



## Course Specification

<b>A. Course Information</b>																																							
<b>Final award title(s)</b>	BSc (Hons) Information Technology BSc (Hons) Information Technology (Sandwich) BSc (Hons) Information Technology Top-up																																						
<b>Intermediate exit award title(s)</b>																																							
<b>UCAS Code</b>		<b>Course Code(s)</b>	(FT) 5453 (PT) 4156 (PT) (6yrs) 4935 (Top Up) (FT) 5454 (Top_Up_PT) 4006																																				
	London South Bank University																																						
<b>School</b>	<input type="checkbox"/> ASC <input type="checkbox"/> ACI <input type="checkbox"/> BEA <input type="checkbox"/> BUS <input checked="" type="checkbox"/> ENG <input type="checkbox"/> HSC <input type="checkbox"/> LSS																																						
<b>Division</b>	Computer Science and Informatics																																						
<b>Course Director</b>	Maria Lemac																																						
<b>Delivery site(s) for course(s)</b>	<input checked="" type="checkbox"/> Southwark <input type="checkbox"/> Havering <input type="checkbox"/> Other: please specify																																						
<b>Mode(s) of delivery</b>	<input checked="" type="checkbox"/> Full time <input checked="" type="checkbox"/> Part time (4 years) <input checked="" type="checkbox"/> Part Time (6 years) <input checked="" type="checkbox"/> Top-up <input checked="" type="checkbox"/> Full-time sandwich																																						
<b>Length of course/start and finish dates</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Mode</th> <th style="text-align: center;">Length years</th> <th style="text-align: center;">Start - month</th> <th style="text-align: center;">Finish - month</th> </tr> </thead> <tbody> <tr> <td>Full time</td> <td style="text-align: center;">3</td> <td style="text-align: center;">September</td> <td style="text-align: center;">August</td> </tr> <tr> <td>Full time with placement/ sandwich year</td> <td style="text-align: center;">4</td> <td style="text-align: center;">September</td> <td style="text-align: center;">August</td> </tr> <tr> <td>Part time (4 year)</td> <td style="text-align: center;">4</td> <td style="text-align: center;">September</td> <td style="text-align: center;">August</td> </tr> <tr> <td>Part time (6 year)</td> <td style="text-align: center;">6</td> <td style="text-align: center;">September</td> <td style="text-align: center;">August</td> </tr> <tr> <td>Part time (4 year) with Placement/ sandwich year</td> <td style="text-align: center;">5</td> <td style="text-align: center;">September</td> <td style="text-align: center;">August</td> </tr> <tr> <td>Part time (6 year) with Placement/ sandwich year</td> <td style="text-align: center;">7</td> <td style="text-align: center;">September</td> <td style="text-align: center;">August</td> </tr> <tr> <td>Top-up</td> <td style="text-align: center;">1</td> <td style="text-align: center;">September</td> <td style="text-align: center;">August</td> </tr> <tr> <td>Top-up Part time</td> <td style="text-align: center;">2</td> <td style="text-align: center;">September</td> <td style="text-align: center;">August</td> </tr> </tbody> </table>			Mode	Length years	Start - month	Finish - month	Full time	3	September	August	Full time with placement/ sandwich year	4	September	August	Part time (4 year)	4	September	August	Part time (6 year)	6	September	August	Part time (4 year) with Placement/ sandwich year	5	September	August	Part time (6 year) with Placement/ sandwich year	7	September	August	Top-up	1	September	August	Top-up Part time	2	September	August
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<b>Is this course generally suitable for students on a Tier 4 visa?</b>	Please complete the International Office questionnaire Yes <span style="margin-left: 150px;">No</span> 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.	
<b>Approval dates:</b>	Course(s) validated / Subject to validation	
	Course specification last updated and signed off	30 <sup>th</sup> April 2018
<b>Professional, Statutory &amp; Regulatory Body accreditation</b>	BCS sought Partial IET CEng sought	
<b>Reference points:</b>	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 (Dated) Competitions and Markets Authority SEEC Level Descriptors 2016 BCS Guidelines for Accreditation [2018] ACM curricula for Computer Science [2013] IET Guidance for meeting AHEP learning outcomes [2014]
<b>B. Course Aims and Features</b>		
<b>Distinctive features of course</b>	The Information Technology (IT) course is for students who are interested in a wide range of IT skills. It provides you with hybrid skills – system development skills and information and communications technology-oriented knowledge, which are required by today’s business and industry employers. The course builds upon the understanding of system analysis, design, development and systems administration covered in Informatics core module content to address a range of IT-related subjects such as Big Data and Database Systems, Systems Administration and Maintenance, Systems and Cyber Security, and Content Management and Web Development Frameworks. The sandwich placement gives you the opportunity to situate the taught material in a work-place environment and to return to final year study with a new perspective on Information Technology.	
<b>Course Aims</b>	The BSc (Hons) Information Technology aims to:  <ol style="list-style-type: none"> <li>1. produce graduates who are equipped with the knowledge and skills to build computer systems of different kinds</li> <li>2. provide a comprehensive understanding of the analysis, design, implementation and evaluation of computer systems</li> <li>3. provide a coherent underpinning of theory, practical skills and knowledge required of information technology professionals</li> </ol>	

	<p>4. produce graduates with the professional and ethical standards required for employment in the industry</p>
<p><b>Course Learning Outcomes</b></p>	<p><b>A. Students will acquire knowledge and understanding of:</b></p> <ol style="list-style-type: none"> <li>1. hardware, computer networks, operating systems and application software</li> <li>2. requirements analysis and the formal specification of computer systems</li> <li>3. development, deployment and administration of information systems</li> <li>4. software development using a variety of techniques, design notations, development environments and programming languages</li> <li>5. ethics, professionalism and management of projects, people and change</li> <li>6. IS management for different areas</li> </ol> <p><b>B. Students will develop their intellectual skills such that they are able to:</b></p> <ol style="list-style-type: none"> <li>1. locate, analyse, evaluate and make effective use of reference material including literature from academic, technical and professional sources</li> <li>2. comprehend and critically evaluate theoretical arguments in computing and IT</li> <li>3. analyse and predict future developments in computing based upon fundamental principles and evolving trends</li> <li>4. analyse, evaluate, modify and synthesise approaches to software development and systems design, proposing appropriate and feasible technical solutions</li> <li>5. collaborate effectively and professionally with technical and non-technical colleagues</li> </ol> <p><b>C. Students will acquire and develop practical skills such that they are able to:</b></p> <ol style="list-style-type: none"> <li>1. understand and use appropriate techniques and notations in the development of IT systems</li> <li>2. design, develop and implement computer systems</li> <li>3. analyse, evaluate and test computer systems</li> <li>4. manage and administer information systems</li> <li>5. analyse and specify requirements for information systems/IT, articulate IT requirements and present IT solutions to various stakeholders including business managers, IT directors, and software engineers.</li> </ol> <p><b>D. Students will acquire and develop transferrable skills such that they are able to:</b></p> <ol style="list-style-type: none"> <li>1. communicate effectively verbally and in writing</li> <li>2. work effectively in teams</li> </ol>

- |  |  |
|--|--|
|  | <ol style="list-style-type: none"><li>3. think critically and solve problems</li><li>4. sustain self-directed learning to maintain continuing professional development</li></ol> |
|--|--|

## **C. Teaching and Learning Strategy**

### **Overview of teaching and learning activities**

There will be a combination of lectures, tutorials and computer laboratory activities to inform, contextualise, discuss, analyse, explore and critically evaluate the material in order to enable students to assimilate the material and develop students' intellectual abilities around it.

The delivery will aim to ensure a balance of cognitive tasks involving the demonstration and application of factual knowledge, problem-solving, analysis and critique with practical exercises in computer laboratories to reinforce learning through direct experience. Practical applications and utilising real-world examples will be used wherever possible.

At level 4 independent (non-contact) study hours will be predominantly concerned with assimilation, at level 5 knowledge acquisition will take place as part of analytical study and at level 6 students will be engaging in independent research and critical evaluation. At level 6 students will undertake an independently managed project which will involve making use of practical (and other) skills acquired during the course. Students taking the sandwich course will acquire practical skills and experience in their internship.

Modules exist to support the development of study and communication skills, to develop self-management skills and develop effective team-working (in certain modules cross discipline). In addition, classroom activities in many other modules will be used to foster these abilities.

### **Importance of independent learning**

Students are required to undertake directed self-study and prepare solutions/discussions to questions relative to various topic areas. Students will be encouraged to identify for themselves particular problems of difficulty and to use seminar discussions, where appropriate, for the resolution of these. Students must regularly access the Moodle site for this module. They should download the class/lecture material from the Moodle site, and do the recommended reading, before each lecture/class. Where appropriate, students are also expected to download the relevant seminar questions and study them in advance of each seminar, in order to derive maximum benefit from seminar time. The programme of teaching, learning and assessment gives guidance on the textbook reading required for each week, the purpose of which is to encourage further reading both on and around the topic.

Each 20-credit module has a total of 200 study hours, out of which:

- at level 5, there are 65 direct contact hours and 135 independent study hours
- at level 6, there are 52 direct contact hours and 148 independent study hours
- Project module has 40 direct contact hours and 360 independent study hours

### **Subject-related and generic resources available**

Students will have access to approximately 200 PCs and 15 Macs in 10 teaching computer labs, which typically have the following ICT software facilities: Microsoft SQL Server 2015, NetBeans with JDK8, Oracle, Python, SAS, Visual Paradigm, Microsoft Imagine, etc. We also have a cyber

security lab, which is used for specialised modules and several printers, including large format printers.

Generic resources include:

- Perry library - provides access to traditional books, journal sources, PCs to use and laptops to borrow. The Perry Library is open throughout the week, and during the term are staffed from 08.30 until 21.00 from Monday – Thursday, and 10.30 to 16.20 at weekends. There is seating capacity for 600 students in the library and the book-stock is in excess of 600,000 volumes. The building provides wireless access.
- The Students' Support Centre - provides a first stop service for students on academic, personal and financial matters. It is aimed at improving student experience and offers LSBU's best employability, development and student services. The centre also offers home to our Students' Union.
- Fitness - there is also a sports hall, fitness suite and gymnasium
- Catering - there is a large refectory, with a selection of smaller cafes and eating outlets on campus.

### **Learning support**

We support students throughout their course in many different ways, such as:

- personal tutoring
- support sessions on core maths & programming skills taking place weekly
- peer student led support sessions
- practical skills workshops
- labs equipped with the latest hardware and software
- lectures, seminars, personal tuition
- online learning materials
- varied assessment methods
- advice on work experience and career options
- opportunities for work placements and projects with employers
- tailored field trips
- training in research methods and assistance with independent research projects.

### **Teaching staff**

Majority of academics have standing with a professional body (e.g. BCS, ACM, IEEE), and either a research background or an industry experience in their teaching area. Some modules may be supported with postgraduate students, who will either support tutorials at a lower level or provide support on modules related to their research area. Module leader with the division management will establish the suitability of the teaching team and support and training will be provided where necessary to ensure quality of teaching is delivered.

### **Virtual Learning for students**

Moodle, the university's Virtual Learning Environment (VLE) provides online resources and support for all students. It enables students with access to resources and tools to support their teaching and learning, ensuring that any student will have access to the same electronic curriculum resources irrespective of their location (on or off-campus).

VLE also provides facilities such as on-line timetables, assessment submissions, lecture and tutorial resources, assessment results, as on-line timetables, lecture resources, course information, examination results, module selection and submission systems, revision tools, video, podcasts, module feedback, forums and other systems for both students and staff to support their courses.

VLE is also used in collaboration with Lynda.com website, through which students have free access to a wide range of training materials supporting their course.

Typically, the content from Lynda.com is used via embedded links in the VLE (moodle) to prescribe playlist sequences of audio/video and various media content in support of students learning.

#### D. Assessment

##### **Formative assessment**

Formative assessment is essential as it is effective in promoting student learning and it helps seek to determine how students are progressing through a certain learning goal. Wherever possible formative assessment will be used to allow students to gauge their own progress and address weak areas. Formative assessment will also provide assessors with the opportunity to learn about the extent to which students have developed expertise and can tailor their teaching accordingly.

Formative assessment will take different forms depending on the module level and type, but in general a selection and combination of the following will be used:

- interactive revision quizzes
- think-pair-share concept and class discussions
- verbal feedback on tutorial activities
- observation and questioning to provide instant feedback as the student takes part in learning activities
- self and peer assessment

##### **Summative assessment**

For all modules summative assessment consists of either 100% coursework or a combination of coursework and two-hour typically closed-book examination. All modules have a 40% pass mark which has to be achieved for each component individually (exam and coursework).

Students' acquisition of knowledge and understanding will be assessed by coursework tasks requiring the demonstration of such, including assessed practical tasks, report writing, in-class tests and presentations, individual and team-projects, etc. There is typically one coursework per module, which may consist of two or more components.

Examinations will be closed-book and will require students to demonstrate that knowledge and understanding have been achieved.

##### **Progression**

Students must pass all core modules in order to progress to the following year and pass any final year core modules to be eligible for classification.

### **E. Academic Regulations**

The University's Academic Regulations apply for this course. For course specific protocols please refer to the Divisional protocol document.

### **F. Entry Requirements**

#### **Degree Course**

In order to be considered for entry to one of the degree courses applicants will be required to have the following qualifications:

240 UCAS points:

- CCC/AA at A Level; **or**
- BTEC National Diploma - MMM/DD **or**
- All Level 3 qualifications welcome - including Access courses with Pass + 24 Merits; **plus** 5 GCSE's including Maths and English, (C or above), equivalent

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.

#### **Top-up Course**

In order to be considered for entry to one of the Top-up courses applicants will be required to have the following qualifications:

- Higher National Diploma with at least 60 credits at merit in second year modules, or
- other equivalent Higher Education qualification

We welcome qualifications from around the world. English language qualifications for international students: IELTS score of 6.0, Cambridge Proficiency or Advanced Grade C.

### **G. Course structure(s)**

#### **Course overview**

All full time and part time courses are organized into two semesters, each lasting 15 weeks. Top-up course has a slightly different structure, as it consists of three semesters, the third one being a summer semester.

Semester one starts in September, Semester 2 in January and Semester 3 in June.

The standard 'building block' of all course delivery are modules – identified in size by CATS (Credit Accumulation and Transfer Scheme) credits. All module size across the course is 20 CATS credits; with the exception of the Honours project, which is a double module worth 40 credits.

This course has a full-time, full-time with sandwich, part-time (4 year degree), part-time (6 year degree) and top-up award-bearing structure of modules, with defined learning outcomes and secure location within the Framework for Higher Education Qualifications. All of the above courses will lead to

a single honours awards of the University.

### Information Technology – Full time with sandwich

Year 1	Semester 1		Semester 2	
	Fundamentals of Computer Science, compulsory	20 credits	Professional Practice, compulsory	20 credits
	Discrete Mathematics, compulsory	20 credits	Requirements Analysis and UCD, compulsory	20 credits
	Fundamentals of Software Development, compulsory	20 credits	Software Development, compulsory	20 credits
Year 2				
	Analysis and Design, compulsory	20 credits	Big Data and Database Systems, compulsory	20 credits
	Information Systems, compulsory	20 credits	System Administration and Maintenance, compulsory	20 credits
	Web Technologies, compulsory	20 credits	Developing Applications, compulsory	20 credits
Sandwich year				
Sandwich Placement in Computer Science and Informatics (0 credit)				
Year 3				
Project, compulsory 40 credits				
	ICT Project Management in Practice, optional (or the following module)	20 credits	Systems and Cyber Security, compulsory	20 credits
	Innovation and Enterprise, optional	20 credits	Smart Internet Technologies, optional (or the following module)	20 credits
	Data Mining and Big Data Analytics, optional (or the following module)	20 credits	AR/VR Technologies, optional	20 credits
	Content Management and Development Frameworks for Web, optional	20 credits		

### Information Technology – Part time (4 year course)

Year 1	Semester 1		Semester 2	
	Fundamentals of Computer Science, compulsory	20 credits	Professional Practice, compulsory	20 credits
	Fundamentals of Software Development, compulsory	20 credits	Requirements Analysis and UCD, compulsory	20 credits
Year 2				
	Discrete Mathematics, compulsory	20 credits	Software Development, compulsory	20 credits
	Analysis and Design, compulsory	20 credits	System Administration and Maintenance, compulsory	20 credits
	Information Systems, compulsory	20 credits		
Year 3				



	Web Technologies, compulsory	20 credits	Big Data and Database Systems, compulsory	20 credits
	ICT Project Management in Practice, optional (or the following module)	20 credits	Developing Applications, compulsory	20 credits
	Innovation and Enterprise, optional	20 credits		
<b>Year 4</b>				
	Project, compulsory 40 credits			
	Data Mining and Big Data Analytics, optional (or the following module)	20 credits	Systems and Cyber Security, compulsory	20 credits
	Content Management and Development Frameworks for Web, optional	20 credits	AR/VR Technologies, optional (or the following module)	20 credits
			Smart Internet Technologies optional	20 credits

### Information Technology – Part time (6 year course)

<b>Year 1</b>	<b>Semester 1</b>		<b>Semester 2</b>	
	Fundamentals of Computer Science, compulsory	20 credits	Professional Practice, compulsory	20 credits
	Discrete Mathematics, compulsory	20 credits		
<b>Year 2</b>				
			Requirements Analysis and UCD, compulsory	20 credits
	Fundamentals of Software Development, compulsory	20 credits	Software Development, compulsory	20 credits
<b>Year 3</b>				
	Analysis and Design, compulsory	20 credits	Big Data and Database Systems, compulsory	20 credits
	Information Systems, compulsory	20 credits		
<b>Year 4</b>				
	Web Technologies, compulsory	20 credits	System Administration and Maintenance, compulsory	20 credits
			Developing Applications, compulsory	20 credits
<b>Year 5</b>				
	ICT Project Management in Practice, optional (or the following module)	20 credits	Systems and Cyber Security, compulsory	20 credits
	Innovation and Enterprise, optional	20 credits		
	Data Mining and Big Data Analytics, optional (or the following module)	20 credits		
	Content Management and Development Frameworks for Web, optional	20 credits		
<b>Year 6</b>				

	Project, compulsory 40 credits			
			Smart Internet Technologies,, optional (or the following module)	20 credits
			AR/VR Technologies, optional	20 credits

**Information Technology – Top-up Full time (1 year)**

Year 1	Semester 1		Semester 2	
	Web Technologies, compulsory	20 credits	Developing Applications, compulsory	20 credits
	ICT Project Management in Practice, optional (or the following module)	20 credits	Systems and Cyber Security, compulsory	20 credits
	Innovation and Enterprise, optional	20 credits	Smart Internet Technologies, optional (or the following module)	20 credits
	Data Mining and Big Data Analytics, optional (or the following module)	20 credits	AR/VR Technologies, optional	20 credits
	Content Management and Development Frameworks for Web, optional	20 credits		
<b>Summer</b>				
Project, compulsory 40 credits				

**Information Technology – Top-up Part time (2 years)**

Year 1	Semester 1		Semester 2	
	Web Technologies, compulsory	20 credits	Developing Applications, compulsory	20 credits
	Data Mining and Big Data Analytics, optional (or the following module)	20 credits	Smart Internet Technologies, optional (or the following module)	20 credits
	Content Management and Development Frameworks for Web, optional	20 credits	AR/VR Technologies, optional	20 credits
<b>Year 2</b>				
Project, compulsory 40 credits				
	ICT Project Management in Practice, optional (or the following module)	20 credits	Systems and Cyber Security, compulsory	20 credits
	Innovation and Enterprise, optional	20 credits		

### Placements information

A Sandwich course has a zero credit (pass/fail) placement module which is taken during the placement period, the assessment (e-portfolio/Report) submission is due on resuming studies.

### H. Course Modules

All options are offer subject to a minimum threshold of students. If a first-choice option is not available, students will be offered a second or third module option. Students will be informed of their options prior to the end of the year.

Code	Module Title	Level	Sem	Credit	Assessment
	Professional Practice	4	2	20	Coursework 100%
CSI-4-FCS	Fundamentals of Computer Science	4	1	20	Coursework 100%
CSI-4-FSD	Fundamentals of Software Development	4	1	20	Coursework 100%
CSI-4-MCS	Discrete Mathematics	4	1	20	Coursework 100%
	Software Development	4	2	20	Coursework 100%
	Requirements Analysis and User-Centred Design	4	2	20	Coursework 100%
	Analysis and Design	5	1	20	Coursework 60%: exam 40%
	Big Data and Database Systems	5	2	20	Coursework 60% - Exam 40%
	Information Systems	5	1	20	Coursework 100%
	System Administration and Maintenance	5	2	20	Exam 40% : Coursework 60%
	Developing Applications	5	1	20	Coursework 100%
	Web Technologies	5	2	20	Coursework 100%

CSI-5-PLA	Sandwich Placement in Computer Science and Informatics	5	1&2	0	End of placement report
	AR/VR Technologies	6	2	20	Coursework 60% - Exam 40%
	Content Management and Web Development Frameworks	6	1	20	Coursework 60% - Exam 40%
	Honours Undergraduate Project	6	1&2	40	Coursework 100%
	Data Mining and Big Data Analytics	6	1	20	Coursework 60% - Exam 40%
	ICT Project Management in Practice	6	1	20	Coursework 60%- Exam 40%
	Innovation and Enterprise	6	1	20	Coursework 100%
	Smart Internet Technologies	6	2	20	Coursework 60% - Exam 40%
CSI-6-SCS	Systems and Cyber-security	6	2	20	Coursework 60% - Exam 40%

### I. Timetable information

[indicate:

Provide as much information as possible,

- when students can expect to receive a confirmed timetable for study commitments; and
- if there is a teaching-free afternoon set aside for e.g. sporting/cultural activities.

The timetables are kept free at least one day a week. Most of the courses have two days with no sessions timetabled. This allowed the students to engage in other activities.

- Don't specify a day(s) when teaching will take place if it may be changed.
- Prospective students should be kept informed of any changes.]

### J. Costs and financial support

#### Course related costs

The course fee does not include the cost of text books or personal devices (student laptops). These items are not required for study as alternatives exist: All text books that are mandatory for study are usually available via the library in a free form (for example as e-books) and the computer labs provide the essential equipment. The costs of field trips are not included, but where a field trip is required for the purpose of study costs will not exceed typical transport costs within the London area.

#### 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-

## **List of Appendices**

Appendix A: Curriculum Map

Appendix B: Educational Framework (undergraduate courses)

Appendix C: Personal Development Planning (postgraduate courses)

Appendix D: Terminology

## 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.

	Module\Outcome	cr	Knowledge					Intellectual					Practical					Transferable						
			1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4			
L4	Fundamentals of Computer Science	20	ta	ta	t	ta	t		t	ta	t	t			t	ta	t	ta				ta		
L4	Mathematics	20	ta	t		ta			t	ta		t	t				tda		t				ta	
L4	Business and Professional Issues	20	t	t			t		t	ta	d		tda					d			ta	ta	ta	t
L4	Requirements Analysis and User Centred Design	20	d	tda	td	d	tda		td	da	da	tda	tda		td	tda	d	d	td		da	tda	da	
L4	Fundamentals of Software Development	20	d	ta	tda	td			tda	tda	d	tda	ta		tda	td	tda		td		da		da	da
L4	Software Development	20	d	ta	tda	td			tda	tda	d	tda	ta		tda	td	tda	t	td		da		da	da
L5	Analysis and Design	20	d	ta	tda	td			tda	tda	d	tda	ta		tda	td	tda	t	td		da		da	da
L5	Web Technologies	20	d	tda	td	d	tda		tda	tda	d	tda	tda		tda	tda	tda	d	tda		tda		d	d
L5	Big Data and Database Systems	20	td	tda	td	tda	td		tda	tda	d	tda	d		td	tda	tda	td	td		da		d	
L5	Information Systems	20	ta		t	ta	t		d	d	d	tda				ta	ta	ta	ta					
L5	Developing Applications	20	d	tda	tda	td	td		tda	td	td	tda	tda		tda	td	tda		tda		da		da	da
L5	System Administration and Maintenance	20	td	tda	tda	td	td		tda	td	td	tda	d		tda	td	tda		tda		da		da	da
L5	Sandwich Placement in Computer Science and Informatics	0	da	da	da	da	da		da	da	da	da	da		da	da	da	da	da		da	da	da	da
L6	Honours Undergraduate Project	40	da	da	da	d	da		tda	tda	tda	da	da		da	da	tda	d	da		tda		tda	tda
L6	Innovation and Enterprise	20		da		da	da		td	td	d	d	tda			d	tda		da		tda	tda	tda	tda
L6	ICT Project Management in Practice	20	d	da		da	tda		tda	tda	tda	d	tda			d	d	d	d		tda	tda	tda	tda
L6	Systems and Cyber Security	20	tda	d	d	d	tda		td	d	tda	tda	d		d	tda	d	tda	tda					
L6	Content Management and Web Development Frameworks	20	d	d	d	tda	td		td	d	tda	tda	tda		td	tda		d	d		tda	tda		td
L6	Developing Mobile Applications	20	tda	tda	tda	td	td		td	d	td	tda	d		tda	tda	td	d	tda		d	d	d	tda
L6	Data Mining and Big Data Analytics	20	td	d		tda			td	tda	tda	tda	tda		d	d	tda		d		da	da	da	td

## 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	<p><u>Outcomes focus and professional/employer links</u>            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&amp;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.</p>	<p>The course design has been informed by discussion with industry representatives. It is intended that all final year taught modules should include at least one external speakers. The level 6 module ICT Project Management in Practice has been designed around a consultancy exercise based on a real case study presented by external professionals. The level 4 module Professional Practice has been designed to provide experience and knowledge of all professional issues and will incorporate presentations by external professionals and LSBU alumni.</p>
Embedded learning development	<p><u>Support for transition and academic preparedness</u>            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.</p>	<p>The level 4 module Professional Practice is the key provider of learning development and disciplinary thinking in conjunction with the level 4 module Requirements Analysis and UCD.</p>
High impact pedagogies	<p><u>Group-based learning experiences</u>            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 <b>professionalism</b> and <b>inclusivity</b>. At least one module at level 4 should include an opportunity 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</p>	<p>The level 4 module Professional Practice incorporates team and group working exercises, with outputs of these activities included in the assessment. level 4 module Requirements Analysis and UCD provides opportunities for group learning and is linked to assessment. The level 6 module ICT Project Management in Practice</p>



	foster experience of diverse perspectives and values.	revolves around a more sophisticated and in-depth team-working exercise.
Inclusive teaching, learning and assessment	<u>Accessible materials, resources and activities</u> 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.	All course materials and resources will be provided in a variety of formats making them accessible to students with different needs.
Assessment for learning	<u>Assessment and feedback to support attainment, progression and retention</u> 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 <b>excellence</b> .	All taught modules have formative assessment strategies explicitly described in their descriptors. Level 4 modules are especially designed to offer significant feedback on formative assessments in recognition of difficulties that some students have with making transition to the HE.
High impact pedagogies	<u>Research and enquiry experiences</u> 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 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 <b>creativity</b> and problem-solving. Dissemination of student research outcomes, for example via posters, presentations and reports with peer review, should also be considered.	At level 4 Professional Practice includes the development of research skills and critical writing. They also are given an opportunity to engage with open-ended problems and are guided throughout the activity. The students also present their findings and receive peer feedback.
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	The level 6 module ICT Project Management in Practice explicitly addresses the use of authentic workplace learning experiences, while other modules (particularly at level 6, but to a lesser extent in level 4 and 5) are intended to make

	<p>deadline. Engagement with live briefs creates the opportunity for the development of student outcomes including <b>excellence, professionalism, integrity</b> and <b>creativity</b>. A live brief is likely to develop research and enquiry skills and can be linked to assessment if appropriate.</p>	<p>use of case studies and examples derived from current events, industry and ongoing developments in the relevant fields.</p>
<p>Inclusive teaching, learning and assessment</p>	<p><u>Course content and teaching methods</u> <u>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 <b>inclusivity</b> enables students to recognise themselves and their experiences in the curriculum as well as foster understanding of other viewpoints and identities.</p>	<p>The course team will be encouraged to explore a wide variety of teaching approaches to offer all students as exciting a learning experience as possible and hopefully to allow all to find aspects of the course that allow them to make use of their individual strengths and characters. Non-technical content such as examples and case studies shall be drawn from a global context.</p>
<p>Curricula informed by employer and industry need</p>	<p><u>Work-based learning</u> 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, <b>professionalism</b> and <b>integrity</b>. 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.</p>	<p>Need some text about how we offer students short term internments. The level 6 taught module ICT Project Management in Practice is built around a real world case study.</p>
<p>Embedded learning development</p>	<p><u>Writing in the disciplines: Alternative formats</u> 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.</p>	<p>Discipline specific writing techniques are explicitly taught at level 4 in Professional Practice. Formal reports and presentations are part of coursework assessments for most of the modules. The students receive feedback on their formative and summative assessments.</p>

High impact pedagogies	<p><u>Multi-disciplinary, interdisciplinary or interprofessional group-based learning experiences</u></p> <p>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 <b>inclusivity</b>, communication and networking.</p>	The level 6 taught module ICT Project Management in Practice has been designed in collaboration with the Division of Law and involves the active participation of academics from a separate discipline.
Assessment for learning	<p><u>Variation of assessment</u></p> <p>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.</p>	A wide range of diverse assessment types is used throughout the course taking into account that students might have their preferred and less preferred styles of assessments. This approach ensures fairness and enables students to perform to their full abilities.
Curricula informed by employer and industry need	<p><u>Career management skills</u></p> <p>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 <b>excellence and professionalism</b>.</p>	The level 6 module ICT Project Management in Practice provides a forum for career related discussion. Reflection is an assessed component of many modules throughout the course and is an integral component of the final year dissertation.
Curricula informed by employer and industry need / Assessment for learning / High impact pedagogies	<p><u>Capstone project/dissertation</u></p> <p>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 <b>professionalism, integrity and creativity</b>.</p>	The final year project has been designed as a capstone module that allows students to synthesise and apply all they have learnt in the module. The project has been designed with the recognition of the British Computer Society explicitly in mind and thus represents an undertaking relevant to future employment prospects (for example as something students can describe to potential employers in depth to illustrate their expertise).

## Appendix C: Personal Development Planning

Personal Development Planning (PDP) is a structured process by which an individual reflects upon their own learning, performance and/or achievement and identifies ways in which they might improve themselves academically and more broadly. Course teams are asked to indicate where/how in the course/across the modules this process is supported.

Approach to PDP	Level 4	Level 5	Level 6
1 Supporting the development and recognition of skills through the personal tutor system.	A personal tutor will be assigned to each student from among the academic staff teaching on the level 4 modules.	The personal tutor assigned at level 4 will continue to support students in their personal development.	Project supervisor take over personal tutoring role.
2 Supporting the development and recognition of skills in academic modules/modules.	All modules	All modules	
3 Supporting the development and recognition of skills through purpose designed modules/modules.	Professional Practice		ICT Project Management in Practice
4 Supporting the development and recognition of skills through research projects and dissertations work.			Project
5 Supporting the development and recognition of career management skills.	Professional Practice		ICT Project Management in Practice
6 Supporting the development and recognition of career management skills through work placements or work experience.		BSc Sandwich Placement; various shorter placements and internships	
7 Supporting the development of skills by recognising that they can be developed through extra curricula activities.	Extra-curricula and capstone events	Extra-curricula and capstone events	Extra-curricula and capstone events
8 Supporting the development of the skills and attitudes as a basis for continuing professional development.	Professional Practice, Personal tutoring		ICT Project Management in Practice
9 Other approaches to personal development planning.			
10 The means by which self-reflection, evaluation and planned development is supported e.g. electronic or paper-based learning log or diary.	Electronic learning log in Business and Professional Issues		Project log book

The following table shows how PDP is being applied in the BSc (Hons) Information Technology Top-up degree course.

Approach to PDP	Level 5 and 6
1 Supporting the development and recognition of skills through the personal tutor system.	The course director provides the personal tutoring role.
2 Supporting the development and recognition of skills in academic modules/units.	
3 Supporting the development and recognition of skills through purpose designed modules/units.	Content Management and Development Frameworks for Web ICT Project Management in Practice
4 Supporting the development and recognition of skills through research projects and dissertations work.	Honours Undergraduate Project
5 Supporting the development and recognition of career management skills.	ICT Project Management in Practice
6 Supporting the development and recognition of career management skills through work placements or work experience.	Work placements and work experience opportunities are published on the VLE frequently
7 Supporting the development of skills by recognising that they can be developed through extra curricula activities.	Extra-curricula and “capstone” events .
8 Supporting the development of the skills and attitudes as a basis for continuing professional development.	ICT Project Management in Practice
9 Other approaches to personal development planning.	
10 The means by which self-reflection, evaluation and planned development is supported e.g. electronic or paper-based learning log or diary.	Honours Undergraduate Project log book

The course director will act as personal tutor to all students. In the full-time degree course, project supervisors provide this, but the top-up students carry out their projects over the summer so the same arrangement is not applicable here.

## **Student Support**

### **Personal Tutoring Scheme**

Students will be allocated a personal tutor, usually from among the full time academic staff teaching on the level 4 modules. This arrangement allows tutors and tutees to establish a relationship through regular contact with their assigned tutees. Personal tutors arrange regular meetings with their tutees to check that there are no problems and they are making progress. They also contact and arrange ad hoc meetings if students' attendance/engagement is not at a good level to identify the issues and provide necessary support if possible or give advice. Course directors also monitor students' attendance and achievement and contact /meet students to support and encourage their engagement.

The students retain the same personal tutor through their level 5 studies. This provides a continuity that allows tutors to develop a better understanding of their tutees and students to recognise that they have a consistent level of support. While students may or may not have contact with their personal tutors in teaching activities a series of individual meetings will be employed to maintain the relationship.

At level 6 the student will be studying a full-year project and is required to have frequent regular meetings with their assigned supervisor. PDP is a significant component of the project module as the students further develop a wide range of skills such as research, critical thinking, critical writing, problem solving, formal report writing as well as intrapersonal/interpersonal skills such as time management, organisation, communication and professionalism while working on it. As the supervisors are intrinsically involved in the development of their work it is most appropriate for the supervisor to fulfil the PDP functions of the personal tutor role at level 6.

### **Academic Support**

The students are given diagnostic assessments during the induction to identify gaps in their key skills (English and Maths). This is followed up by a meeting with their personal tutor who gives them feedback and advises them in regard to any improvements that need to be made in this area. The resources are provided for the students to use if they need to improve their skills in this area. The key skills are embedded into the appropriate modules as well and diagnostic tests are given to the students on regular basis (every 2 weeks) to assess their own progress. A small percentage of the mark contributes to the maths module mark, this is mainly to motivate the students.

At the school level we also have 'academic-clinic' sessions every week run by a member of the academic staff. The students receive academic help and feedback during these sessions.

At the university level we provide English and Maths as well as other support sessions which are freely available to all the students.

## Appendix D: Terminology

<b>awarding body</b>	a UK higher education provider (typically a university) with the power to award higher education qualifications such as degrees
<b>bursary</b>	a financial award made to students to support their studies; sometimes used interchangeably with 'scholarship'
<b>collaborative provision</b>	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
<b>compulsory module</b>	a module that students are required to take
<b>contact hours</b>	the time allocated to direct contact between a student and a member of staff through, for example, timetabled lectures, seminars and tutorials
<b>coursework</b>	student work that contributes towards the final result but is not assessed by written examination
<b>current students</b>	students enrolled on a course who have not yet completed their studies or been awarded their qualification
<b>delivery organisation</b>	an organisation that delivers learning opportunities on behalf of a degree-awarding body
<b>distance-learning course</b>	a course of study that does not involve face-to-face contact between students and tutors
<b>extracurricular</b>	activities undertaken by students outside their studies
<b>feedback (on assessment)</b>	advice to students following their completion of a piece of assessed or examined work
<b>formative assessment</b>	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

<b>higher education provider</b>	organisations that deliver higher education
<b>independent learning</b>	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
<b>intensity of study</b>	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
<b>lecture</b>	a presentation or talk on a particular topic; in general lectures involve larger groups of students than seminars and tutorials
<b>learning zone</b>	a flexible student space that supports independent and social learning
<b>material information</b>	information students need to make an informed decision, such as about what and where to study
<b>mode of study</b>	different ways of studying, such as full-time, part-time, e-learning or work-based learning
<b>modular course</b>	a course delivered using modules
<b>module</b>	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
<b>national teaching fellowship</b>	a national award for individuals who have made an outstanding impact on student learning and the teaching profession
<b>navigability (of websites)</b>	the ease with which users can obtain the information they require from a website
<b>optional module</b>	a module or course unit that students choose to take
<b>performance (examinations)</b>	a type of examination used in performance-based subjects such as drama and music
<b>professional body</b>	an organisation that oversees the activities of a particular profession and represents the interests of its members
<b>prospective student</b>	those applying or considering applying for any programme, at any level and employing any mode of study, with a higher education provider



<b>regulated course</b>	a course that is regulated by a regulatory body
<b>regulatory body</b>	an organisation recognised by government as being responsible for the regulation or approval of a particular range of issues and activities
<b>scholarship</b>	a type of bursary that recognises academic achievement and potential, and which is sometimes used interchangeably with 'bursary'
<b>semester</b>	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)
<b>seminar</b>	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
<b>summative assessment</b>	formal assessment of students' work, contributing to the final result
<b>term</b>	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)
<b>total study time</b>	the total time required to study a module, unit or course, including all class contact, independent learning, revision and assessment
<b>tutorial</b>	one-to-one or small group supervision, feedback or detailed discussion on a particular topic or project
<b>work/study placement</b>	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
<b>workload</b>	see 'total study time'
<b>written examination</b>	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