Course Specification

A. Course Information				
Final award title(s)	HNC Civil Engineering			
Intermediate exit award title(s)	N/A			
UCAS Code		**Course Code(s)**	2314	
	London South Bank University			
School	☐ ASC ☐ ACI ☒ BEA ☐ BUS ☐ ENG ☐ HSC ☐ LSS			
Division	Civil and Building Services Engineering			
Course Director	Carlos Gonzalo			
Delivery site(s) for course(s)	☒ Southwark ☐ Havering ☐ Other: please specify			
Mode(s) of delivery	☐Full time ☒Part time ☐other please specify			
Length of course/start and finish dates	**Mode**: Part time; **Length years**: 2 years; **Start - month**: September; **Finish - month**: July			
Is this course generally suitable for students on a Tier 4 visa?	No			
Approval dates:	Course(s) validated / Subject to validation	August 2018		
	Course specification last updated and signed off	1st October 2019		
Professional, Statutory & Regulatory Body accreditation	Joint Board of Moderators on behalf of the: Institution of Civil Engineers, Institution of Structural Engineers Chartered Institution of Highways & Transportation Institute of Highway Engineers			
Reference points:	Internal	Corporate Strategy 2015-2020 Academic Quality and Enhancement Manual School Strategy LSBU Academic Regulations		
	External	QAA Quality Code for Higher Education 2018 Framework for Higher Education Qualifications Subject Benchmark Statements (2015) SEEC Level Descriptors 2016 Competitions and Markets Authority The course is informed by the Joint Board of Moderators Guidelines for Developing Degree Programmes, January 2018 (Version 1 – Revision 2)		

		- ICE: Institution of Civil Engineers - IPA: Industrial Advisory Panel
B. Course Aims and Features		
Distinctive features of course	This course is intended for part-time students who wish to study the discipline of civil engineering to HNC level and who may wish to achieve, by further learning, the professional status of Incorporated Engineer. The course embraces recent industry developments, in particular the introduction of ECUK UK Standard for Professional Engineering Competence (UK-SPEC). The course is ideal for those with either a National Certificate in related topics, or a relevant A-level, to further their studies, and also for those intending to progress to degree level by an apprenticeship route.	
Course Aims	The Division of Civil Engineering at LSBU aims to provide, in support of the LSBU mission statement, a high quality education and training. This is through its flexible policies on admissions to give opportunities to apprentices with a diverse range of educational backgrounds, including mature candidates with practical experience, committed to a career in civil engineering, and particularly those who may only be able undertake higher education on a part-time basis with one day release. The HNC Civil Engineering aims to: 1. Produce higher technicians who are committed to a technical career in a variety of disciplines. 2. Produce higher technician equipped to keep on employment in the construction industry and become lifelong learners with the potential to develop into graduate apprentices. 3. Produce higher technicians who have knowhow and understanding of the fundamental aspects of civil engineering. 4. Allow higher technicians to acquire problem-solving skills and competencies. 5. Produce higher technicians who have knowledge and understanding of the construction industry, construction technology, and the organisation of the process. 6. Provide an engineering education and training centred within the construction industry that recognises the important roles of related professions. 7. For Pearsons to maintain recognition of the HNC Civil Engineering awarded by LSBU.	
Course Learning Outcomes	The course outcomes have been developed with reference to the JBM guidelines and Engineering Council's Accreditation of Higher Engineering Programmes document, Third Edition (2014). The number and letter in brackets e.g. (SM2i) refer to the Learning Outcomes described in Engineering Council Documentation Appendix C.	

	The curriculum map showing the modules in which the material that each of the learning outcomes covers is taught, developed and assessed is in Appendix A. a) Students will have knowledge and understanding of: A1: Knowledge and understanding of the scientific principles underpinning relevant technologies, and their evolution (SM1i) A2: Knowledge and understanding of mathematics and an awareness of statistical methods necessary to support application of key engineering principles (SM2i) A3: Understanding of the need for a high level of professional and ethical conduct in engineering and a knowledge of professional codes of conduct (EL1) A4: Knowledge and understanding of the commercial, economic and social context of engineering processes (EL2) A5: Knowledge of management techniques that may be used to achieve engineering objectives (EL3i) A6: Understanding of the requirement for engineering activities to promote sustainable development (EL4i) A7: Awareness of the relevant legal requirements governing engineering activities, including personnel, health & safety, contracts, intellectual property rights, product safety and liability issues (EL5i) A8: Awareness of risk issues, including health & safety, environmental and commercial risk (EL6i) b) Students will develop their intellectual skills such that they are able to: B1: Ability to monitor, interpret and apply the results of analysis and modelling in order to bring about continuous improvement (EA1i) B2: Ability to apply quantitative methods in order to understand the performance of systems and components (EA2i) B3: Ability to use the results of engineering analysis to solve engineering problems and to recommend appropriate action (EA3i) B4; Ability to apply an integrated or systems approach to engineering problems through know- how of the relevant technologies and their application(EA4i) B5: Be aware of business, customer and user needs, including

	considerations such as the wider engineering context, public perception and aesthetics (D1i) B6: Define the problem identifying any constraints including environmental and sustainability limitations; ethical, health, safety, security and risk issues; intellectual property; codes of practice and standards (D2i) B7: Work with information that may be incomplete or uncertain and be aware that this may affect the design (D3i) B8: Apply problem-solving skills, technical knowledge and understanding to create or adapt designs solutions that are fit for purpose including operation, maintenance, reliability etc (D4i) B9: Manage the design process, including cost drivers, and evaluate outcomes (D5i) B10: Communicate their work to technical and non-technical audiences (D6) c) Students will acquire and develop practical skills such that they are able to: C1: Knowledge of contexts in which engineering knowledge can be applied (for example operations and management, application and development of technology, etc.) (P1i) C2: Understanding of and ability to use relevant materials, equipment, tools, processes, or products (P2i) C3: Knowledge and understanding of workshop and laboratory practice (P3i) C4: Ability to use and apply information from technical literature (P4i) C5: Ability to use appropriate codes of practice and industry standards (P6i) C6:Awareness of quality issues and their application to continuous improvement (P7) C7: Awareness of team roles and the ability to work as a member of an engineering team (P11i) d) Students will acquire and develop transferrable skills such that they are able to: D1: Apply their skills in problem solving, communication, information retrieval, working with others and the effective use of general IT facilities (G1) D2: Plan self-learning and improve performance, as the foundation for

	lifelong learning/CPD(G2) D3: Plan and carry out a personal programme of work (G3i) D4: Exercise personal responsibility, which may be as a team member(G4i)

C. Teaching and Learning Strategy

Knowledge and Understanding

Scientific principles underpinning fluid mechanics, materials and engineering mechanics **(outcome SM1i)** are taught at this level. Surveying principles are also taught at level 4 only. Teaching methods include lectures, tutorial, experiments, computing and online sources for self-study. Mathematics B **(outcome SM2i)** is taught at level 4 using lectures, tutorials, computing sessions and online formative assessments. Basic mathematics skills are revised in the Engineering Mechanics B module, and more advanced theory and statistics in Mathematics B module.

Students are taught professional and ethical conduct **(outcome EL1)** in Construction Practice C module at level 4. Sustainability **(outcome EL3i)** principles and analysis are taught at level 4 in Construction Practice C and Materials and Geology c modules. Teaching is through lectures, tutorials and practical sessions. The application of health and safety is through risk assessment **(Outcome EL5i and EL6i)**, which students are introduced to in lab work.

Intellectual Skills

Students are taught to interpret and assess their results **(outcome EA1i)** in most level 4 modules. The ability to use calculations **(outcome EA2i)** is taught in Mathematics B. Students are taught to apply their results **(outcome EA3i)** in Engineering Surveying at level 4.

Students are taught the necessity to understand end users' needs **(outcome D1i) (standard K6,S6)** in the Construction Practice C module and develop this through the group design projects in the same module. The skill of defining the problem **(outcome D2i) (standard S3)** is taught in Construction Practice C. The students learn to deal with uncertainty **(outcome D3i) (standard K6,S6)** using methods of statistics and probability in Mathematics B. In Mathematics B, they are also taught problem-solving skills **(outcome D4i) (standard K3,S3)**. In design projects in Construction Practice C students learn how to manage and use the design process **(outcome D5i) (standard K4, S4)** and also to communicate their work **(outcome D6) (standard B5)**.

Practical Skills

Students appreciate the context of engineering **(outcome P1i) (standard K5, S5)** in Structures and Construction Technology B at level 4. Understanding of materials, equipment etc**. (outcome P2i) (standard K3, S3)** and the laboratory practice **(outcome P3i**)**(standard K3, S3, B6)** is largely taught and developed at level 4, in technical and computing laboratories and in lectures and tutorials. In their study, students are taught to use technical literature related to a specific discipline **(outcome P4i)(standard K5).** Quality issues **(outcome P7i) (standard K6, S6)** are introduced in Materials and Geology C at level 4, in relation to the laboratory experiments. Group working skills **(outcome P11i) (standard B6)** are taught in Construction Practice C.

Transferable Skills

In most level 4 modules, students acquire their G1i outcome **(standard S3)** related skills in communication (Construction Practice C), problem-solving (Mathematics B, Engineering Mechanics B, Structures and Construction Technology B), computing (Construction Practice C, Mechanics B), information retrieval (Materials and Geology C), surveying (Engineering Surveying) and working with others (Construction Practice C). Self-learning and personal development **(outcome G2) (standard B3, B7)** is taught in Construction Practice C. Exercising personal responsibility **(outcome G4i)(standard B7)** is part of Construction Practice C.

Self study is an integral part of this course and for every module students are expected to complete 148 hours of self study. This does not include contact time in lectures, tutorials and labs which is 52 hours per module.

The library has a number of in-line resources to help students including:

- IHS
- Access to ICE Library.
- British Standards
- Access to numerous construction magazines.

Staff teaching on the course are LSBU Civil Engineering Division staff.

D. Assessment

Knowledge and Understanding

The understanding of scientific principles **(outcome SM1i) (standard K3)** is assessed through exams and in-class tests in Engineering Mechanics B and Structures and Construction Technology B. Coursework is also used, comprising: laboratory, computing and design reports. Mathematics B**(outcome SM2i) (standard K3)** is assessed through phase tests and exams.

The knowledge and understanding of the commercial, economic and social context of engineering processes. **(outcome EL4)(standard K3)** is assessed in Structures and Construction Technology B, through coursework.

Health and safety principles **(outcome EL6i) (standard K1, S1)** and the understanding of sustainability **(outcome EL5i) (standard K2, S2)** is assessed in laboratory reports in Materials and Geology C and group project work in the Construction Practice C module.

Intellectual Skills

The interpretation of results **(outcome EA1i) (standard S3)** is assessed in lab reports where results from two or more different approaches are compared and recommendation given. This occurs in structures, fluid mechanics, materials modules and also in the project work. The ability to use quantitative methods **(outcome EA2i) (standard S3)** is assessed through tests and exams in Mathematics B at level 4. The application of results **(outcome EA3i) (standard S3)** is assessed in Engineering Surveying coursework at level 4.

Identifying end users' needs **(outcome D1i) (standard K6,S6)** is assessed in project work in the Construction Practice C module. The skill of defining the problem **(outcome D2i) (standard S3)** is assessed in most modules, starting from level 4. Statistics and probability are part of the exam in Mathematics B. The management of the design process **(outcome D5i) (standard K4, S4)** is assessed in coursework at level 4. The communication skills **(outcome D6i) (standard B5)**

are assessed in Construction Practice C (academic writing, AutoCAD).

Practical Skills

Structures and Construction Technology B coursework combines real buildings and beam structural analysis. Understanding of materials, equipment etc. **(outcome P2i) (standard K3, S3)** and the laboratory practice **(outcome P3i)(standard K3, S3, B6)** is assessed at levels 4, in technical and computing laboratory reports. The appreciation of quality issues **(outcome P7i) (standard K6, S6)** such as the quality of results is included in lab reports in Materials and Geology C at level 4.

Transferable Skills

The G1 outcome **(standard S3)** is tested in a variety of ways. Communication (Construction Practice C) is assessed in project report, problem-solving (Mathematics B, Engineering Mechanics B, Structures and Construction Technology B) in tests and exams, computing (Construction Practice C, Engineering Mechanics B) in in-class tests, information retrieval (Materials and Geology C, Engineering Surveying) in lab reports and working with others (Construction Practice C) in group project reports. Self-learning and personal development **(outcome G2) (standard B3, B7)** is assessed in Construction Practice C. Exercising personal responsibility **(outcome G4i)(standard B7)** is assessed in Construction Practice C.

E. Academic Regulations

The University's Academic Regulations apply for this course.

http://www.lsbu.ac.uk/__data/assets/pdf_file/0008/84347/academic-regulations.pdf

F. Entry Requirements

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

Entry requirements
GCSE passes in five subjects (grade C or above), including English Language and Mathematics. Additionally, applicants must possess one of the following:

- A-level EEE or
- BTEC National Diploma MPP or
- Access Level 3 qualifications worth 48 UCAS points.

Credit for prior learning (APL)
Applicants may be able to use their learning from work or other life experiences to gain academic credit towards their course of study. Applicants need to demonstrate that their learning is equivalent to formal learning on the course and produce satisfactory evidence. If an applicant has gained a qualification from a professional body or another institution this may be credited towards the University qualification via our transfer credit scheme.

G. Course structure(s)

Course overview

The course is delivered on a semester pattern, each semester being 15 weeks in duration. The course is delivered over two years by a part-time mode of study, taught one day per week over four semesters. Students study six 20-credit modules.

A university 20 credit is the equivalent of 200 student study hours. Each module is a self-contained part of the course of study.

Year 1
Each student studies three core modules:

- Construction Practice C
- Materials and Geology C
- Mathematics B

To progress into year 2 learners have to achieve 60 credits (3 modules)

Year 2
Each student studies three core modules:

- Engineering Mechanics B
- Engineering Surveying
- Structures and Construction Technology B

A student who has completed 120 credits of study will be awarded a Higher National Certificate:

HNC Civil Engineering Apprenticeship

	Semester 1		Semester 2	Credits
Level 4	Mathematics B		Mathematics B	20
	Construction Practice C		Construction Practice C	20
	Materials and Geology C		Materials and Geology C	20
	Engineering Mechanics B		Engineering Mechanics B	20
	Structures and Construction Technology B		Structures and Construction Technology B	20
	Engineering Surveying		Engineering Surveying	20

Placements information

n/a

H. Course Modules

Module Code	Module Title	Level	Semester	Credit value	Assessment
BEA-4-406	Engineering Surveying	4	1 and 2	20	50% Cswk 50% Exam
BEA-4-407	Engineering Mechanics B	4	1 and 2	20	50% Cswk 50% Exam
BEA-4-408	Mathematics B	4	1 and 2	20	50% Cswk 50%Exam
BEA-4-409	Structures and Construction Technology B	4	1 and 2	20	50% Cswk 50% Exam
BEA-4-486	Construction Practice C	4	1 and 2	20	100% Cswk
BEA-4-531	Materials and Geology C	4	1 and 2	20	50% Cswk 50% Exam

I. Timetable information

The course will run one day per week for two years plus the EPA. Timetables will be made available to students when they register.
Students will be notified by email of any changes to the timetable.

J. Costs and financial support

- For Materials and Geology Module, students will need to purchase safety boots which cost around £20.
- Constructionarium in Bircham Newton would cost a maximum of £500 per students, this includes transportation, food and accommodation for 5 days (this trip is recommended but optional).

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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. (**T: Taught; D: Developed; A: Assessed)**

Units			Programme outcomes LSBU							
Level	**Title**	**Code**	**A1**	**A2**	**A3**	**A4**	**A5**	**A6**	**A7**	**A8**
4	Construction Practice C	BEA-4-486	DA		TDA			TA		TA
	Materials and Geology C	BEA-4-530	TDA					TDA		TDA
	Engineering Surveying	BEA-4-406	TDA							
	Engineering Mechanics B	BEA-4-407	TDA	TDA						
	Mathematics B	BEA-4-408	TDA	TDA						
	Structures and Construction Technology B	BEA-4-409	TDA			TDA		TDA		

Units			Programme outcomes LSBU									
Level	**Title**	**Code**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**B8**	**B9**	**B10**
4	Construction Practice C	BEA-4-486					TDA	TA			TD	TDA
	Materials and Geology C	BEA-4-530		TDA	TA			TA				
	Engineering Surveying	BEA-4-406			TDA				TDA			TDA
	Engineering Mechanics B	BEA-4-407	TDA		TDA							
	Mathematics B	BEA-4-408		TDA	TDA					TDA		
	Structures and Construction Technology B	BEA-4-409	TDA	T				TD				

Units			Programme outcomes LSBU										
Level	**Title**	**Code**	**C1**	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**	**D1**	**D2**	**D3**	**D4**
4	Construction Practice C	BEA-4-486		TDA					TDA	TA	TD		TA
	Materials and Geology C	BEA-4-530		TA	TDA	TDA		TDA	D	TA			
	Engineering Surveying	BEA-4-406			TDA					TDA		TDA	
	Engineering Mechanics B	BEA-4-407	TDA	TDA	TDA					TDA			TD
	Mathematics B	BEA-4-408	TDA							TDA			
	Structures and Construction Technology B	BEA-4-409	TD							TDA			

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 curriculum design is informed by the JBM and the Industrial Advisory Panel at LSBU. Teaching staff on the course are LSBU staff. All students on the part-time HNC Civil Engineering will be working in the Construction Industry and should thus be supported through their studies by their employer. It is recommended that every student has a mentor and the support of ICE.
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.	These expectations are achieved in the Construction Practice C Module in which academic writing is introduced and in the Materials and Geology c Module where the behaviour of materials is introduced and linked to the performance of structures, which can be seen as an introduction to analytical thinking.
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 for group working. Group-based learning	There is a Group Project in Construction Practice C.

	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.	
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.	Students will be given copies of course notes in a timely manner (a minimum of one week before the lecture) to give students an opportunity to prepare for the lectures and tutorials.
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 **excellence**.	In the Construction Practice Module writing techniques are taught early in the first Semester and feedback given within 15 days. Short in class formative tests will also be used to check the progress of the students.
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	In the Construction Practice Module there are opportunities for students to be introduced to research and be introduced to creativity in the group project.

	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.	
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.	The group project introduces the students to working on a live brief.
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 well as foster understanding of other viewpoints and identities.	Students work in diverse groups in labs for Engineering Mechanics B and Materials and Geology C. They also carry out Field work in groups in Engineering Surveying . The week long Geology Field Trip is a further opportunity for students to experience group dynamics and behaviours.
Curricula informed by employer and industry need	<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,	As noted above students on the course are part-time and working in the construction industry where they will have many opportunities to network and undertake work based learning.

	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.	
Embedded learning development	<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.	Student writing skills are taught and assessed at the beginning of the first Semester. These skills are needed to produce the lab reports, field trip reports and group project report that form part of the module assessment.
High impact pedagogies	<u>Multi-disciplinary, interdisciplinary or interprofessional group-based learning experiences</u> 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	As this is a Level 4 course students are introduced to these expectations in the Group Project.

	student outcomes including **inclusivity**, communication and networking.	
Assessment *for* learning	<u>Variation of assessment</u> 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.	There are a range of assessments on the course including: Examinations and in class tests. Laboratory Reports. Presentations. Field Trip Quiz. Field Trip Report. Group Project and Group Surveying Project.
Curricula informed by employer and industry need	<u>Career management skills</u> 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**.	As noted above the course is informed by the JBM and the Industrial Advisory Panel at LSBU.
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**.	N/A at Level 4

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

Appendix D: Civil Engineering Team

- Mahmood Datoo BSc PhD CEng MICE MIMechE MRAeS SFHEA is the Head of Division of Building Services and Civil Engineering. He teaches Structural Analysis, Stress Analysis, Finite Element Modelling.
- Amer Ali BSc MSc PhD CEng MICE MASCE MSEI FIHE FCIHHT teaches Transport Planning and Highway Engineering and coordinates PhD students for Civil Engineering.
- Timothy Hong BEng MSc PhD IPENZ MASCE AGU IWA, teaches Hydraulics, Environmental Engineering, Sustainable water resources system modelling, being an active researcher of those areas. He worked for several years as Environmental System Engineer within the private sector.
- Ivana Kraincanic BSc PhD SFHEA, teaches Earthquake Engineering, Building Information Modelling, Finite Element Modelling. Her research interest is focused on earthquake engineering.
- Simon Leung BEng MSc DIC MRes CEng MIStructE MICE MIEI, teaches Design of Elements, Advanced Structural Design, Group Design Project, Structures and Design. He has a strong passion on structural engineering and his vision is to promote engineering for the next generation. His research focuses on education by adopting new technologies in the construction industry. He has a wealth of industrial experience in engineering consultancies in London, being responsible for the design and delivery of projects varying in size and complexity. He was previously responsible for the structural design and construction of Battersea Power Station.
- Hugo Levatti BSc MSc PhD, is the Course Director of BEng (Hons) Civil Engineering. He teaches and leads Structures and Construction Technology, and Geotechnical Design/Engineering. He actively researches in the experimental and numerical study of desiccation cracks in clayey soils. He worked for the industry several years in Argentina.
- Vireen Limbachiya BEng MSc PhD AFHEA is the course director of BSc (Hons) Civil Engineering. He teaches sustainable construction and materials, being his area of research the use of more sustainable materials within the industry.
- Finian McCann BE MSc DIC PhD CEng MIMechE MIMA FHEA PGCHE, teaches structural analysis, structural design and engineering mathematics. His research focuses on steel structures, nonlinear mechanics, fire safety, structural behaviour in fire conditions, polymers and modular construction techniques. He worked for the private sector several years as a structural engineer.
- David McGovern BSc PhD, teaches Fluid Mechanics. His research focuses on tsunami and storm surge and flooding in coastal and riverine environments. He has a strong link with Mr Carl Eddleston, head of TfL Asset Ops.
- Maria Mavroulidou Dip-Ing DEA PhD BA MA CEngTEE-Greece SFHEA, teaches Soil Mechanics/Geotechnics, Environmental Engineering and Transportation. She coordinates projects for BEng and BScand is an expert in research and consultancy on innovative ground improvement techniques.
- Rabee Shamass BSc MSc PHD AFHEA, teaches Mathematics, structures and construction practice. His area of expertise includes Numerical and analytical analysis of plastic buckling of metal structures, especially pipelines; numerical analysis of Precast Concrete Segmental Bridge; Numerical and analytical analysis of composite concrete-steel structures made from either high strength steel or stainless steel; Numerical and analytical analysis of stainless steel reinforced concrete
- Stephen Vary BEng MSc CEng MIStructE PGCE, is the Course Director of HNC Civil Engineering. After working 30 years in the industry, he is teaching Structures and Design.

- Carlos Gonzalo, DET, BEng, MSc, AFHEA, Apprenticeship Academic Lead of the School of Built Environment Architecture. Carlos has significant experience in both Further Education and Higher Education Apprenticeship Programmes. His MSc in Multidisciplinary Engineering makes him fit for purpose to work with both divisions of Building Services and Civil Engineering for which he teaches and leads modules such as Mathematics, Sustainable Construction and Renewable Energy Technologies. He is an active researcher currently focused on a novel technique for fire safety in cladding panels. He also has industry experience in his country (Spain) where he used to give approval for Built Environment and Industry Installations on behalf of the Council of his city.
  Carlos leads the development of the academic part of the programmes and he allocates personal tutors for the apprentices of Civil Engineering. The tutors from the teaching team are made up of experienced academics and industry professionals who will teach, support and guide apprentices on programme.