Course Addendum: Changes to 2020/21 Teaching In Response to Covid-19

Whilst we hope to deliver as much activity on-campus as possible, the government's guidance and social distancing measures will inform how much teaching we can deliver face-to-face in the 2020/21 academic year. Working to government guidelines we have adapted the delivery of our courses to a model of blending learning, which consists of a mix of online and on-campus activities. We are equipped to move between blended learning to fully online, or face–to–face, as the Covid-19 situation evolves.

The learning outcomes of your course remain the same but there are changes to its delivery, assessment and structure, as set out in the Changes section of this document. The subsequent pages of this document contain the original teaching and learning schedule of this course, for your reference.

24th July 2020

Course Details

Course Title(s)	BSc (Hons) Bioscience
Course Code(s)	2172
Course Director	Eiman Aleem
Shared Modules?	Yes

Changes to sequencing of modules:

No change required		
Module code and name (please list by level)	**S2→S1**	**S1→S2**
ASC_4_411 Biomolecules	X	
ASC_4_Anatomy and Physiology	X	
ASC_4_402 Scientific Skills		x
ASC_4_406 Biology of the Cell		x
ASC_5_474 Research Methods	x	
ASC_5_429 Human Evolution Physiology and Behaviour	x	
ASC_5_441 Disease and Immunity		x
ASC_5_447 Molecular Biology		x
ASC_6_450 Current Perspectives in Bioscience	x	
ASC_6_ 480 Advanced Molecular Biology		x

Changes to the mode of delivery and course composition

Year/Level/Module	**Changes to delivery mode**	**Changes contact hours (%)**		
			Current	**New**
L4, 5 and 6 (S1)	The following general changes are made to the delivery of the modules at L4, 5 and L6 in S1:	Lecture Laboratory Seminar	18% 0-6% 6%	0-6%

	Face to face lectures are replaced by synchronous online lecture sessions and supplemented synchronous tutorials and asynchronous online support materials such as forum discussion. For some modules there will be onsite laboratory sessions.	Self-Directed Online sessions	75-82%	64-70% 30%
Module specific changes L4 (S1): ASC_4_411 Biomolecules		Lecture Laboratory (onsite) Seminar Self-directed Online sessions:	18% 6% 76% 0%	 6% 64% 30%
ASC_4_498 Human Anatomy and Physiology.		Lecture Laboratory (onsite) Seminar Self-directed Online sessions:	18% 3% 79%	 73% 27%
Module specific changes L5 (S1): ASC_5_474 Research methods		Lecture Laboratory (onsite) Seminar Self-directed Online sessions:	18% 6% 76%	 70% 30%

Changes to assessment strategy

No change required	

Module code and name	**Changes to weightings of assessment**	
	Current	**New**
Biomolecules	Group oral presentation (40%) MCQs (60%)- as an in-class test	PPT presentation with student audio attachment (40%) MCQs / short answer question assessment (60%)- as an online test- available for 24 hours.
Research methods	Research proposal 50%; Statistics test 50%	Research proposal 100%; Formative statistics tests.
Human Anatomy and Physiology	Laboratory report 50%; MCQ 50%	Group presentation of a laboratory method and data analysis 50% MCQ 50%
Current perspectives in bioscience	Essay 60%; Group presentation 40%	Essay 60%; PowerPoint presentation with narrative 40%

Original Course Specification

For reference, the following pages contain the original teaching and learning schedule of this course, prior to the changes implemented in response to Covid-19.

<table>
<tr><th colspan="4">A. Course Information</th></tr>
<tr><td>Final award title(s)</td><td colspan="3">BSc (Hons) Biosciences

The degree will also be offered as a sandwich award</td></tr>
<tr><td>Intermediate exit award title(s)</td><td colspan="3">Cert HE Biosciences 120 credits at L4
Dip HE Biosciences 120 credits at L4 and 120 credits at L5</td></tr>
<tr><td>UCAS Code</td><td></td><td>Course Code(s)</td><td>2172</td></tr>
<tr><td></td><td colspan="3">London South Bank University</td></tr>
<tr><td>School</td><td colspan="3">☒ ASC ☐ ACI ☐ BEA ☐ BUS ☐ ENG ☐ HSC ☐ LSS</td></tr>
<tr><td>Division</td><td colspan="3">Human Sciences</td></tr>
<tr><td>Course Director</td><td colspan="3">Jin Luo</td></tr>
<tr><td>Delivery site(s) for course(s)</td><td colspan="3">☒ Southwark ☐ Havering
☐ Other: please specify</td></tr>
<tr><td>Mode(s) of delivery</td><td colspan="3">☒Full time ☐Part time ☒Sandwich</td></tr>
<tr><td>Length of course/start and finish dates</td><td colspan="3"><table>
<tr><th>Mode</th><th>Length years</th><th>Start - month</th><th>Finish - month</th></tr>
<tr><td>Full time</td><td>3</td><td>September</td><td>July</td></tr>
<tr><td>Full time with placement/ sandwich year</td><td>4</td><td>September</td><td>July</td></tr>
<tr><td>Part time</td><td></td><td></td><td></td></tr>
<tr><td>Part time with Placement/ sandwich year</td><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td>Is this course generally suitable for students on a Tier 4 visa?</td><td colspan="3">Please complete the International Office questionnaire
Yes
Students are advised that the structure/nature of the course is suitable for those on a Tier 4 visa but other factors will be taken into account before a CAS number is allocated.</td></tr>
<tr><td>Approval dates:</td><td>Course(s) validated / Subject to validation</td><td colspan="2">June 2016</td></tr>
<tr><td></td><td>Course specification last updated and signed off</td><td colspan="2">September 2019</td></tr>
<tr><td>Professional, Statutory & Regulatory Body accreditation</td><td colspan="3">N/A</td></tr>
</table>

Reference points:	Internal	Corporate Strategy 2015-2020 Academic Quality and Enhancement Manual School Strategy LSBU Academic Regulations
	External	QAA Quality Code for Higher Education 2013 Framework for Higher Education Qualifications Subject Benchmark Statements for Biosciences (QAA, 2015) PSRB Competitions and Markets Authority SEEC Level Descriptors 2016

B. Course Aims and Features

Distinctive features of course	This innovative programme is designed for those students wishing to pursue careers in bioscience-informed areas of human sciences, in particular, areas of sport science, food, nutrition, psychology and forensics, which constitute specific strength of the School of Applied Sciences. The interdisciplinary nature of this course is reinforced by broad departmental expertise and research interests, particularly in areas of cell biology, microbiology, immunology, human physiology, sport and exercise science, food, nutrition, forensics and psychology. Students will acquire intellectual skills and knowledge to understand the operation of the human organism at different levels - cellular, tissue and the whole organ levels, as well as to see it in evolutionary and social contexts. The students will also gain a general understanding of the biological mechanisms underlying human disorders and their relationship to the human well-being, life-style choices, nutrition, exercise and physical activity. Furthermore, they will be trained to apply their knowledge to offer solutions and to develop opportunities in a wide range of industries that require a broad understanding of biological sciences. By drawing on a wide pool of talent and expertise within Applied Sciences, the course has been designed to allow focus in particular areas, including food and nutrition, psychology, sports science and forensics in addition to the central themes of human bioscience. Through carefully guided elective choices, students will be able to pursue their area of particular interest whilst core modules ensure attainment of knowledge and understanding of key concepts and contemporary perspectives across the biosciences. The structured yet flexible nature of this program will allow students every opportunity to realise their potential within the evolving landscape of human bioscience.
Course Aims	The course in BSc (Hons) Biosciences aims to: 1. To provide a flexible but coherent biosciences degree experience in accord with student choice and staff expertise in Human Sciences, particularly areas of Sport Science, Food, Nutrition, Psychology and Forensics. 2. To provide a course that adds value in relation to entry qualifications and to provide the academic and pastoral support to enable students to progress to awards at successive levels within the undergraduate framework.

	3. To be responsive to the changing needs of students, particularly those from local areas in accordance with the policies and practice of equal and diversity. 4. To provide a course of study in a scientific environment that offers students every opportunity to develop their intellectual and personal skills. 5. To deliver a challenging and contemporary learning experience in the biosciences with specific emphasis on human sciences. 6. To introduce students to the resources available for finding employment and to enable them to apply their knowledge and skills underpinned by broad understanding of biological sciences and human biosciences in particular. 7. To manage and continually improve the quality and currency of the student learning experience through module, subject and course review and research informed teaching.
Course Learning Outcomes	**a) Students will have knowledge and understanding of:** a1. Biology, Physiology and Applied Biochemistry underpinning the major disciplines in the biosciences a2. Experimental method and the development and testing of hypotheses a3. Methods used in the analysis, evaluation and critical review of evidence in the biological sciences a4. Processes and procedures in sampling, data analysis and expressing precision, accuracy and reproducibility a5. Moral, ethical and social context in which a science is operating and the need to marshal reasoned and fully informed arguments to defend a position. **b) Students will develop their intellectual skills such that they are able to:** b1. Analyse and interpret rational argument b2. Identify the key features of a problem and suggest possible means of investigation b3. Critically evaluate hypotheses, experimental data and rational arguments b4. Apply a theory, concept or subject-specific principle to a new context b5. Work independently to derive a viable experimental design that will effectively test a properly formed hypothesis b6. Synthesise, analyse and summarise a body of information and come to an informed and logically consistent conclusion **c) Students will acquire and develop practical skills such that they are able to:** c1. Select and apply appropriate techniques for an investigation or to complete a process c2. Evaluate alternative methodologies for an investigation or completing a process c3. Adopt safe practices and advise on safety procedures associated with a particular technique or methodology

	c4. Organise and allocate duties, set targets and evaluate progress in achieving specific technical goals, evaluate own performance and performance of others within a team c5. Present data in seminars or small-group tutorials to develop interpersonal skills such as information retrieval, problem-solving, communication and team working c6. Record and handle data accurately, precisely and demonstrate competence in a range of basic statistical procedures c7. Use relevant numerical and quantitative techniques to validate, calibrate and analyse data c8. Demonstrate competence in the use of word-processors, spreadsheets and data presentation packages **d) Students will acquire and develop transferrable skills such that they are able to:** d1. Manage and be able to adapt their work schedule and learning strategy d2. Adopt skills and techniques to address a particular problem d3. Use the full range of sources of information, citing references properly d4. Communicate ideas, arguments and concepts in a rational and systematic way, using a variety of media d5. Assume responsibility for their own learning and work independently d6. Manage and monitor their role within a group working to meet specific targets; recognise and respect the views and opinions of other team members and develop negotiating skills d7. Appreciate the social moral and ethical context of their science d8. Be reflective and analytical about their own learning processes.

C. Teaching and Learning Strategy

- Much of the common first year, and most especially the modules in Biology of the Cell, Physiology and Anatomy, Nutrition in Health & Disease seek to raise all student proficiency in a1. The compulsory modules at level 4 mean that all students review the physiological aspects of cell biology, and the genetic basis of inheritance, later supplemented by a level 5 module in biophysics, and receive a basic introduction to microbiology and human anatomy and physiology.
- Many of the first year modules develop and assess practical skills for which students have to demonstrate competence. Scientific Skills and Numerical Methods for Bio scientists allow an assessment of student ability in Mathematics and English, and these modules also begin the student's induction into the scientific method (a2 and a3). The latter is further developed in the second year module in Research Methods, which concentrates on data analysis and presentation, including accessing and review of published sources. This module provides additional practice and assessment of scientific writing and the students have to research and develop a workable project proposal for their final year. The social and ethical context of science also begins in Research Methods where students prepare an essay on some aspect of scientific ethics that is assessed in the Current Perspectives in Biosciences module in the final year (a5). The latter emphasises critical review and argument development using exercises and case studies (a3 and a5) and also reviews key biological issues of the day, from environmental degradation to the applications of biotechnology.
- Laboratory skills and technical proficiency in analytical methods (a2, a3 and a4) are developed from the first year module in Scientific Skills, and the level 5 core module of Research methods, as well as optional Exercise Physiology and Lab Testing, Food Microbiology, Food Composition, Measurements and Instrumentation for Forensic Analysis, depending on students "pathway" choice, and further reiterated during the final year Project. Most other modules have some practical element that offers subject-specific techniques.

- A schedule of personal tutoring monitor student progress especially during the first year and is informed by student progress on the Scientific Skills module. The details of this and the action taken by the student to address any weaknesses are recorded in their Personal Development Planning (PDP) folder (see below and Appendix B).

- All modules employ teaching methods that encourage students to consider and challenge the evidence with which they are presented. The assessment schedule requires students to question and evaluate the arguments surrounding some key concept or principle. This may be formally assessed or simply part of group discussions, debates or as part of some problem- solving exercises. Biology of the Cell and Scientific Skills at level 4 introduce the students to current thinking over a range of rapidly developing areas in biology, and to look at the different approaches being adopted to analyse these in a series of in-class workshops and coursework tasks (b1, b2). Scientific Skills at level 4 and Research Methods at level 5 have specific lectures on how to approach the primary literature and evaluate the evidence presented (b1). This is assessed by the project proposal the student is required to generate as part of this module (b2), in preparation for their final year, and which must include a preliminary experimental design (b2, b4, b5). The final year project report must finish by placing the findings in the context of current thinking (b6). Outside specific subjects, Current Perspectives in Biosciences demands similar skills (b3, b6) in its assessment and especially in its ethics essay.

- Safe practice in laboratories is reinforced through every module with a practical element, but this begins with Scientific skills in level 4 (c3). All modules tend to have strong methodological component, even if there is no practical element per se- coursework exercises are used in some modules to assess student understanding of these techniques, often as part of a tutorial or group-work session. Generally, key practical skills are assessed at the relevant stage – for example, each student has to demonstrate his/her competence in sterile technique in Scientific Skills.
- A key emphasis of the Biosciences scheme is the development of the student's practical and analytical skills through subject-specific and generic practicals. Students are inducted into teamwork skills and their evaluation from their first practicals in Scientific Skills. Part of their assessment is to evaluate their performance and that of their group, to encourage them to be reflective about their approach (c4), and to manage their activity to best effect. Presentation skills are practiced from level 4 and extend up to Level 6 (in modules such as the Project). Group work, including presentations that review recent scientific literature, features in several subject-specific modules at level 5 and 6 and in Research Methods (c4, c5). Research Methods and subject-specific modules encourage the students to consider alternative ways to approach specific problems, or to address specific questions (c1, c2, c3), typically through their practical work. In this way we are able to build student confidence in their technical and practical skills and reinforce the basic concepts delivered in the associated lecture programme.

- The transferable skills are fully mapped through the curriculum, principally through the core modules. Career Management Skills, originally offered as an optional course, is integrated into Research Methods. This is to ensure that personal development planning is mapped throughout the course, is obvious and transparent to the students and is fully supported by the personal tutoring system. Consequently, first years are now issued with a PDP folder from which the earliest PDP activities are retained, and in which the progressive development of the skills needed for the final year project is recorded. Now there is also subsequent testing of scientific writing skills and also preparation for researching future possible careers. A number of further tasks assessed in Scientific Skills measures student progress in managing their own learning (d1) and students are required to assume responsibility for this, under the guidance of their personal tutor (d5). In-class worksheets, problem-solving exercises and group-based laboratory work at Level 4 and Level 5 provide rapid feedback and encourage students to review and develop their approaches to their learning. Much of the subsequent testing is

centred on Research Methods at level 5 and in Current Perspectives in Biosciences at level 6 (d4, d5, d6).

D. Assessment

- Students experience variety of assessment during their first year, including testing of their proficiency in Mathematics and English as they commence the Scientific Skills and Numerical Methods for Bioscientists modules. Knowledge is tested by unseen written examinations in as well using essays or problem solving exercises across the modules (a1).
- Thereafter, level 5 and 6 assessments is a combination of examination, a variety of coursework, including presentations (a3), essays, in-class problem-solving exercises and calculations (a4), devising of experiments (a2), case studies (a5) and a final year project (a2, a3, a4). The latter develops out of an extended literature search (a3) and initial experimental design (project proposal) begun at level 5 in the Research Methods module.
- Students taking a Dip HE will have gained further insight into the organisation of biological systems, such as the organisation of metabolic pathways or the coordination of physiological systems, as well as methodology of experimental design and data analysis.

- Most examination papers at level 5 and all at level 6 also demand the intellectual skills, as do coursework essays and extended essays at level 6. Problem-solving exercises at all levels typically require students to work individually or collectively by applying their understanding of current thinking or methodologies to a new context (b2, b4, b5).
- A Dip HE student will be able to devise and critically evaluate an experimental design as a test of properly formulated hypothesis. At this level, the student will also be able to prepare an accurate précis of the scientific literature on a biological topic and critically evaluate the arguments offered.

- Assessments in Numerical Methods for Bioscientists as well as a proportion of the assessment in Research Methods require the students to demonstrate their competence using the range of basic statistical methods using worksheets completed on a weekly basis in compulsory workshops (c6). These tests are completed and students receive their corrected work and a model answer the following week. The rest of the assessment for the latter module requires students to produce a viable experimental design through discussion with their supervisor, in preparation for their final year project (c1, c2, c6, c7) which is then lodged in their PDP folder.
- Their capacity to summarise and critically evaluate methodologies is assessed in the Project at level 6 (c1, c2, c3, c5, c7). The Project module also seeks to establish good investigative techniques, by applying skills and attributes acquired in other modules, and as a result of working in close association with a supervisor on a well-defined experiment (c7, c8). The assessment here requires the student to keep a contemporaneous lab book and to produce a paper close to submission standard, and defend this in a viva voce examination (c1-c8).
- Those leaving with a Dip HE will have competencies in chemical, biological and statistical analysis and will be able to present a cogent summary of their findings in a variety of media. They will be able to organise and schedule an extended laboratory procedure and consider a range of methodologies to meet a defined task.

- A range of modules at level 4 and 5 require students to manage a task and to be able to communicate their findings to their cohort. Research Methods requires them to summarise the recent scientific literature on a topic and use this to develop a hypothesis and associated experimental design. Some of the higher level attributes are only fully assessed at level 6 in the largely independent work of, the case study in Current Perspectives in Biosciences and in the Project (d1, d2, d3, d8). These require a flexible approach to data acquisition, interpretation and presentation, not least because of the range of topics being covered (d1). The

development of a research proposal and establishing an investigation protocol begins in Semester II of the second year as part of the assessment of Research Methods (d2, d5).

- Presentations, debates and seminars are used extensively at each level and through feedback, students are encouraged to polish these skills up to their final year (d4, d8). The preparatory essay in Current Perspectives in Biosciences assesses the student's ability to argue logically on a topic in scientific ethics (d4, d7). Once again, many of these skills and attributes are brought together to complete the final year Project (d1-d7), and the assessment of these are one of the principal elements by which the graduate status of the student is assessed. The PDP file provides the student with a record of how they have managed how they learning during the course and personal tutors seek to promote reflective learning through reference to this record. At Dip HE students will be competent in basic laboratory procedures and management and proficient in making presentations. They will be confident in their use of the scientific literature, able to identify the key features of a problem and offer methods of further investigation.

E. Academic Regulations

The University's Academic Regulations apply for this course. Any course specific protocols will be identified here.

F. Entry Requirements

In order to be considered for entry to the course, applicants will be required to have the following qualifications:

Level 4

2019 entry

- A Level CCD including two Science subjects or;
- BTEC National Diploma MMM or;
- Access to Science with 39 Merits and 6 Passes including 12 credits in Science related subjects or;
- Equivalent level 3 qualifications worth 96 UCAS points
- Applicants must hold 5 GCSEs A-C including Maths and English or equivalent (reformed GCSEs grade 4 or above).
- We welcome qualifications from around the world. English language qualifications for international students: IELTS score of 6.0 or Cambridge Proficiency or Advanced Grade C.

Direct Entry to Level 5

Students with the knowledge and skills equivalent to the required outcomes for Level 4 of a science degree programme will be encouraged to make direct entry to Level 5. Such knowledge and skills should be commensurate with those identified in the guidelines on levels and learning outcomes produced by the South East of England Consortium for Credit Accumulation and Transfer (SEEC/CAT, May 1996, SEEC Credit Level Descriptors for HE, 2010).

G. Course structure(s)

Course overview

The development of the course has been informed by the QAA Bioscience benchmarks (2015), Framework for Higher Qualifications (QAA, 2014) and the SEEC guidelines (2010).

At each level there are core modules addressing the key discipline areas of Biosciences, together with further provision of bioscience optional modules. There are one bioscience optional module in level 4 (in semester one), and two bioscience optional modules in level 5 and 6 (one in each semester). Students in level 4 are enrolled on the bioscience optional module by default.

We also provide other “pathways” within the course structure that are formed by different optional modules. The selection of a pathway by a student will be defined by their interest and informed by their initial choices at level 4 (in bold below). A student who wishes to ‘opt into’ one of these pathways must meet with their personal tutors and discuss their Personal Development Plans to ensure the selected Options are appropriate and meet their individual aspirations. Following this they MUST contact the Course Director to discuss the pathway they wish to join and then contact the Course Director of the ‘chosen pathway’ to discuss pathway details so they are informed of the module content and expectations. Once a student has opted into a pathway they cannot change to a different one and must continue selecting Options along the chosen “pathway” at levels 5 and 6.

BSc (Hons) Biosciences – **Full time**

	Semester 1		**Semester 2**	
Level 4	Biology of the Cell (Compulsory)	20	Physiology and Anatomy (Compulsory)	20
	Investigations in Bioscience (Compulsory)	20	Numerical Methods for Bioscientists (Compulsory)	20
	Nutrition Health & Disease (Compulsory)	20	Option	20
Level 5	Disease and Immunity (Compulsory)	20	Research Methods (Compulsory)	20
	Human Nutrition ((Compulsory)	20	Physics for Life (Compulsory)	20
	Option	20	Option	20
Level 6	Project (Compulsory)	40		
	Aetiology of Disease(Compulsory)	20	Current Perspectives in Biosciences (Compulsory)	20
	Option	20	Option	20

Option modules

	Level	Option
Bioscience	**4**	**Biomolecules**
	5	Molecular Biology; Human Evolution, Physiology & Behaviour
	6	Advanced Molecular Biology; Genes, Genomes, and Beyond
Food pathway	**4**	**Foodology**
	5	Safe Food Preparation; Food Microbiology or Food Composition
	6	Food Control and Sustainability; Advanced Topics in Food Science or New Product Development
Nutrition pathway	**4**	**Foodology**
	5	Public Health; Food Microbiology
	6	Clinical Nutrition; Advanced Topics in Nutrition
Sport/Biomechanics pathway	**4**	**Biomechanics 1**
	5	Exercise Physiology and Lab Testing; Biomechanics 2
	6	Clinical and Applied Biomechanics; Environmental and Clinical Exercise Physiology; Clinical Nutrition; Advanced Topics in Nutrition
Sport/Psychology pathway	**4**	**Sport Psychology 1**
	5	Psychology for Sport 2; Human Evolution, Physiology & Behaviour
	6	Applied Sport Psychology; Environmental and Clinical Exercise Physiology
Forensics pathway	**4**	**Core & Material Science**
	5	Forensic Biology; Measurement and Instrumentation for Forensic Analysis
	6	Biological Evidence; Incident Investigation
Psychology pathway	**4**	**Exploring Psychological Approaches**
	5	The Psychology of Behaviour; The Psychology of Thinking and Communication
	6	Health Psychology; Neuropsychology

Placements information

Maximising graduate employment opportunity has been a central consideration in the design of the proposed pathway(s) in Bioscience. In addition to the array of graduate skills, both transferable and subject-specific, that the course has embedded throughout the modular structure, great care has been taken to ensure students are aware of 'real world' applications of taught material. This includes an ongoing reflective portfolio highlighting relevance of learning to employability, visiting lecturers from professional bodies and workplace environments and practical skill acquisition in presentation, CV writing and communicating to diverse audiences. In addition, a 'sandwich year' with industrial placement option is available should students so desire, and help and guidance in appropriate choices available.

Students may opt to take the 'sandwich year' normally between Level 5 and 6 and we have long experience of offering and supporting students on industrial placement. This offers considerable benefits to the students in terms of enhancement in their skills, adaptability and employability. The aim of the industrial training year is to give students first-hand experience of current scientific practices in

industry or other institutions. This helps to reinforce what they have learnt and provides a valuable addition to their curriculum vitae. Past experience shows that in addition to the value of the work experience itself, industrial placement often improves the academic performance of the students in the final year and also improves future employment prospects.

Most students find their own placements but staff will be happy to help if necessary. The placements officer briefs the students and provides support and advice in applying for positions, as well as maintaining a noticeboard where opportunities are posted.

During the placement the student spends 40 weeks in industry or equivalent employment and the University continues to monitor student progress throughout the training period. The student is visited once or twice by a University supervisor working in close liaison with a supervisor in the place of work. The placement is assessed by a formal report approved by the industrial supervisor and assessed as pass or fail by the internal supervisor.

Exceptionally, students may opt to defer the awarding of their degree so they may pursue a placement after their final year, with permission of the examination board.

H. Course Modules

Module Code	Module Title	Level	Semester	Credit value	Assessment
ASC_4_406	Biology of the cell	4	1	20	Coursework
ASC_4_484	Investigations in Bioscience	4	1	20	Coursework
ASC_4_409	Nutrition Health and Disease	4	1	20	Exam
ASC_4_401	Physiology and Anatomy	4	2	20	Coursework
ASC_4_410	Numerical methods for Bioscience	4	2	20	Coursework
ASC_4_411	Foodology	4	2	20	Exam and coursework
ASC_4_404	Biomechanics 1	4	2	20	Coursework
ASC_4_405	Sports Psychology 1	4	2	20	2 Hour examination
ASC_4_415	Core and Materials Science	4	**2**	20	Coursework and Exam
PSY_4_EPA	Exporing Psychological Approaches	4	2	20	Coursework and Exam
ASC_4_459	Biomolecules	4	2	20	Coursework
ASC_5_441	Disease and Immunity	5	1	20	Coursework
ASC_5_440	Human Nutrition	5	1	20	Exam
ASC_5_444	Safe Food Preparation	5	1	20	Coursework and exam
ASC_5_447	Public Health	5	1	20	Coursework

ASC_5_435	Biomechanics 2	5	1	20	Coursework and examination
ASC_5_424	Sports Psychology 2	5	1	20	Coursework
ASC_5_417	Forensic Biology	5	1	20	Coursework and Examination
PSY_5_PBO	The Psychology of Behaviour with others	5	2	20	Coursework and Examination
ASC_5_479	Molecular Biology	5	1	20	Coursework
ASC_5_474	Research methods for Bioscience	5	2	20	Coursework and in-class test
ASC_5_443	Physics for Life	5	2	20	Coursework and exam
ASC_5_446	Food Composition, Properties and Analysis	5	2	20	Coursework and Exam
ASC_5_445	Food Microbiology	5	2	20	Coursework and Exam
ASC_5_438	Exercise Physiology and Laboratory Testing	5	2	20	Coursework and exam
ASC_5_456	Human Evolution Physiology and Behaviour	5	2	20	Coursework
ASC_5_418	Measurement and Instrumentation in Forensic Analysis	5	1&2	20	Coursework
PSY_5_PTK	The Psychology of Thinking and Communication	5	2	20	Coursework and examination
ASC_5_456	Human Evolution, Physiology and Behaviour	5	2	20	Coursework and examination
ASC_6_449	Aetiology of Disease	6	1	20	Coursework and exam
ASC_6_448	Project	6	1&2	40	Coursework
ASC_6_451	Food Control and sustainable Practice	6	1	20	Coursework and Exam
ASC_6_454	Clinical Nutrition		1	20	Coursework and exam
ASC_6_468	Clinical and Applied Biomechanics		1	20	Coursework
ASC_6_469	Environmental Exercise Physiology		1	20	Coursework
ASC_6_466	Biological Evidence	6	1 & 2	20	Coursework and Examination

ASC_6_427	Incident Investigation	6	1	20	Coursework and Examination
PSY_6_HTP	Health Psychology	6	1	20	Coursework
ASC_6_480	Advanced molecular biology	6	1	20	Coursework
ASC_6_450	Current Perspectives in Bioscience	6	2	20	Coursework
ASC_6_452	Advanced Topics In Food Science	6	2	20	Coursework
ASC_6_453	New Food Product Development	6	2	20	Coursework
ASC_6_442	Advanced Topics in Human Nutrition	6	2	20	Coursework
ASC_6_470	Applied Sports Psychology	6	2	20	Coursework
PSY_6_NRP	Neuropsychology	6	2	20	Coursework and Examination
ASC_6_460	Genes, Genomes, and Beyond	6	2	20	Coursework

I. Timetable information

Timetables will be provided to students via Moodle sites as soon as possible before the start of each semester.
Typical contact hours for each week will range from 9 to 15 hours depending on the level of study and the modules that run in a semester. Modules that have laboratory sessions will normally have more contact time in a week that those without.
Each module is timetables for 1x3hour block in a week (except those with laboratory sessions).
Classes are never scheduled on a Wednesday afternoon, so students can take part in sports activities.

J. Costs and financial support

Course related costs

Additional expenses that may be incurred by a student in this course include the cost of text books, Professional Body and journal subscriptions. Uniforms and clothing may also be required to be purchased for placement activities. Any extracurricular courses that a student wished to take that are NOT provided and supported financially by the University will also be an additional cost to the student.

Tuition fees/financial support/accommodation and living costs

- Information on tuition fees/financial support can be found by clicking on the following link - http://www.lsbu.ac.uk/courses/undergraduate/fees-and-funding or
- http://www.lsbu.ac.uk/courses/postgraduate/fees-and-funding
- Information on living costs and accommodation can be found by clicking the following link- https://my.lsbu.ac.uk/my/portal/Student-Life-Centre/International-Students/Starting-at-LSBU/#expenses

List of Appendices

Appendix A: Curriculum Map

This map provides a design aid to help course teams identify where course outcomes are being developed, taught and assessed within the course. It also provides a checklist for quality assurance purposes and may be used in validation, accreditation and external examining processes. Making the learning outcomes explicit will also help students to monitor their own learning and development as the course progresses.

Bioscience

Level	Module Title	a					b						c								d							
		1	2	3	4	5	1	2	3	4	5	6	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
4	**Nutrition Health & Disease**	T/A	T			A	T	T	A	T	A	T	T	T	A	T	A	T	T	A	T	D	T	A		D		
4	**Investigations in Bioscience**	A	A	T	T	T	T		D		A	D	D	D	T	T	D	A	T	T	A	T	D	T	D		T	T
4	**Physiology and Anatomy**	D/A	T					T				T						T	T		T	D	D			A		
4	**Biology of the Cell**	T/A		T	T		D	T				A					D		T		T		D		A			
4	**Numerical Methods for Bioscientists**	A	T	D	D		A	D	D	D	T		A	A	D	T	T	D	D	D		A	A	A	T	T		T
4	Biomolecules	T/A		D			D			D		D							D	D		D	D					
5	**Research Methods**		D	D	A	A	D	D	D	D		A	D	D	D	D	D	D	A	D	T	T	D	D	D	D	D	D
5	**Human Nutrition**	T	T	A		D	T	T		A		A	D	D	T	A					D		T			A		
5	**Disease and Immunity**	A	D		D			A	T		D		A		D	D		A	D	D		D	D	D		D		
5	**Physics for Life**	A	D	T	D		A	T	A	T	T	D	A		D	D		A	D	D		A	A		T	D		A
5	Molecular biology	D	D	D	D		D		D	D	D	D	A				A	A		A	D	D	A	A		D		
5	Human Evolution, Physiology and Behaviour	T		D			D	D		A		D					D					D		D				
6	**Project**	A	D	D	A			D	A	A	A	A	A	A	T	A	A	D	D	D	A	A	A	A	A	T	D	A
6	**Current Perspectives in Biosciences**	A	D	A	T	D	T	D		A		A		D			A					D	A	T	A	D	D	A

6	**Aetiology of Disease**	D	A		T			T	D	D		D	D		A	T		A	D	D		D	A	D		D	D	

6	Advanced molecular biology	D	D	D	D		D		D	D	D	D	A				A	A		A	D	D	A	A		D		
6	Genes, Genomes, and Beyond	T		D			D	D		A		D					D					D		D					

Key 1: T = Taught, i.e. contributing in some way to the Learning Outcomes; D = Developed i.e. a focus of the module; A = Assessed and therefore also developed

Food “pathway”

Level	Module Title	a					b						c								d							
		1	2	3	4	5	1	2	3	4	5	6	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
4	**Nutrition Health & Disease**	T/A	T			A	T	T	A	T	A	T	T	T	A	T	A	T	T	A	T	D	T	A		D		
4	**Investigations in Bioscience**	A	A	T	T	T	T		D		A	D	D	D	T	T	D	A	T	T	A	T	D	T	D			T	T
4	**Physiology and Anatomy**	D/A	T					T				T						T	T		T	D	D			A		
4	**Biology of the Cell**	T/A		T	T		D	T				A					D		T		T		D		A			
4	**Numerical Methods for Bioscientists**	A	T	D	D		A	D	D	D	T		A	A	D	T	T	D	D	D		A	A	A	T	T		T
4	Foodology	A	T		D		D	T				A			D					D	T		D			D		
5	**Research Methods**		D	D	A	A	D	D	D	D		A	D	D	D	D	D	D	A	D	T	T	D	D	D	D	D	D
5	**Human Nutrition**	T	T	A		D	T	T		A		A	D	D	T	A					D		T			A		
5	**Disease and Immunity**	A	D		D			A	T		D		A		D	D		A	D	D		D	D	D		D		
5	**Physics for Life**	A	D	T	D		A	T	A	T	T	D	A		D	D		A	D	D		A	A		T	D		A
5	Safe Food Preparation	D		T	A			D	T		D	A	T	A	A	D		D	A		D	D	A	A	D			D
5	Food Microbiology	A	T	A	T			D			D	A	T	D	A		A	A	A			A	D		A		T	D
	Food Composition, Properties and Analysis	D	T	D	A			A	D		T	A	T	A	T	D	A	A	T		D	A	T	D	D			D
6	**Project**	A	D	D	A			D	A	A	A	A	A	A	T	A	A	D	D	D	A	A	A	A	A	T	D	A
6	**Current Perspectives in Biosciences**	A	D	A	T	D	T	D		A		A		D			A					D	A	T	A	D	D	A
6	**Aetiology of Disease**	D	A		T			T	D	D		D	D		A	T		A	D	D		D	A	D		D	D	
6	Food Control and Sustainability	T	T	A		D	T	T		A		A	D	D	T	A					D	D	A	D			D	D
6	Advanced Topics in Food Science		D	A	T	D	T	D		A		A		D			A					D	A	T	A	D	D	A
6	New Food Product Development		D			D		A			A	T	T	D	A	D	D			D	D	A	A	A	D	A	D	A

Key 1: T = Taught, i.e. contributing in some way to the Learning Outcomes; D = Developed i.e. a focus of the module; A = Assessed and therefore also developed

Nutrition "pathway"

Level	Module Title	a					b						c								d							
		1	2	3	4	5	1	2	3	4	5	6	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
4	**Nutrition Health & Disease**	T/A	T			A	T	T	A	T	A	T	T	T	A	T	A	T	T	A	T	D	T	A		D		
4	**Investigations in Bioscience**	A	A	T	T	T	T		D		A	D	D	D	T	T	D	A	T	T	A	T	D	T	D		T	T
4	**Physiology and Anatomy**	D/A	T					T				T						T	T		T	D	D			A		
4	**Biology of the Cell**	T/A		T	T		D	T				A					D		T		T		D		A			
4	**Numerical Methods for Bioscientists**	A	T	D	D		A	D	D	D	T		A	A	D	T	T	D	D	D		A	A	A	T	T		T
4	Foodology	A	T		D		D	T				A			D					D	T		D			D		
5	**Research Methods**		D	D	A	A	D	D	D	D		A	D	D	D	D	D	D	A	D	T	T	D	D	D	D	D	D
5	**Human Nutrition**	T	T	A		D	T	T		A		A	D	D	T	A					D		T			A		
5	**Disease and Immunity**	A	D		D			A	T		D		A		D	D		A	D	D		D	D	D		D		
5	**Physics for Life**	A	D	T	D		A	T	A	T	T	D	A		D	D		A	D	D		A	A		T	D		A
5	Public Health			D		D	T	D			T	A		A			A	T		D		A	A	D			D	
5	Food Microbiology	A	T	A	T			D			D	A	T	D	A		A	A	A			A	D		A		T	D
6	**Project**	A	D	D	A			D	A	A	A	A	A	A	T	A	A	D	D	D	A	A	A	A	A	T	D	A
6	**Current Perspectives in Biosciences**	A	D	A	T	D	T	D		A		A		D			A					D	A	T	A	D	D	A
6	**Aetiology of Disease**	D	A		T			T	D	D		D	D		A	T		A	D	D		D	A	D		D	D	
6	Clinical Nutrition	T	T	A		D	T	T		A		A	D	D	T	A					D	D	A	D			D	D
6	Advanced Topics in Nutrition		D	A	T	D	T	D		A		A		D			A					D	A	T	A	D	D	A

Key 1: T = Taught, i.e. contributing in some way to the Learning Outcomes; D = Developed i.e. a focus of the module; A = Assessed and therefore also developed

Sport/Biomechanics "pathway"

Level	Module Title	a					b						c								d							
		1	2	3	4	5	1	2	3	4	5	6	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
4	**Nutrition Health & Disease**	T/A	T			A	T	T	A	T	A	T	T	T	A	T	A	T	T	A	T	D	T	A		D		
4	**Investigations in Bioscience**	A	A	T	T	T	T		D		A	D	D	D	T	T	D	A	T	T	A	T	D	T	D		T	T
4	**Physiology and Anatomy**	D/A	T					T				T						T	T		T	D	D			A		
4	**Biology of the Cell**	T/A		T	T		D	T				A					D		T		T		D		A			
4	**Numerical Methods for Bioscientists**	A	T	D	D		A	D	D	D	T		A	A	D	T	T	D	D	D		A	A	A	T	T		T
4	Biomechanics 1	T	A	D	A	D	D	A	A	T	D	D	T		D		D	A	A	A		D	A	A	D			D
5	**Research Methods**		D	D	A	A	D	D	D	D		A	D	D	D	D	D	D	A	D	T	T	D	D	D	D	D	D
5	**Human Nutrition**	T	T	A		D	T	T		A		A	D	D	T	A					D		T			A		
5	**Disease and Immunity**	A	D		D			A	T		D		A		D	D		A	D	D		D	D	D		D		
5	**Physics for Life**	A	D	T	D		A	T	A	T	T	D	A		D	D		A	D	D		A	A		T	D		A
5	Exercise Physiology and Lab Testing	T	A	T	A	D	D	D	A	T	A	A	D		D			A	D	D	D	T	A	A		D		D
5	Biomechanics 2		A	D	T	D	D	T	A	T	A	A	A	D		D	T	T	D	T	D	T	A	A	D	D	D	D
6	**Project**	A	D	D	A			D	A	A	A	A	A	A	T	A	A	D	D	D	A	A	A	A	A	T	D	A
6	**Current Perspectives in Biosciences**	A	D	A	T	D	T	D		A		A		D			A					D	A	T	A	D	D	A
6	**Aetiology of Disease**	D	A		T			T	D	D		D	D		A	T		A	D	D		D	A	D		D	D	
6	Clinical and Applied Biomechanics		A	D	T	D	D	T	A	T	A	A	A	D		D	T	T	D	T	D	T	A	A	D	D	D	D
6	Environmental and Clinical Exercise Physiology	T				A	A			T		A	D			D	D			D	D	A	A	A	D			A
6	Clinical Nutrition	T	T	A		D	T	T		A		A	D	D	T	A					D	D	A	D			D	D

Key 1: T = Taught, i.e. contributing in some way to the Learning Outcomes; D = Developed i.e. a focus of the module; A = Assessed and therefore also developed

6	Advanced Topics in Nutrition		D	A	T	D	T	D		A		A		D			A					D	A	T	A	D	D	A

Key 1: T = Taught, i.e. contributing in some way to the Learning Outcomes; D = Developed i.e. a focus of the module; A = Assessed and therefore also developed

Sport/Psychology "pathway"

Level	Module Title	a					b						c								d							
		1	2	3	4	5	1	2	3	4	5	6	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
4	**Nutrition Health & Disease**	T/A	T			A	T	T	A	T	A	T	T	T	A	T	A	T	T	A	T	D	T	A		D		
4	**Investigations in Bioscience**	A	A	T	T	T	T		D		A	D	D	D	T	T	D	A	T	T	A	T	D	T	D		T	T
4	**Physiology and Anatomy**	D/A	T					T				T						T	T		T	D	D			A		
4	**Biology of the Cell**	T/A		T	T		D	T				A					D		T		T		D		A			
4	**Numerical Methods for Bioscientists**	A	T	D	D		A	D	D	D	T		A	A	D	T	T	D	D	D		A	A	A	T	T		T
4	Sport Psychology 1	D	T	T			T	T		A		T	D	T						D	D	T	D	A		D	D	D
5	**Research Methods**		D	D	A	A	D	D	D	D		A	D	D	D	D	D	D	A	D	T	T	D	D	D	D	D	D
5	**Human Nutrition**	T	T	A		D	T	T		A		A	D	D	T	A					D		T			A		
5	**Disease and Immunity**	A	D		D			A	T		D		A		D	D		A	D	D		D	D	D		D		
5	**Physics for Life**	A	D	T	D		A	T	A	T	T	D	A		D	D		A	D	D		A	A		T	D		A
5	Psychology for Sport 2		A	T	A	D	T	D	A	T	A	A	T	T		D	D	A	T	D		T	A	A	D		D	
5	Human Evolution, Physiology & Behaviour	T	D	D	T		A	A	T	T	A	D	T	A	T	D	A	T	T	A	A	A	T	A	A		A	A
6	**Project**	A	D	D	A			D	A	A	A	A	A	A	T	A	A	D	D	D	A	A	A	A	A	T	D	A
6	**Current Perspectives in Biosciences**	A	D	A	T	D	T	D		A		A		D			A					D	A	T	A	D	D	A
6	**Aetiology of Disease**	D	A		T			T	D	D		D	D		A	T		A	D	D		D	A	D		D	D	
6	Applied Sport Psychology	T	D	A		T	A	T	A	T	T	A	T	D	D		D	A		D	D	T	A	A	D		D	A
6	Environmental and Clinical Exercise Physiology	T				A	A			T		A	D			D	D			D	D	A	A	A	D			A

Key 1: T = Taught, i.e. contributing in some way to the Learning Outcomes; D = Developed i.e. a focus of the module; A = Assessed and therefore also developed

Forensics "pathway"

Level	Module Title	a					b						c								d							
		1	2	3	4	5	1	2	3	4	5	6	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
4	**Nutrition Health & Disease**	T/A	T			A	T	T	A	T	A	T	T	T	A	T	A	T	T	A	T	D	T	A		D		
4	**Investigations in Bioscience**	A	A	T	T	T	T		D		A	D	D	D	T	T	D	A	T	T	A	T	D	T	D		T	T
4	**Physiology and Anatomy**	D/A	T					T				T						T	T		T	D	D			A		
4	**Biology of the Cell**	T/A		T	T		D	T				A					D		T		T		D		A			
4	**Numerical Methods for Bioscientists**	A	T	D	D		A	D	D	D	T		A	A	D	T	T	D	D	D		A	A	A	T	T		T
4	Core & Material Science						D			A	D		D	D			D	D		A	D	A	D			D		
5	**Research Methods**		D	D	A	A	D	D	D	D		A	D	D	D	D	D	D	A	D	T	T	D	D	D	D	D	D
5	**Human Nutrition**	T	T	A		D	T	T		A		A	D	D	T	A					D		T			A		
5	**Disease and Immunity**	A	D		D			A	T		D		A		D	D		A	D	D		D	D	D		D		
5	**Physics for Life**	A	D	T	D		A	T	A	T	T	D	A		D	D		A	D	D		A	A		T	D		A
5	Forensic Biology	A	A	D		D	D	D		A		A	D	D	D		D	D	A	A		D	D	A	D	D	D	
	Measurement and Instrumentation for Forensic Analysis		A	A	A		D	D	D	A					D		D	A	A			D	D	D	D			
6	**Project**	A	D	D	A			D	A	A	A	A	A	A	T	A	A	D	D	D	A	A	A	A	A	T	D	A
6	**Current Perspectives in Biosciences**	A	D	A	T	D	T	D		A		A		D			A					D	A	T	A	D	D	A
6	**Aetiology of Disease**	D	A		T			T	D	D		D	D		A	T		A	D	D		D	A	D		D	D	
6	Biological Evidence	A	A	A		D	D		D	A	D	A	A		D	D	A	A	A	A		D	D	A	A	D	A	D
6	Incident Investigation			A	A	D	D	A	A	A	A	A	A	A			D	A	A	A	D		A	A	A		A	

Key 1: T = Taught, i.e. contributing in some way to the Learning Outcomes; D = Developed i.e. a focus of the module; A = Assessed and therefore also developed

Psychology "pathway"

Level	Module Title	a					b						c								d							
		1	2	3	4	5	1	2	3	4	5	6	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
4	**Nutrition Health & Disease**	T/A	T			A	T	T	A	T	A	T	T	T	A	T	A	T	T	A	T	D	T	A		D		
4	**Investigations in Bioscience**	A	A	T	T	T	T		D		A	D	D	D	T	T	D	A	T	T	A	T	D	T	D		T	T
4	**Physiology and Anatomy**	D/A	T					T				T						T	T		T	D	D			A		
4	**Biology of the Cell**	T/A		T	T		D	T				A					D		T		T		D		A			
4	**Numerical Methods for Bioscientists**	A	T	D	D		A	D	D	D	T		A	A	D	T	T	D	D	D		A	A	A	T	T		T
4	Exploring Psychological Approaches		D	D		D	A		D			A	D	D		D	D			D	D	A	A	A	D	D	D	D
5	**Research Methods**		D	D	A	A	D	D	D	D		A	D	D	D	D	D	D	A	D	T	T	D	D	D	D	D	D
5	**Human Nutrition**	T	T	A		D	T	T		A		A	D	D	T	A					D		T			A		
5	**Disease and Immunity**	A	D		D			A	T		D		A		D	D		A	D	D		D	D	D		D		
5	**Physics for Life**	A	D	T	D		A	T	A	T	T	D	A		D	D		A	D	D		A	A		T	D		A
5	The Psychology of Behaviour		D	D		D	A		D			A	D	D		D	D			D	D	A	A	A	D	D	D	D
5	The Psychology of Thinking and Communication		D	D		D	A		D			A	D	D		D	D			D	D	A	A	A	D	D	D	D
6	**Project**	A	D	D	A			D	A	A	A	A	A	A	T	A	A	D	D	D	A	A	A	A	A	T	D	A
6	**Current Perspectives in Biosciences**	A	D	A	T	D	T	D		A		A		D			A					D	A	T	A	D	D	A
6	**Aetiology of Disease**	D	A		T			T	D	D		D	D		A	T		A	D	D		D	A	D		D	D	
6	Health Psychology		D	D		D	A		D			A	D	D		D	D			D	D	A	A	A	D	D	D	D
6	Neuropsychology		D	D		D	A		D			A	D	D		D	D			D	D	A	A	A	D	D	D	D

Key 1: T = Taught, i.e. contributing in some way to the Learning Outcomes; D = Developed i.e. a focus of the module; A = Assessed and therefore also developed

Knowledge and understanding of:

a1. Biology, Physiology and Applied Biochemistry underpinning the major disciplines in the biosciences

a2. Experimental method and the development and testing of hypotheses

a3. Methods used in the analysis, evaluation and critical review of evidence in the biological sciences

a4. Processes and procedures in sampling, data analysis and expressing precision, accuracy and reproducibility

a5. Moral, ethical and social context in which a science is operating and the need to marshal reasoned and fully informed arguments to defend a position.

Intellectual skills

b1. Analyse and interpret rational argument

b2. Identify the key features of a problem and suggest possible means of investigation

b3. Critically evaluate hypotheses, experimental data and rational arguments

b4. Apply a theory, concept or subject-specific principle to a new context

b5. Work independently to derive a viable experimental design that will effectively test a properly formed hypothesis

b6. Synthesise, analyse and summarise a body of information and come to an informed and logically consistent conclusion

Practical skills

c1. Select and apply appropriate techniques for an investigation or to complete a process

c2. Evaluate alternative methodologies for an investigation or completing a process

c3. Adopt safe practices and advise on safety procedures associated with a particular technique or methodology

c4. Organise and allocate duties, set targets and evaluate progress in achieving specific technical goals, evaluate own performance and performance of others within a team

c5. Present data in seminars or small-group tutorials to develop interpersonal skills such as information retrieval, problem-solving, communication and team working

c6. Record and handle data accurately, precisely and demonstrate competence in a range of basic statistical procedures

c7. Use relevant numerical and quantitative techniques to validate, calibrate and analyse data

c8. Demonstrate competence in the use of word-processors, spreadsheets and data presentation packages

Transferable skills

d1. Manage and be able to adapt their work schedule and learning strategy d2. Adopt skills and techniques to address a particular problem

d3. Use the full range of sources of information, citing references properly d4. Communicate ideas, arguments and concepts in a rational and systematic way, using a variety of media

d5. Assume responsibility for their own learning and work independently d6. Manage and monitor their role within a group working to meet specific targets; recognise and respect the views and opinions of other team members and develop negotiating skills

d7. Appreciate the social moral and ethical context of their science

d8. Be reflective and analytical about their own learning processes.

Appendix B: Embedding the Educational Framework for Undergraduate Courses The Educational Framework at London South Bank University is a set of principles for curriculum design and the wider student experience that articulate our commitment to the

highest standards of academic knowledge and understanding applied to the challenges of the wider world.

The Educational Framework reflects our status as University of the Year for Graduate Employment awarded by *The Times and The Sunday Times Good University Guide 2018* and builds on our 125 year history as a civic university committed to fostering social mobility through employability and enterprise, enabling our students to translate academic achievement into career success.

There are four key characteristics of LSBU's distinctive approach to the undergraduate curriculum and student experience:

- Develop students' professional and vocational skills through application in industry-standard facilities
- Develop our students' graduate attributes, self-awareness and behaviours aligned to our EPIIC values
- Integrate opportunities for students to develop their confidence, skills and networks into the curriculum
- Foster close relationships with employers, industry, and Professional, Statutory and Regulatory Bodies that underpin our provision (including the opportunity for placements, internships and professional opportunities)

The dimensions of the Educational Framework for curriculum design are:

- **informed by employer and industry** needs as well as professional, statutory and regulatory body requirements
- **embedded learning development** for all students to scaffold their learning through the curriculum taking into account the specific writing and thinking requirements of the discipline/profession
- **high impact pedagogies** that enable the development of student professional and vocational learning through application in industry-standard or authentic workplace contexts
- **inclusive teaching, learning and assessment** that enables all students to access and engage the course
- **assessment *for* learning** that provides timely and formative feedback

All courses should be designed to support these five dimensions of the Educational Framework. Successful embedding of the Educational Framework requires a systematic approach to course design and delivery that conceptualises the student experience of the curriculum as a whole rather than at modular level and promotes the progressive development of understanding over the entire course. It also builds on a well-established evidence base across the sector for the pedagogic and assessment experiences that contribute to high quality learning.

This appendix to the course specification document enables course teams to evidence how their courses meet minimum expectations, at what level where appropriate, as the basis for embedding the Educational Framework in all undergraduate provision at LSBU.

Dimension of the Educational Framework	Minimum expectations and rationale	How this is achieved in the course
Curricula informed by employer and industry need	Outcomes focus and professional/employer links All LSBU courses will evidence the involvement of external stakeholders in the curriculum design process as well as plan for the participation of employers and/or alumni through guest lectures or Q&A sessions, employer panels, employer-generated case studies or other input of expertise into the delivery of the course provide students with access to current workplace examples and role models. Students should have access to employers and/or alumni in at least one module at level 4.	The course has been informed by the QAA Bioscience benchmarks (2015). Students are required to identify career opportunities in Scientific Skills module at level 4 as part of their 'partnership' with the personal tutor. We will expose the students to skill requirements of employers via guest speakers, industrial visits, engagement with professional scientists. Students may take advantage of a year placement in industry and qualify for a sandwich award.
Embedded learning development	Support for transition and academic preparedness At least two modules at level 4 should include embedded learning development in the curriculum to support student understanding of, and familiarity with, disciplinary ways of thinking and practising (e.g. analytical thinking, academic writing, critical reading, reflection). Where possible, learning development will be normally integrated into content modules rather than as standalone modules. Other level 4 modules should reference and reinforce the learning development to aid in the transfer of learning.	There is particular emphasis within Scientific Skills and Numerical Methods modules on the development of a portfolio of learning and scientific practice. This will include basic scientific, mathematical and statistical techniques, communication skills, and ICT. Progression is made from Level 4 to more in-depth data interpretation and use of more detailed analysis techniques via the Research Methods module at level 5 and Project module at level 6.
High impact pedagogies	Group-based learning experiences The capacity to work effectively in teams enhances learning through working with peers and develops student outcomes, including communication, networking and respect for diversity of perspectives relevant to **professionalism** and **inclusivity**. At least one module at level 4 should include an opportunity	Projects and group work are facilitated in lectures, practical and tutorial sessions. These are not all formally assessed but serve as important components of students' experiential learning through peer learning, presentation and communication skills. The development of the learning portfolio in Scientific

	for group working. Group-based learning can also be linked to assessment at level 4 if appropriate. Consideration should be given to how students are allocated to groups to foster experience of diverse perspectives and values.	Skills is a key challenge at level 4. There is substantial opportunity for development of interpersonal skills in the final year Project as student's network with other stakeholder in the research process including external organisations.
Inclusive teaching, learning and assessment	Accessible materials, resources and activities All course materials and resources, including course guides, PowerPoint presentations, handouts and Moodle should be provided in an accessible format. For example, font type and size, layout and colour as well as captioning or transcripts for audio-visual materials. Consideration should also be given to accessibility and the availability of alternative formats for reading lists.	This is achieved via the Module Moodle sites. Staff will upload a range of learning resources to support student learning. All students enrolled on a module will have access to the Moodle site and all module materials.
Assessment *for* learning	Assessment and feedback to support attainment, progression and retention Assessment is recognised as a critical point for at risk students as well as integral to the learning of all students. Formative feedback is essential during transition into university. All first semester modules at level 4 should include a formative or low-stakes summative assessment (e.g. low weighted in final outcome for the module) to provide an early opportunity for students to check progress and receive prompt and useable feedback that can feed-forward into future learning and assessment. Assessment and feedback communicates high expectations and develops a commitment to **excellence**.	Students experience variety of assessments during their first year, including testing of their proficiency in mathematics and English as they commence the Scientific Skills and Numerical Methods for Bioscientists modules. These modules provide a structure for greater use of formative or formative-to-summative assessment.
High impact pedagogies	Research and enquiry experiences Opportunities for students to undertake small-scale independent enquiry enable students to understand how knowledge is generated and tested in the discipline as well as prepare them to engage in enquiry as a highly sought after outcome of university study. In	Modules featuring research projects and practical activities include Research Methods, Human Nutrition, as well as options, such as Exercise Physiology and Lab Testing, Measurement and Instrumentation, where

	preparation for an undergraduate dissertation at level 6, courses should provide opportunities for students to develop research skills at level 4 and 5 and should engage with open-ended problems with appropriate support. Research opportunities should build student autonomy and are likely to encourage **creativity** and problem-solving. Dissemination of student research outcomes, for example via posters, presentations and reports with peer review, should also be considered.	knowledge and skills are acquired via case studies. Many of these knowledge and skills are brought together to complete the final year Project.
Curricula informed by employer and industry need / Assessment *for* learning	<u>Authentic learning and assessment tasks</u> Live briefs, projects or equivalent authentic workplace learning experiences and/or assessments enable students, for example, to engage with external clients, develop their understanding through situated and experiential learning in real or simulated workplace contexts and deliver outputs to an agreed specification and deadline. Engagement with live briefs creates the opportunity for the development of student outcomes including **excellence**, **professionalism**, **integrity** and **creativity**. A live brief is likely to develop research and enquiry skills and can be linked to assessment if appropriate.	There is substantial opportunity for development of professional skills in the final year dissertation as students liaise with support staff, subjects and outside bodies. The dissertation also furthers the skills of data collection, interpretation and analysis, as well as presentation skills.
Inclusive teaching, learning and assessment	<u>Course content and teaching methods acknowledge the diversity of the student cohort</u> An inclusive curriculum incorporates images, examples, case studies and other resources from a broad range of cultural and social views reflecting diversity of the student cohort in terms of, for example, gender, ethnicity, sexuality, religious belief, socio-economic background etc. This commitment to **inclusivity** enables students to recognise themselves and their experiences in the curriculum as	Staff use a range of materials in the delivery of their courses that include images and video. Consideration is also given to cultural, religion and gender diversity.

	well as foster understanding of other viewpoints and identities.	
Curricula informed by employer and industry need	Work-based learning Opportunities for learning that is relevant to future employment or undertaken in a workplace setting are fundamental to developing student applied knowledge as well as developing work-relevant student outcomes such as networking, **professionalism** and **integrity**. Work-based learning can take the form of work experience, internships or placements as well as, for example, case studies, simulations and role-play in industry-standards settings as relevant to the course. Work-based learning can be linked to assessment if appropriate.	Students are required to identify career opportunities in Scientific Skills as part of their 'partnership' with the personal tutor at level 4. Students will participate in industrial visits in a wide sense and network with professional scientists at level 5 and 6. Students will also be encouraged to participate in the University Ambassador scheme.
Embedded learning development	Writing in the disciplines: Alternative formats The development of student awareness, understanding and mastery of the specific thinking and communication practices in the discipline is fundamental to applied subject knowledge. This involves explicitly defining the features of disciplinary thinking and practices, finding opportunities to scaffold student attempts to adopt these ways of thinking and practising and providing opportunities to receive formative feedback on this. A writing in the disciplines approach recognises that writing is not a discrete representation of knowledge but integral to the process of knowing and understanding in the discipline. It is expected that assessment utilises formats that are recognisable and applicable to those working in the profession. For example, project report, presentation, poster, lab or field report, journal or professional article, position paper, case report, handbook, exhibition guide.	Students are required to develop a learning portfolio as part of the outcomes from the Scientific Skills module at level 4. This facilitates development of scientific writing, practical reporting and research skills. Research Methods module at level 5 provides students with opportunities to develop their writing in literature review, research proposal, and ethics application. The final year Project requires students to develop skills in scientific write-up and presentation and discussion of results.

High impact pedagogies	Multi-disciplinary, interdisciplinary or interprofessional group-based learning experiences Building on experience of group working at level 4, at level 5 students should be provided with the opportunity to work and manage more complex tasks in groups that work across traditional disciplinary and professional boundaries and reflecting interprofessional work-place settings. Learning in multi- or interdisciplinary groups creates the opportunity for the development of student outcomes including **inclusivity**, communication and networking.	This is achieved in the degree programme through assessments that requires students to work in groups on mini research projects and laboratory assessments. The final year project encourages students to carry out an interdisciplinary research investigation linked either to the research interests of the academic team or, with approval from an academic, their own research question.
Assessment *for* learning	Variation of assessment An inclusive approach to curriculum recognises diversity and seeks to create a learning environment that enables equal opportunities for learning for all students and does not give those with a particular prior qualification (e.g. A-level or BTEC) an advantage or disadvantage. An holistic assessment strategy should provide opportunities for all students to be able to demonstrate achievement of learning outcomes in different ways throughout the course. This may be by offering alternate assessment tasks at the same assessment point, for example either a written or oral assessment, or by offering a range of different assessment tasks across the curriculum.	A variety of assessment was used at level 4, including essays, problem solving exercises, Moodle quizzes, and unseen written exams. Thereafter, level 5 and 6 assessment is a combination of examination, a variety of coursework, including presentations, essays, case studies, in-class tests, and a final year dissertation.
Curricula informed by employer and industry need	Career management skills Courses should provide support for the development of career management skills that enable student to be familiar with and understand relevant industries or professions, be able to build on work-related learning opportunities, understand the role of self-appraisal and planning for lifelong learning in career development, develop resilience and manage the career building process. This should be designed to inform the development of **excellence** and **professionalism**.	Students are required to identify career opportunities in Scientific Skills as part of their 'partnership' with the personal tutor at level 4. Modules at level 5 and 6 will develop the students' skills as reflective practitioners and encourage their career planning. Students will participate in industrial visits in a wide sense and network with professional scientists at level 5 and 6.

Curricula informed by employer and industry need / Assessment *for* learning / High impact pedagogies	<u>Capstone project/dissertation</u> The level 6 project or dissertation is a critical point for the integration and synthesis of knowledge and skills from across the course. It also provides an important transition into employment if the assessment is authentic, industry-facing or client-driven. It is recommended that this is a capstone experience, bringing together all learning across the course and creates the opportunity for the development of student outcomes including **professionalism**, **integrity** and **creativity**.	The final year Project requires students to develop skills in : (1) Identification of the significance of research and formulation of hypotheses; (2) Design, justification and implementation of approaches to testing (giving consideration to sample population, reliability, validity and statistical analysis); (3) Scientific write-up, presentation and discussion of results; (4) Maintaining contemporaneous records and notes.

Appendix C: Terminology

[Please provide a selection of definitions according to your own course and context to help prospective students who may not be familiar with terms used in higher education. Some examples are listed below]

awarding body	a UK higher education provider (typically a university) with the power to award higher education qualifications such as degrees
bursary	a financial award made to students to support their studies; sometimes used interchangeably with 'scholarship'
collaborative provision	a formal arrangement between a degree-awarding body and a partner organisation, allowing for the latter to provide higher education on behalf of the former
compulsory module	a module that students are required to take
contact hours	the time allocated to direct contact between a student and a member of staff through, for example, timetabled lectures, seminars and tutorials
coursework	student work that contributes towards the final result but is not assessed by written examination

current students	students enrolled on a course who have not yet completed their studies or been awarded their qualification
delivery organisation	an organisation that delivers learning opportunities on behalf of a degree-awarding body
distance-learning course	a course of study that does not involve face-to-face contact between students and tutors
extracurricular	activities undertaken by students outside their studies
feedback (on assessment)	advice to students following their completion of a piece of assessed or examined work
formative assessment	a type of assessment designed to help students learn more effectively, to progress in their studies and to prepare for summative assessment; formative assessment does not contribute to the final mark, grade or class of degree awarded to students

higher education provider	organisations that deliver higher education
independent learning	learning that occurs outside the classroom that might include preparation for scheduled sessions, follow-up work, wider reading or practice, completion of assessment tasks, or revision
intensity of study	the time taken to complete a part-time course compared to the equivalent full-time version: for example, half-time study would equate to 0.5 intensity of study
lecture	a presentation or talk on a particular topic; in general lectures involve larger groups of students than seminars and tutorials
learning zone	a flexible student space that supports independent and social earning
material information	information students need to make an informed decision, such as about what and where to study
mode of study	different ways of studying, such as full-time, part-time, e-learning or work-based learning
modular course	a course delivered using modules
module	a self-contained, formally structured unit of study, with a coherent and explicit set of learning outcomes and assessment criteria; some providers use the word 'course' or 'course unit' to refer to individual modules
national teaching fellowship	a national award for individuals who have made an outstanding impact on student learning and the teaching profession
navigability (of websites)	the ease with which users can obtain the information they require from a website
optional module	a module or course unit that students choose to take
performance (examinations)	a type of examination used in performance-based subjects such as drama and music
professional body	an organisation that oversees the activities of a particular profession and represents the interests of its members
prospective student	those applying or considering applying for any programme, at any level and employing any mode of study, with a higher education provider

regulated course	a course that is regulated by a regulatory body
regulatory body	an organisation recognised by government as being responsible for the regulation or approval of a particular range of issues and activities
scholarship	a type of bursary that recognises academic achievement and potential, and which is sometimes used interchangeably with 'bursary'
semester	either of the parts of an academic year that is divided into two for purposes of teaching and assessment (in contrast to division into terms)
seminar	seminars generally involve smaller numbers than lectures and enable students to engage in discussion of a particular topic and/or to explore it in more detail than might be covered in a lecture
summative assessment	formal assessment of students' work, contributing to the final result
term	any of the parts of an academic year that is divided into three or more for purposes of teaching and assessment (in contrast to division into semesters)
total study time	the total time required to study a module, unit or course, including all class contact, independent learning, revision and assessment
tutorial	one-to-one or small group supervision, feedback or detailed discussion on a particular topic or project
work/study placement	a planned period of experience outside the institution (for example, in a workplace or at another higher education institution) to help students develop particular skills, knowledge or understanding as part of their course
workload	see 'total study time'
written examination	a question or set of questions relating to a particular area of study to which candidates write answers usually (but not always) under timed conditions