the NHS
- provides personal support for learning through regular meetings with your personal tutor and input from specialist staff
- is underpinned by research activity of staff in Biomedical Sciences

To ensure that you are prepared and have experienced a range of learning approaches used, modules will utilise didactic, flipped, team and group based enquiry approaches (problem-, case- and team-based), with an emphasis on introduction to learning skills using novel, integrative and innovative cases to pique your interest.

6. Relevant QAA Subject Benchmark Group(s)

The programme is devised with reference to the subject benchmarks of the discipline to which you will progress to complete your degree.

[Biomedical Sciences](#) and [Biosciences](#)

7. The programme structure is described diagrammatically below.

In Semester 1, you will complete the compulsory modules FMD001 *Molecules to cells*, FMD002 *Introduction to Human Physiology*, you will also take the all year modules FMD003 *Learning Skills for Healthcare*, BHCS002 *Current Developments in Human Biology and Biomedical sciences*

In Semester 2, you will take the core semester 2 modules FMD004 *Interdisciplinary and Team Based Learning* BHCS001 *Infection, Immunity and Therapeutics*, and will continue the all year modules FMD003 *Learning Skills for Healthcare*, BHCS002 *Current Developments in Human biology and Biomedical sciences*

Semester 1 Modules		All Year Modules	
FMD001 Molecules to cells (20 credits)	FMD002 Introduction to Human physiology (20 Credits)	FMD003 Learning skills for healthcare (20 Credits)	BHCS002 Current developments in Human Biology and Biomedical Sciences (20 credits)
Semester 2 Modules			
BHCS001 Infection, immunity and therapeutics (20 Credits)	FMD004 Interdisciplinary Learning and Team Based Learning (Enquiry learning) (20 Credits)		

Module Overviews

The information below provides a synopsis of the aims and scope of the modules you will take in the foundation year. Please refer to the individual module records for further detailed information on content, learning outcomes and assessment strategy.

BHCS001 This module provides an introduction to scientific theory and practice relating to microbiology and immunology. It will also introduce you to therapeutic strategies to prevent infection or modify diseases associated with immune dysfunction.

BHCS002 In this module you will explore the nature and complexity of contemporary issues in Human Biology. It will also help you to develop a confident, independent, reflective and self-managed approach to learning.

FMD001 You will be introduced to key aspects of genetics, biochemistry, molecular and cellular biology that will underpin your later learning. The aim is to introduce important reaction cycles within the human body, the structure and roles of nucleic acids and key concepts of cellular organisation and function.

FMD002 This module will provide you with a grounding in key aspects of human anatomy and physiology that will underpin later learning in pathophysiology, pathology and developmental biology.

FMD003 This module will assist you in developing an independent, reflective and self-managed approach to study in higher education. You will build confidence in learning through developing effective study skills, including information literacy and time management. It will introduce you to the requirements and formats of scientific communication and you will develop awareness of the skills and personal attributes needed for programme specific practice.

FMD004 This module is designed to enable you to develop key skills required for working in multidisciplinary teams. You will be encouraged to work with your colleagues to manage tasks and tailor learning according to their own particular discipline.

7.0 Programme Aims

The aims shown below are those for the Level Zero element of this programme. They should be read in conjunction with the aims of the BSc (Hons) programmes available to you in the School of Biomedical Sciences (see links [here](#)) to show the full scope of our ambitions for you.

The aims of the Level Zero programme are to:

- 7.1 produce students who have a broad yet comprehensive understanding of the fundamentals of science, that are necessary for successful progression to and in an honours degree programme in a biomedical sciences discipline
- 7.2 develop the ability to apply scientific knowledge and skills appropriately and successfully in undergraduate studies in human biology and health sciences
- 7.3 equip students with the study skills necessary to successfully progress to and in an honours degree programme in biomedical sciences
- 7.4 enable students to become confident, critically self-aware independent learners.
- 7.5 begin to develop in students a range of key and transferable skills of value in the world of employment, including skills in the areas of communication, problem-solving, team-working, information-handling and processing.
- 7.6 prepare students for and initiate students into the culture of University-level study, both in terms of the academic standards and the study patterns required.

8. Intended programme learning outcomes (ILOs)

The intended learning outcomes shown below are those for the Level Zero element of this programme. You should read these in conjunction with the Intended Learning Outcomes of the BSc (Hons) programmes available to you in Biomedical Sciences (see links [here](#)) to show the full scope of our ambitions for you.

8.1 Knowledge and understanding

On successful completion you should be able to.

1. Demonstrate a broad understanding of the fundamental knowledge base and the terminology relating to disciplines across human biology and biomedical sciences including anatomy, biochemistry, microbiology, physiology, genetics, cellular and molecular biology and immunology.

2. Demonstrate an awareness of current areas of debate and discovery in Biomedicine and how scientific knowledge and methods can be applied to investigate them and improve human health.

8.2 Cognitive and intellectual skills

On successful completion you should be able to.

1. Identify correctly the concepts and principles underlying theoretical frameworks in biomedical sciences and begin to identify strengths and limitations of such models.
2. Judge the reliability of data, results and information using well defined techniques and/or criteria.
3. Operate in a range of varied but predictable contexts relevant to biomedicine, requiring the use and application of specified scientific techniques and information sources.

8.3 Practical skills

On successful completion you should be able to.

1. Demonstrate skills in the safe handling of a range of biological and non-biological materials in laboratory settings, taking into account their physical and chemical properties, including any specific hazards associated with their use.
2. Demonstrate the skills required to conduct standard laboratory procedures for investigation of human function and dysfunction.
3. Demonstrate skills in the monitoring, by observation and/or measurement, of a variety of physical, chemical or biological properties, events or changes, of both a quantitative and qualitative nature, together with their systematic and reliable recording and documentation.

8.4 Key, transferable and employment-related skills

On successful completion you should be able to demonstrate.

1. Written and oral communication skills and be able to use these in a variety of contexts.
2. Problem-solving skills, relating to qualitative and quantitative information.
3. Numeracy and computational skills appropriate to the study of undergraduate biomedical sciences at university.
4. Information-retrieval skills, in relation to primary and secondary information sources.
5. An awareness of their own capabilities in key areas and engage in development activity through guided self-direction.
6. An understanding of how to work effectively and give/receive effective feedback independently and as part of a team/group.

8.5 Levels 4-6

Knowledge and understanding

On successful completion graduates should have developed:

- 1) An understanding of the role of biomedical sciences in contributing to knowledge of human health and the development and diagnosis of a range of diseases.
- 2) An understanding of the application of biomedical sciences in diagnostic and research settings, and the ethical implications of advances in biomedicine.
- 3) An understanding of the scientific importance of current advances in knowledge in specialised areas of biomedicine which are enriched by staff research and scholarship.
- 4) An understanding and integration of a range of anatomical, physiological, pathological, molecular, genetic, pharmacological, immunological, biochemical, and microbiological aspects of biomedicine and their applications to human health, disease, diagnostics and therapeutics.

Cognitive and intellectual skills

On successful completion graduates should have developed:

- 1) An understanding of the contested and developing nature of knowledge and identify and evaluate alternative hypotheses and viewpoints.
- 2) The ability to assess the reliability and validity of evidence.
- 3) Reasoned and informed arguments.
- 4) The necessary skills to identify, formulate and resolve problems.
- 5) The skills to synthesise information from disparate sources.
- 6) The ability to think logically, creatively and critically, and formulate and test scientific hypotheses.

Key and transferable skills

On successful completion graduates should have developed the ability to:

- 1) Select and use appropriate communication and information technologies, including the internet, word-processing, graphics, spreadsheets and specialist software packages.
- 2) Communicate effectively through oral and in a variety of written and graphical formats to specialist and non-specialist audiences.

- 3) Work independently and organise his/her own learning.
- 4) Search for, retrieve, sift, select and order biomedical information from a variety of sources.
- 5) Collate, analyse and interpret data in quantitative and qualitative forms.
- 6) Use a range of established techniques to initiate and undertake critical analysis of information, and to propose solutions to problems arising from that analysis.
- 7) Participate effectively and supportively in groups, meeting obligations to others.
- 8) Transfer skills and apply them in new contexts.
- 9) Reflect on his/her own learning and evaluate personal strengths and weaknesses.

Employment related skills

On successful completion graduates should have developed:

- 1) Qualities and transferable skills necessary for employment in a range of biomedical employment settings: (i) the exercise of initiative and personal responsibility; (ii) decision making in complex and unpredictable contexts (iii) the ability to identify and undertake appropriate further training of a professional or equivalent nature.
- 2) The ability to identify relevant areas for employment.

Practical skills

On successful completion graduates should have developed:

- 1) The skills to enable them to record clinical and laboratory observations in a professional manner.
- 2) The skills to enable them to operate key instrumentation related to the practice of biomedical sciences.
- 3) The skills to enable them to plan, manage, execute, analyse and report laboratory work in a responsible and safe manner.
- 4) The skills to enable them to perform qualitative and quantitative laboratory analyses.
- 5) The skills to enable them to apply appropriate statistical tests to datasets.
- 6) The experience and practice laboratory skills in cellular, physiological, molecular, immunological, microbiological, haematological, genetic and biochemical aspects of biomedicine.

7) An awareness of good laboratory practice, quality control and assurance, health and safety policies, COSHH and risk assessment.

9. Admissions Criteria

All applicants must have GCSE (or equivalent) Maths and English at Grade C/Level 4 or above.

International applicants must also satisfy the University's English language requirements as specified at

<https://www.plymouth.ac.uk/international/how-to-apply/international-students-entry-requirements>

	Qualifications Required	Level Required
For all applicants	GCSE Mathematics	4/C
	GCSE English	4/C
International students	IELTS	IELTS 6.0 overall with at least 5.5 in each element
Applicants with formal qualifications in Science	A Levels	32-48 UCAS points, a minimum of 2 A levels to include at least one pass in a science subject
	AS Level	At least two passes in science subjects
	Baccalaureate	24 overall to include 1 subject from science – English and mathematics must be included.
	BTEC	18 Unit BTEC National Diploma/QCF Extended Diploma: PPP from a science related subject. 12 Unit BTEC National Certificate/QCF Diploma: MP from a science related subject.
	Post GCSE quals such as NVQ	Level 3 required
	GNVQ and AGNVQ	Passes in science subjects
Applicants without formal qualifications in Science	Applications from students with non-standard qualifications, including those without Science qualifications at Level 3, are welcomed and are assessed on an individual basis. This programme is also suitable for those returning to study who can offer work or other related experience in place of formal qualifications and who have the equivalent of basic mathematical, English and science skills (ie the equivalent of a Grade C/4 at GCSE level)	

Applications for the programme will be administered through the University of Plymouth Central Admissions team.

In accordance with the University's Academic Regulations, Accreditation for Prior Learning (APEL) may be applied where you can demonstrate appropriate recent learning or experience that fully satisfies the learning outcomes of the module(s) concerned.

In accordance with the University's policies, Level Zero programmes welcome applications from disabled students who are appropriately qualified, academically, for the programme. Information interviews are conducted with applicants to determine the nature of adjustments required prior to acceptance onto the programme and suitability for relevant progression routes.

An overview of the entry process is shown in appendix 3.

10. Progression criteria for Foundation Year

Please note if students do not progress to a degree programme they will receive academic credit but not an award title.

The University guarantees progression to one of the science-based BSc programmes identified in Appendix 4, providing you have achieved:

- 120 credits in the programme described in this specification and
- met relevant academic and professional entry requirements as detailed in appendix 4

Please note, however, that the University does not guarantee progression to an individual programme. Within the suite of programmes available for progression, disciplines may apply additional criteria for progression and these may differ among programmes. Any such additional criteria will be made clear to you early in the Level Zero programme; current requirements are shown in Appendix 3. They may include:

- a threshold greater than 60% in the overall mean mark achieved
- competitive entry for a limited number of places, with entry determined by defined criteria of performance in Level Zero
- an interview to assess suitability for the programme
- DBS checks
- you should be aware that some programmes may ask for a formal internal application so please make these enquiries in good time (BSc (Hons) Clinical Physiology).

There is no guarantee of progression to programmes other than BSc (Hons) Biomedical Science and the progression routes shown in appendix 4. If you are intending to progress to other programmes at University of Plymouth you should contact the admissions teams of the programme to which they wish to progress prior to enrolling on the foundation programme,

progression however would not be guaranteed and would be subject to but not limited to availability of places and a student's academic and personal profile. This may also affect your funding and you may lose the gift year as SFE/SFW may view the next year of study as a repeat year.

10.2 Progression criteria for Final and Intermediate Awards

Progression to Stage two (year two) or award of Certificate of Higher Education requires 120 credits at level 4.

Progression to final year or award of Diploma of Higher Education requires 240 credits at level 4 and 5.

BSc (Hons) Biomedical Science: 360 credits, including 120 credits at level 6, 120 further credits at level 5 or above and 120 credits at level four.

BSc Biomedical Science: 320 credits, including 80 credits at level 6, 120 further credits at level 5 or above and 120 credits at level four.

11. Non-standard Regulations

None

12. Transitional Arrangements

The arrangements below are for students who are enrolled on the BSc Human Biology with Foundation year programme in 2018-19. Students given a second attempt by a referred board will repeat the following modules in 2019-20 to ensure they meet the appropriate programme outcomes.

Module taken in 2018-19 or earlier	Corresponding module to be taken in 2019-20 onwards
MATH019	MATH019
GEES001	GEES001
BIOL012	FMD001
BIOL013	FMD002
CHM009	FMD004
CHM010	BHCS001
PHY009	FMD004
PHY010	BHCS001
BIO015	BHCS002

Appendices

Appendix 1: Programme Specification Mapping (UG): module contribution to the meeting of Award Learning Outcomes

Core Modules		Award Learning Outcomes contributed to (for more information see Section 8)														Compensation Y/N	Assessment Element(s) and weightings [use KIS definition] E1- exam E2 – clinical exam T1- test C1- coursework A1 – generic assessment P1 - practical
		Knowledge & understanding 8.1		Cognitive & intellectual skills 8.2			Practical skills 8.3			Key transferable & Employment related skills 8.4							
		1	2	1	2	3	1	2	3	1	2	3	4	5	6		
Level 3	FMD001	x		x		x			x	x	x	x	x	x		Y	C1 50% E1 50%
	FMD002	x		x		x				x	x	x	x		x	Y	P1 50% E1 50%
	FMD004	x	x	x		x				x	x		x	x	x	Y	C1 100%
	BHCS001	x		x		x			x	x	x	x	x			Y	C1 50% E1 50%
	BHCS002	x	x	x	x	x				x	x		x	x	x	Y	P1 100%
	FMD003		x		x		x	x	x	x	x	x	x	x		Y	C1 100%
Level LOs		X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Confirmed Award LOs		X	X	X	X	X	X	X	X	X	X	X	X	X	X		

CORE MODULES: tick those Award Learning Outcomes the module contributes to through its assessed learning outcomes.

Appendix 2. Assessment in modules

Module	% Coursework	% Test	% Examination	% Practical	% Generic
FMD001	Written report 50%		MCQ 50%		
FMD002			MCQ 50%	Group Scientific Poster 50%	
FMD004	Snapshot Article 33.3% Poster 33.3% Article 33.4%				
BHCS001	Written report 50%		MCQ 50%		
BHCS002				Presentations 100%	
FMD003	Workbook 50% Essay 50%				

Example assessment distribution (For- formative Sum-summative)

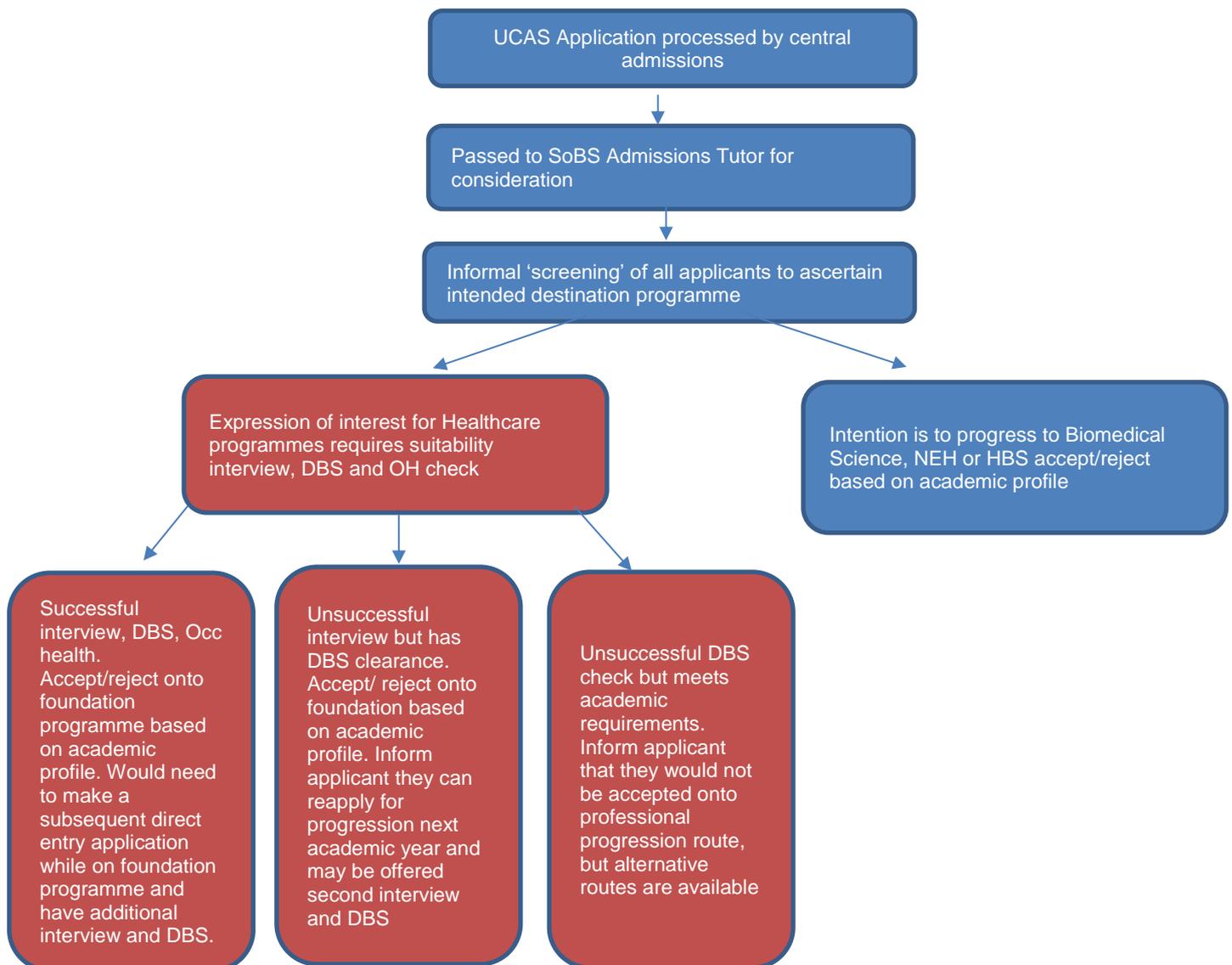
Semester Week	Exam MCQ	Written Report	Presentation	Poster	Workbook	Essay	i/tRAT	Professional
S1 1								
S1 2								
S1 3								
S1 4						For BHCS003		
S1 5								
S1 6			For BHCS002					
S1 7		For FMD003						
S1 8				For FMD003				
S1 9								
S1 10	For FMD001							
S1 11				Sum FMD 002				
S1 12			Sum BHCS002					
S1 13		Sum FMD001						
S1 14								
S1 15	Sum FMD 002 Sum FMD 001							
S2 1								
S2 2							For FMD004	
S2 3								
S2 4								
S2 5								
S2 6			Sum BHCS002					
S2 7							Sum FMD 004	
S2 8								
S2 9						Sum BHCS003		
S2 10		Sum BHCS001						
S2 11							Sum FMD004	
S2 12			Sum BHCS002		Sum FMD 003			
S2 13			Sum FMD004					Sum FMD004
S2 14								
S2 15	Sum BHCS001							

Appendix 3. Entry Process for BSc Biomedical Science with Integrated Foundation Year

BSc (Hons) Biomedical Science with Integrated Foundation Year applications will be processed by central admissions and passed to the SoBS admissions officer for consideration. The programme has progression routes to selected programmes within the Faculty of Health: Medicine, Dentistry and Human Sciences including the Clinical Physiology programme, which has additional non-academic entry requirements. Process 1 below will be followed to ensure that foundation applicants wishing to progress to these professional degrees are able to do so before enrolment.

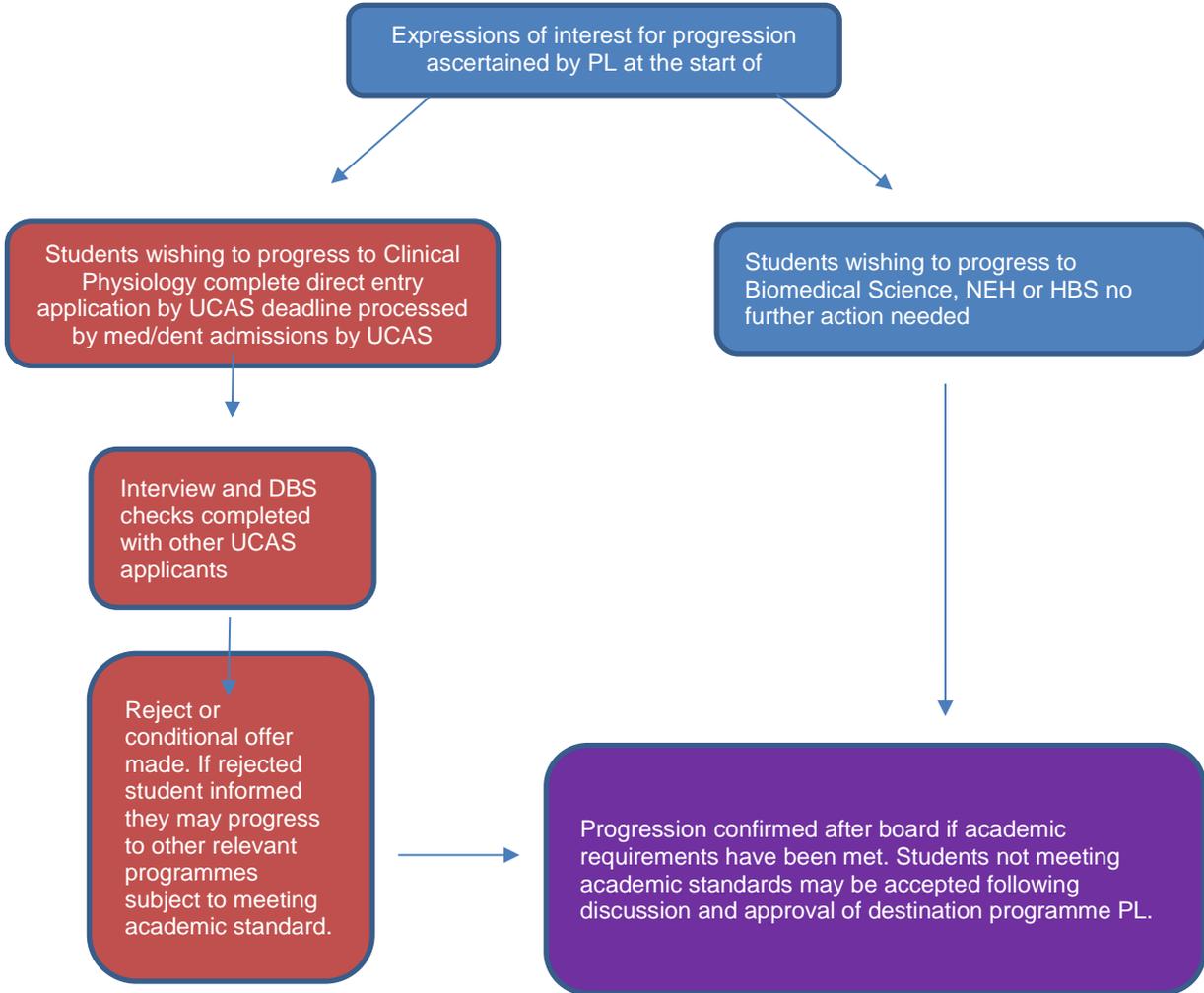
For applicants who develop a desire to follow one of the professional programmes after enrolment on the foundation programme process 2 will be followed

Process 1. BSc (Hons) Biomedical Science with Integrated Foundation Year Applications Received by UCAS Deadline



Process 2: Progression Process for Applicants Enrolled on the Foundation Programme

For students already enrolled on BSc (Hons) Biomedical Science with Integrated Foundation Year the following process will be followed to support progression.



Appendix 4. BSc (Hons) programmes to which students studying BSc (Hons) Biomedical Science with Integrated Foundation Year may progress if criteria are met.

The normal progression route achieving an **overall mean of at least 60% averaged across all 120 credits** is BSc (Hons) Biomedical Science. However, as the foundation year underpins the subject content and QAA benchmarks for Biomedical Sciences, it is possible that students may be able to progress to other awards that are similarly aligned as detailed below:

BSc (Hons) Human Biosciences, BSc (Hons) Nutrition, Exercise and Health require an **overall mean of at least 60% averaged across all 120 credits**.

BSc (Hons) Clinical Physiology there is competitive entry for a limited number of places on these programmes. Applicants should complete a formal internal application by the UCAS deadline to the Faculty of Health: Medicine, Dentistry and Human Sciences admissions team. Applicants require an overall **mean of at least 60% averaged across all 120 credits**. In addition, these professionally regulated programmes require applicants to successfully complete DBS, occupational health checks and a suitability interview.