

Faculty: Health & Human Sciences

Title of Programme: Physiology

Programme Code: HHBIO

Programme Specification

Start Date: September 2010

Date of Approval: 6 July 2010

Associate Dean (Academic Quality): Jo Cahill

Signature 

Programme Specification Bioscience – Physiology

This programme specification (PS) is designed for prospective students, enrolled students, academic staff and potential employers. It provides a concise summary of the main features of the programme and the intended learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the teaching, learning and assessment methods, learning outcomes and content for each module can be found in Definitive Module Documents (DMDs) and Module Guides.

Section 1

Awarding Institution/Body	University of Hertfordshire
Teaching Institution	University of Hertfordshire
University/partner campuses	College Lane
Programme accredited by	NA
Final Award	BSc Hons
All Final Award titles	Physiology/Physiology with a year abroad Physiology (Sandwich)
FHEQ level of award	Honours
UCAS code(s)	C1B1, B101, B102

A. Programme Rationale

The award is aimed at students who wish to develop an understanding of mammalian physiology at all levels of organisation. Students will study mammalian physiology (particularly human physiology) in relation to systems physiology, cellular physiology, molecular physiology, integrated physiology and the physiological adaptations to external environments. The understanding of the healthy individual will be used as a basis to explore the changes associated with selected diseases. The study of physiology will emphasise integrative aspects of body function which is central to physiology's character as an anti-reductionist discipline. Successful students will be equipped for further study in the field and graduate employment in a wide range of activities.

B. Educational Aims of the Programme

The programme has been devised in accordance with the University's general educational aims of programmes of study as set out in UPR TL01.

Additionally this programme aims to: enable students to develop knowledge, understanding and investigative skills relevant to:

- mammalian function in health and disease; how the functions of organs, systems and organisms derive from the integrated activities of cells
- appreciate the complexity, diversity and inter-relatedness of physiological processes which enable the function of a whole organism and its adaptation to the environment

C. Intended Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills and other attributes in the following areas. The programme outcomes are referenced to the QAA benchmark statements for Bioscience and the Framework for Higher Education Qualifications in England, Wales and Northern Ireland (2008), and relate to the typical student. Additionally, the SEEC Credit Level Descriptors for Further and Higher Education 2003 have been used as a guiding framework for curriculum design.

Knowledge and Understanding of:	Teaching/learning methods & strategies	Assessment
<p>A1 acquire the specific knowledge appropriate to their chosen discipline; A2 appreciate the principles of biochemistry, chemistry, genetics, evolution, molecular and cellular biology, mathematics, statistics and pharmacology upon which an understanding of the discipline of physiology is based; A3 explain physiological function at a molecular, cellular and systems level of organisation; A4 demonstrate an understanding of the integrated and adaptive responses of cells and physiological systems to work and a range of environments; A5 appreciate the complexity, diversity and inter-relatedness of physiological processes in health and disease; A6 quantify and explain the mechanisms of drug action; A7 where appropriate, gain experience from a work placement (i.e. sandwich students) and/or period overseas;</p>	<p>Acquisition of A1 – A6 is through a combination of lectures, laboratory classes, workshops throughout the course as well as the research project and, for sandwich students, the industrial training experience. Acquisition of A2 is through a combination of lectures, laboratory classes, workshops and assignments throughout levels 4 and 5. Acquisition of A3 is initiated at level 4 through a combination of lectures, laboratory classes, workshops and assignments, and extended at levels 5 and 6. The outcome is supported by interpretative exercises at levels 5 and 6 and an approach integrating all levels of organisation is generally adopted at level 6. A4 is acquired through the lecture, laboratory and workshop programme in all physiology modules and particularly within level 5 Exercise Physiology and level 6 Biomedical Implications of exercise. Acquisition of A5 is initiated in the level 4 module Human Physiology, expanded in Pathophysiology and Exercise Physiology at level 5, and finally developed at level 6 in Biomedical Implications of Exercise and Neurophysiology. Acquisition of A6 is developed at level 5, in Pharmacology and Therapeutics and may be expanded in final year in Therapeutic Pharmacology or Translation of Science into Medicine. Acquisition of A7 is achieved in the optional industrial placement year.</p> <p>Throughout, the learner is encouraged to undertake independent study both to supplement and consolidate what is being taught/learnt and to broaden their individual knowledge and understanding of the subject.</p>	<p>Knowledge and understanding are assessed by a combination of laboratory reports, seminars, group work, problem-solving exercises, interpretative exercises written assignments and unseen examinations. (A1 – A6). Performance on the placement year (A7) is assessed by a report and the performance of the student during the year.</p>

Intellectual skills - able to:	Teaching/learning methods & strategies	Assessment
<p>Successful students will be able to:</p> <p>B1- analyse and solve problems related to physiology</p> <p>B2- understand the ethical implications of their work;</p> <p>B3- if studying for BSc Hons, be able to execute and report a research project in order to develop skills necessary for independent research</p> <p>B4- apply theoretical concepts to the study of the physiology and evaluate the relationships between theory and practice.</p> <p>B5- display an awareness of the existence and nature of value judgements;</p> <p>B6 - demonstrate, at a level appropriate to the award, a critical approach in enquiry and a readiness to test hypotheses, interpret scientific data and evaluate published literature.</p>	<p>Problem analysis and solving skills (B1) will be developed in all level 4 and 5 modules but focused on in Bioscience Research Methods at level 5. Students are given a firm grounding in ethical practices in science (B2) throughout level 4 and issues pertinent to physiology are developed in the Level 5 modules, especially Bioscience Research Methods. Aspects relevant to independent research (B3) are introduced in the Level 5 module, Bioscience Research Methods and come into fruition in the Project module at level 6. The relationship of theory to practice (B4) is achieved throughout the whole programme and is the fundamental basis of the placement training. Workshop exercises in all modules make a significant contribution to B5 and this is enhanced by taught material in Bioscience Research Methods.</p> <p>To acquire B6 the student is introduced to the analysis of published literature by preparing abstracts at level 5 and evaluation is developed at level 6 in lectures, the seminars and project. Statistical analysis is introduced in Human Physiology at level 4, developed in Bioscience Research Methods at level 5 and reinforced in the project at level 6.</p>	<p>B1, B2 and B4 are assessed in laboratory reports and written assignments. In addition B1 is assessed by unseen examinations</p> <p>The Project (B3) is tested by the assessment of performance whilst undertaking the research, the assessment of the report and a poster. B5 and B6 are assessed in laboratory reports, unseen examinations, interpretative exercises, seminars, vivas and the project.</p>
Practical skills - able to:	Teaching/learning methods & strategies	Assessment
<p>Successful students will be able to:</p> <p>C1- acquire appropriate laboratory skills, including safe working practices where relevant</p> <p>C2 – acquire appropriate computer skills</p>	<p>All modules contain a substantial practical component and laboratory skills (C1) are built up during level 4 and 5, consolidated on the work placement and culminate in an individual project. Computer skills (C2) are developed throughout the programme with subject specific software being introduced and used where appropriate.</p> <p>Throughout, the learner is expected to consolidate their development of practical computer skills by use of</p>	<p>Assessment of practical skills and attributes is by both formative and summative assessment in laboratory classes; laboratory reports; problem-solving exercises; unseen examinations; interpretative exercises; preparing abstracts; seminars; and the Project.</p>

	computers available in the Learning Resource Centre.	
Transferable skills - able to:	Teaching/learning methods & strategies	Assessment
<p>Successful students will be able to:</p> <p>D1 communicate effectively using a variety of formats;</p> <p>D2 use effectively a range of information sources;</p> <p>D3 organise and present intellectual argument commensurate with the level of award;</p> <p>D4 work effectively both alone (e.g. on assignments or during the project) and as part of a team (e.g. in group work, during group discussions and workshops)</p> <p>D5 be numerate at a level appropriate to the course chosen;</p> <p>D6 develop the skills required for continued self-managed professional development;</p> <p>D7 to appreciate the importance of reflective practice</p>	<p>Although transferable skills are embedded in the constituent modules of the programme, they are brought together in the level 4 and 5 zero-rated modules, PTS 1 and PTS2. Personal tutors assist their students to produce a portfolio substantiating their achievements in this area. Acquisition of D1 is through exercises in level 4 Cell Biology and Development; laboratory reports and assignments; oral presentations in personal tutor groups, where presentations can be delivered in a non-threatening atmosphere and tutors give feedback; seminars and poster at level 6. Acquisition of D2 is through induction classes at all three levels and in lectures and workshops in level 4, Cell Biology and Development and level 5, Bioscience Research Methods; report writing throughout the course and the Project module in which information seeking will be facilitated by the project tutor. The teaching of D3 is initiated in Cell Biology and Development with exercises on report writing; during year 1, personal tutors give feedback on written assignments and practical reports from a number of modules to facilitate the development of skills; Bioscience Research Methods at level 5, feedback on assignments at all levels, seminars at level 6 and the project introduction make a significant contribution to the development of this skill. Level 5 personal tutor groups analyse the arguments contained in a research paper. The acquisition of D4 is throughout all the practical components of the programme where students are required to work alone or as part of a team and in some modules, to carry out group assignments. The acquisition of D5 (numeracy) is initiated in lectures, workshops and class exercises in</p>	<p>Testing of D1, D2 and D3 is through a combination of essays, abstracts, laboratory reports, posters, seminars, group reports, the Project report and written examinations throughout the course. Performance in these skills is monitored by personal tutors and contributes to PTS 1 and 2.</p> <p>D4 is assessed formatively by feedback in the laboratory, workshops and personal tutor groups and summatively in individual and group reports, poster presentations and the project. Testing of this skill is a major component of the assessment of the industrial year (if taken).</p> <p>D5 (numeracy) is assessed in numerous assignments and is collated in PTS 1 and 2.</p> <p>D6 is assessed in PTS 1 and 2 which must be passed for the student to progress. The placement report (if a sandwich year is taken) will assess this skill, as does the Project.</p> <p>D7 is formatively assessed in PTS1 and PTS 2, as part of the placement year (if taken) as part of the placement report and in the project.</p>

Introduction to Biochemistry, Microbiology and Pharmacology (level 4) and is developed and reinforced throughout the programme in laboratory classes, workshops, personal tutor meetings and the project. Students have access to the 'Maths Drop-in Centre' and self-learning 'Q-Packs' produced by the department. The development of self-management skills (D6) is facilitated, and monitored, by personal tutors involving discussion of skills relevant to successful performance on the degree and future employability. The placement year (if taken) makes significant contributions to the attainment of this skill. D7 is developed through the PTS modules, during the placement year (if taken) and in the project.

Throughout, the learner is encouraged to develop transferable skills by maintaining a record of evidence and completing a personal development plan.

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

The programme is offered in full-time (3 years), sandwich (4 years), with a Year Abroad (4 years) and part-time (6 years) modes, and leads to the award of a BSc (Hons) Physiology. Entry is normally at level 4 with suitable A level or equivalent qualifications but is possible at level 5 or level 6 with suitable qualifications (HND or successful completion of level 4/5 of comparable degrees elsewhere). Intake is normally Semester A (September).

The course structure and progression information below is provided for the honours award (Table 1).

The Programme Learning Outcomes detailed in section 10 are developed and assessed through the constituent modules. Table 2 identifies where each learning outcome is assessed

Work-Based Learning, including Sandwich Programmes

The sandwich course leads to the named award Physiology (Sandwich) and must include not less than 48 weeks of supervised work experience, in addition to the period required for the full-time award. A Year Broad is deemed to be not less than two semesters in the host institution.

Programme Structure

The programme structure and progression information below (Table 1a and 1b) is provided for the Honours award. Any interim awards are identified in Table 1b. The Programme Learning Outcomes detailed above are developed and assessed through the constituent modules. Table 2 (in section 2) identifies where each learning outcome is assessed.

Table 1a Outline Programme Structure

Mode of study Full-time, Sandwich & Part-time
Entry point Semester A

Level 4

Compulsory Modules Module Title	Module Code	Credit Points	% examination	% coursework
Cell Biology and Development	4LFS0028	15	50	50
Human Physiology	4LFS0029	30	0	100
Introduction to Biochemistry, Microbiology and Pharmacology	4LFS0030	30	50	50
Molecular Biology and Genetics	4LFS0031	15	50	50
Personable Transferable Skills 1	4LFS0032	0	0	100

Optional Modules Module Titles	Module Code	Credit Points	% examination	% coursework
Molecular Structure & Reactivity	4PHA0005	30	25	75
Chemistry for Bioscience 1	4PHA0007	15	0	100
Chemistry for Bioscience 2	5PHA0006	15	50	50

Level 5

Compulsory Modules Module Title	Module Code	Credit Points	% examination	% coursework
Biochemistry	5LFS0029	15	50	50
Biosciences Research Methods	5LFS0037	15	0	100
Exercise Physiology	5LFS0052	30	50	50
Pharmacology and Therapeutics	5LFS0033	30	50	50
Pathophysiology	5LFS0034	15	25	75
Principles of Immunology	5LFS0012	15	50	50
Personable Transferable Skills 2	5LFS0036	0	0	100

Optional Modules Module Titles	Module Code	Credit Points	% examination	% coursework
Sandwich Year	6LFS0057	0	0	100
Year Abroad – BIO	6LFS1006	0	0	100

Level 6

Compulsory Modules Module Title	Module Code	Credit Points	% examination	% coursework
Biomedical Implications of Exercise	6LFS0040	30	75	25
Neurophysiology	6LFS0052	30	75	25
Project	6LFS0053	30	0	100

Optional Modules Module Titles	Module Code	Credit Points	% examination	% coursework
Therapeutic Pharmacology	6LFS0055	30	75	25
Translation of Science into Medicines	6LFS0017	30	75	25

Progression to level 5 requires a minimum of 90 credits

Progression to level 6 requires a minimum of 180 credits with a minimum of 90cp at level 5

The award of an honours degree requires 360 credit points with a minimum of 120 at level 5 and 120 at level 6 including the project.

A shortfall of credit points at level 4 may be redeemed by the successful completion of:
Special Review - Bioscience

A shortfall of credit points at level 5 may be redeemed by the successful completion of:
Special Topic - Bioscience.

Honours classification

The classification of honours will be calculated as follows:

The Programme Board of Examiners will determine for each candidate:

- i. the average grade of the project module plus the best **60** remaining credit points at Level 6 or higher, and
- ii. the average grade of the best remaining **30** credits at Level 5 or higher;
- iii. a combined grade from a weighted average of (i) and (ii) (that is, 75% (i) : 25% (ii));
- iv. the candidate's Honours classification will be considered on the basis of this combined average grade.

All Pass grades (including E1, E2, E3 and E4) are eligible for inclusion in the determination of the combined average grade.

For direct entrants to Level 6, Honours classification will be determined from the average grade of the project plus the best **60** credits at Level 6 or higher.

Table 1b Final and interim awards available

The programme provides the following final and interim awards:

Award	Minimum requirements	Available at end of Level
University Certificate	45 credit points at level 4	4
Certificate of Higher Education	120 credit points at level 4	4, 5
University Diploma	180 credit points including at least 60 at level 5	5, 6
Diploma of Higher Education	240 credit points including at least 120 at level 5	5, 6
BSc/BA	300 credit points including 180 at level 6/5 of which 60 must be at level 6	6
BSc (Hons)/BA (Hons)	360 credit points including 240 at level 6/5 of which 120 must be at level 6	6

E. Support for students and their learning

Students are supported by;

- An induction week at the beginning of the academic session.
- An extensive Learning Resources Centre, incorporating a library and computer centre.
- On-line information and learning materials and support through the University's Managed Learning Environment – Studynet – a University-wide set of systems and tools for educational delivery.
- Student handbooks.
- A Programme Tutor and Deputy Programme Tutors to help students understand the course structure.
- A Departmental Administrator to help with module registration, liaison with local authorities and examination arrangements and results.
- Module Co-ordinators to help students understand the aims, outcomes and organisation of the modules.
- Personal tutors to provide pastoral and academic support.
- A project tutor at level 6.

- The Faculty Placements Office to co-ordinate industrial training applications and to support students during their placement.
- A University supervisor during the industrial training year.
- An employer supervisor during the industrial year.
- A substantial Student Services Centre that provides advice on issues such as finance, University regulations, legal matters etc.
- An Accommodation Office.
- An Overseas Students Centre.
- A Mathematics Drop-in Centre.
- A Disabled Student Co-ordinator.
- Student representatives on programme committees.
- The Students' Union.

F. Entry requirements

The normal entry requirements for the programme are:

Two Science GCE/VCE A Levels (including GCE AS Level Chemistry or VCE A Level Science), one VCE Double Award Science or appropriate BTEC qualification in science-based subjects. All key skills and other tariff points counted. Plus GCSE English Language, mathematics and dual science award (or biology and chemistry) at Grade C or above.

Or:

A relevant Access certificate.

Or

An equivalent qualification.

The overriding consideration in admitting students is evidence that the student is likely to succeed on the course.

Tariff points normally >200

The programme is subject to the University's Principles, Policies, Regulations and Procedures for the Admission of Students to Undergraduate and Taught Postgraduate Programmes and will take account of University policy and guidelines for assessing accredited prior certificated learning (APCL) and accredited prior experiential learning (APEL).

Section 2

Programme management

JACS code(s)	C100
Modes of study	F/T SW P/T
Relevant QAA subject benchmarking group	Bioscience
Date of validation/last periodic review	2002
Date of production/ last revision of PS	July 2010
Relevant cohorts	Level 4 students entering in September, 2010
Faculty	Health and Human Sciences
Administrative School(s)/Departments	School of Life Sciences

Course (i.e. pathway) details

Course (ie. Pathway Point) Titles

BSc Hons Physiology

Course (ie. Pathway Point) Codes

PYS1 PYS2 PYS3 PYS4

The programme is managed by;

- Associate Head of School who has overall responsibility for courses in Biosciences
 - Programme Tutor and two deputies who are responsible for the day to day management, of the programme. Each of these tutors is responsible for a specific year of the programme but can also advise students on the programme as a whole.
 - An Admissions Tutor, with specific responsibility for open days and selection.
 - A Placements Tutor to assist with the procurement of placements.
 - A Departmental Administrator to deal with day to day administration associated with the programme
 - Module Coordinators who are responsible for individual modules.
- A programme committee, the membership of which includes:
- The Programme Tutor (Chair)
 - Deputy Programme Tutors
 - Administrative Assistant (Secretary)
 - Associate Head of School, Biosciences
 - Associate Dean Academic (Ex-officio)
 - Head of School, Biosciences (Ex-officio)
 - Heads of Division, Biosciences
 - Module Co-ordinators
 - Admissions Tutor
 - Placements tutor
 - LIS representative
 - Representative of the technical staff
 - Lecturing staff who have a substantial input into the programme
 - Student representatives

In addition there is a Bioscience Employers Forum which meets on an *ad hoc* basis.

Programme-specific assessment regulations

The programme is compliant with the University's generic assessment regulations (Structure and Assessment Regulations for Academic Programmes, UPR AS14) with the exception of those listed below, which have been specifically approved by the University:

- Progression from Level 4 to Level 5 requires 90cp at level 4
- Progression from Level 5 to Level 6 requires 90cp at level 5

Further points of clarification and interpretation relevant to this specific programme are given below:

- Normally students must successfully complete Personal Transferable Skills 1 in order to progress to Level 5.
- Normally students must successfully complete Personal Transferable Skills 2 in order to progress to Level 6.

Honours classification

The classification of honours will be calculated as follows:

The Programme Board of Examiners will determine for each candidate:

- the average grade of the project module plus the best **60** remaining credit points at Level 6 or higher, and
- the average grade of the best remaining **30** credits at Level 5 or higher;
- a combined grade from a weighted average of (i) and (ii) (that is, 75% (i) : 25% (ii));
- the candidate's Honours classification will be considered on the basis of this combined average grade.

All Pass grades (including E1, E2, E3 and E4) are eligible for inclusion in the determination of the combined average grade.

For direct entrants to Level 6, Honours classification will be determined from the average grade of the project plus the best **60** credits at Level 6 or higher.

Other sources of information

- Definitive Module Documents
- Module Guides
- Student Handbook
- Programme Specification website:
<http://perseus.herts.ac.uk/uhinfo/administration/aqo/programmes/programmes.cfm>
- University of Hertfordshire Prospectus website:
http://perseus.herts.ac.uk/prospectus/prospectus_home.cfm
- QAA Benchmark Statement website:
<http://www.qaa.ac.uk/academicinfrastructure/benchmark/default.asp>
- The Framework for Higher Education Qualifications in England, Wales and Northern Ireland, 2001:
<http://www.qaa.ac.uk/academicinfrastructure/FHEQ/EWNI/default.asp>
- SEEC Credit Level Descriptors for Further and Higher Education 2003: <http://www.seec-office.org.uk/creditlevel descriptors2003.pdf>
- External Quality Review report website:
http://www.qaa.ac.uk/revreps/inst_reports.asp?instID=H-0060
- Teaching Quality Information (TQI) website:
<http://www1.tqi.ac.uk/sites/tqi/home/index.cfm>
- University of Hertfordshire Academic Quality Office website:
<http://perseus.herts.ac.uk/uhinfo/administration/aqo/general/aqo.cfm>
- Structure & Assessment Regulations - Undergraduate & Taught Postgraduate Programmes, UPR AS/C/5:
<http://www.herts.ac.uk/secreg/upr/AS-C-5.htm>
- Learning and Teaching Policy and General Educational Aims, UPR AS/C/3:
<http://www.herts.ac.uk/secreg/upr/AS-C-3.htm>
- Admissions - Undergraduate & Taught Postgraduate Students, UPR AS/C/4:
<http://www.herts.ac.uk/secreg/upr/AS-C-4.htm>
- Academic Quality, UPR AS/C/1:
<http://www.herts.ac.uk/secreg/upr/AS-C-1.htm>
- Index of UPRs for students:
http://www.herts.ac.uk/secreg/upr/upr_azlist_student_info.htm

Other information relevant to the programme

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University policies relevant to the Programme

The University undertakes to use all reasonable endeavours to deliver, assess and administer this programme in accordance with this Programme Specification. At the same time it is recognised that it is in the nature of academic developments that changes, for example to the structure, curriculum, and assessment of a programme may be necessary in order to ensure that the programme remains up to date, in response to issues raised as a result of on-going monitoring and evaluation, and/or in order to conform to new regulatory requirements imposed by this institution, by professional or statutory bodies, or by national or governmental bodies.

The programme operates within the guidelines and policies relating to equal opportunities and environmental issues which may be agreed from time to time by the Board of Governors and/or the Academic Board of the University.

Where the programme is offered in collaboration with another institution these policies and guidelines will normally be those of the partner institution.

The programme operates in accordance with the University's Regulations Governing Studies Involving the Use of Human Subjects (UPR RE01) agreed from time to time by the Academic Board of the University. However, where the programme is offered in collaboration with another institution (for example through a franchise arrangement for all or part of the programme) then specific approval must be obtained from the University for the operation of the programme within ethical guidelines prepared by the partner institution. The partner institution will be responsible for all insurance liability in connection with the observance of ethical guidelines.

Signed 
Chair of Faculty Academic Quality Enhancement Committee

Date...6 July 2010.....

If you would like this information in an alternative format please contact:
<indicate who should be approached for a larger text format of the
Programme Specification>

Physiology

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

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

			Programme Learning Outcomes (as identified in section 1 and the following page)																																
			Knowledge & Understanding								Intellectual Skills								Practical Skills								Transferable Skills								
Module Title	Module Code		A1	A2	A3	A4	A5	A6	A7	A8	B1	B2	B3	B4	B5	B6	B7	B8	C1	C2	C3	C4	C5	C6	C7	C8	D1	D2	D3	D4	D5	D6	D7	D8	
Level 1	Cell Biology and Development	4LFS0028	■	■	■						■	■	■		■	■			■	■	■						■	■	■	■	■	■	■		
	Chemistry for Bioscience 1	4PHA0007									■	■	■		■	■			■	■	■					■	■	■	■	■	■	■			
	Chemistry for Bioscience 2	4PHA0006									■	■	■		■	■			■	■	■					■	■	■	■	■	■	■			
	Human Physiology	4LFS0029	■	■	■	■	■	■			■	■	■		■	■			■	■	■					■	■	■	■	■	■	■			
	Introduction to Biochemistry, Microbiology and Pharmacology	4LFS0030	■	■					■		■	■	■		■	■			■	■	■					■	■	■	■	■	■	■			
	Molecular Biology and Genetics	4LFS0031	■	■	■						■	■	■		■	■			■	■	■					■	■	■	■	■	■	■			
	Molecular Structure and Reactivity	4PHA0005	■	■							■	■	■		■	■			■	■	■					■	■	■	■	■	■	■			
	Personal Transferable Skills 1	4LFS0032									■	■	■		■	■			■	■	■					■	■	■	■	■	■	■			
Level 2	Biochemistry	5LFS0029	■	■						■	■	■		■	■			■	■	■					■	■	■	■	■	■	■				
	Bioscience Research Methods	5LFS0037	■	■						■	■	■		■	■			■	■	■					■	■	■	■	■	■	■				
	Exercise Physiology	5LFS0052	■	■	■	■	■			■	■	■		■	■			■	■	■					■	■	■	■	■	■	■				
	Pathophysiology	5LFS0034	■	■		■	■			■	■	■		■	■			■	■	■					■	■	■	■	■	■	■				
	Pharmacology and Therapeutics	5LFS0033	■	■				■		■	■	■		■	■			■	■	■					■	■	■	■	■	■	■				
	Principles of Immunology	5LFS0012	■	■	■	■	■			■	■	■		■	■			■	■	■					■	■	■	■	■	■	■				
	Personal Transferable Skills 2	5LFS0036								■	■	■		■	■			■	■	■					■	■	■	■	■	■	■				
Placement Year	6LFS0057									■	■	■		■	■			■	■	■					■	■	■	■	■	■	■				
Level 3	Biomedical Implications of Exercise	6LFS0040	■	■	■	■	■			■	■	■		■	■			■	■	■					■	■	■	■	■	■	■				
	Neurophysiology	6LFS0052	■	■	■	■	■			■	■	■		■	■			■	■	■					■	■	■	■	■	■	■				
	Project	6LFS0053	■	■						■	■	■		■	■			■	■	■					■	■	■	■	■	■	■				
	Therapeutic Pharmacology	6LFS0055	■	■					■		■	■	■		■	■			■	■	■					■	■	■	■	■	■	■			
	Translation of Science into Medicines	6LFS0017	■	■							■	■	■		■	■			■	■	■					■	■	■	■	■	■	■			

Key: Learning Outcome which is assessed as part of the module

Key to Programme Learning Outcomes

Knowledge and Understanding

- A1 acquire the specific knowledge appropriate to their chosen discipline;
- A2 appreciate the principles of biochemistry, chemistry, genetics, evolution, molecular and cellular biology, mathematics, statistics and pharmacology upon which an understanding of the discipline of physiology is based;
- A3 explain physiological function at a molecular, cellular and systems level of organisation;
- A4 demonstrate an understanding of the integrated and adaptive responses of cells and physiological systems to work and a range of environments;
- A5 appreciate the complexity, diversity and inter-relatedness of physiological processes in health and disease;
- A6 quantify and explain the mechanisms of drug action;
- A7 where appropriate, gain experience from a work placement (i.e. sandwich students) and/or period overseas;

Intellectual Skills

- B1. acquire the specific skills appropriate to their chosen discipline;
- B2. understand the ethical implications of their work;
- B3. if studying for BSc Hons, be able to execute and report a research project in order to develop skills necessary for independent research
- B4. apply theoretical concepts to the study of physiology and evaluate the relationships between theory and practice.
- B5. display an awareness of the existence and nature of value judgements;
- B6. demonstrate, at a level appropriate to the award, a critical approach in enquiry and a readiness to test hypotheses, interpret scientific data and evaluate published literature.

Practical Skills

- C1. acquire appropriate laboratory skills, including safe working practices where relevant
- C2. acquire appropriate computer skills

Transferable Skills

- D1. communicate effectively using a variety of formats;
- D2. use effectively a range of information sources;
- D3. organise and present intellectual argument commensurate with the level of award;
- D4. work effectively both alone (e.g. on assignments or during the project) and as part of a team (e.g. in group work, during group discussions and workshops)
- D5. be numerate at a level appropriate to the course chosen;
- D6. develop the skills required for continued self-managed professional development;
- D7. to appreciate the importance of reflective practice