



| A. Course Information | | | | |
|---|---|-----------------------|----------------------|-----------------------|
| Final award title(s) | Extended Degree Programme in Engineering FT 3184 Extended Degree Programme in Engineering PT 3185 | | | |
| Intermediate exit award title(s) | None | | | |
| UCAS Code | H101 | Course Code(s) | FT 3184 PT 3185 | |
| | London South Bank University | | | |
| School | <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 | | | |
| Division | Chemical and Energy Engineering | | | |
| Course Director | Steve Faulkner | | | |
| Delivery site(s) for course(s) | <input checked="" type="checkbox"/> Southwark <input type="checkbox"/> Havering <input type="checkbox"/> Other: <i>please specify</i> | | | |
| Mode(s) of delivery | <input checked="" type="checkbox"/> Full time <input checked="" type="checkbox"/> Part time <input type="checkbox"/> other please specify | | | |
| Length of course/start and finish dates | Mode | Length years | Start - month | Finish - month |
| | Full time | 1 | September | June |
| | Full time with placement/ sandwich year | N/A | | |
| | Part time | 1 | September | June |
| | Part time with Placement/ sandwich year | N/A | | |
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| Is this course generally suitable for students on a Tier 4 visa? | Please complete the International Office questionnaire Yes Students are advised that the structure/nature of the course is suitable for those on a Tier 4 visa but other factors will be taken into account before a CAS number is allocated. | | | |
| Approval dates: | Course(s) validated / Subject to validation | March 2011 | | |
| | Course specification last updated and signed off | Update Sept 2019 | | |
| Professional, Statutory & Regulatory Body accreditation | None | | | |

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| Reference points: | Internal | Corporate Strategy 2015-2020 Academic Quality and Enhancement Manual School Strategy LSBU Academic Regulations |
| | External | QAA Quality Code for Higher Education 2013 Framework for Higher Education Qualifications Subject Benchmark Statements 2018 PSRB Competitions and Markets Authority SEEC Level Descriptors 2016 |

B. Course Aims and Features

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| Distinctive features of course | The Extended Degree programme is offered both as a full and part time course and aims to prepare and equip the students with the knowledge and skills required to enable them to progress onto their chosen degree programme. |
| Course Aims | <p>The aims of the programme are:</p> <ol style="list-style-type: none"> 1. To provide courses that add value in relation to entry qualifications and to provide the academic and pastoral support to enable students to achieve an Extended Degree. 2. To provide a course of study in a scientific environment offering the best possible opportunity for students to develop their practical, intellectual and personal skills; 3. To respond to the differing needs of students, particularly those from local areas in accordance with the policies and practice of equal opportunities; 4. To fosters students' enthusiasm for their subject, enabling them to develop intellectual, personal, practical and transferable skills as a sound basis for progression into work or further study; 5. To give students an adequate level of scientific and numerical literacy, so that they can thus approach the more advanced material in the rest of the Extended Degree programme. 6. To integrate practical and theoretical aspects of the subject disciplines offered; 7. To develop students' practical scientific skills whilst promoting safe laboratory practices, enabling them to become confident technically proficient and responsible scientists; 8. To promote student appreciation of the need to work with accuracy, precision and reproducibility, with due regard for the need for accurate and verifiable records; 9. To enable students to continue to develop their range of skills and understanding of modern analytical methods, beyond this course; 10. To manage and continually improve the quality of the student learning experience through unit, subject and course review. |

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| <p>Course Learning Outcomes</p> | <ul style="list-style-type: none"> a) Students will have knowledge and understanding of: <ul style="list-style-type: none"> a1. subject knowledge underpinning the major disciplines in either the sciences or engineering; a2. experimental method and the development and testing of hypotheses; a3. methods used in the analysis, evaluation and critical review of evidence in either the sciences or engineering; a4. processes and procedures in sampling, data analysis and expressing precision, accuracy and reproducibility. b) Students will develop their intellectual skills such that they are able to: <ul style="list-style-type: none"> b1. understand the role of rational argument; b2. appreciate the key features of a problem and suggest possible means of investigation; b3. be aware of the significance of hypotheses, experimental data and rational arguments; b4. apply a theory, concept or subject-specific principle to a new context. c) Students will acquire and develop practical skills such that they are able to: <ul style="list-style-type: none"> c1. demonstrate safe practices and advise on safety procedures associated with a particular technique or methodology; c2. evaluate alternative methodologies for an investigation or completing a process; c3. organise and allocate duties, set targets and evaluate progress in achieving a specific technical goal; c4. present data in a seminar or lecture c5. demonstrate competence in a range of basic statistical procedures c6. demonstrate competence in the use of word-processors, spreadsheets and data presentation packages. d) Students will acquire and develop transferrable skills such that they are able to: <ul style="list-style-type: none"> d1. manage and adapt their work schedule and learning strategy; e) <ul style="list-style-type: none"> d2. adopt skills and techniques to address a particular problem; d3. be aware of the full range of sources of information, citing references properly; d4. appreciate the need and begin to communicate ideas, arguments and concepts in a rational and systematic way, using a variety of media; d5. assume responsibility for their own learning and work independently; d6. manage and monitor their role within a group working to meet specific targets. |
| <p style="text-align: center;">C. Teaching and Learning Strategy</p> <p>Laboratory skills and technical proficiency in analytical methods (a2, a3 and a4) are initiated in the first semester unit in Study & Laboratory Skills (in Scientific Principles for Engineering P/T students) and are further developed (often involving more subject-specific techniques) in the second semester stream specific units. These units concentrate on practical exercises that students have to complete to demonstrate competence.</p> | |

Diagnostic tests in Study & Laboratory Skills, undertaken within the first few weeks after enrolment, allow an assessment of student ability in mathematics and English, and this unit also begins the student's induction into the scientific method (a2 and a3). A schedule of personal tutoring monitors student progress especially during the first year and is informed by student progress on the Study & Laboratory Skills unit, beginning with the outcomes of the initial diagnostic tests.

All units employ teaching methods that encourage students to consider and challenge the evidence with which they are presented. Very often the assessment schedule encourages students to question some key concept or principle. This may be formally assessed or simply part of group discussions, debates or as part of some problem-solving exercises. Problem-solving exercises typically require students to work individually or collectively by applying their understanding of current thinking or methodologies to a new context (b2, b4).

The second semester coursework is seen as an important test of the student's ability to integrate their developed scientific and numerical literacy skills with a properly devised methodology to enable them to investigate a subject area closely linked to their intended field of undergraduate study (b3, b4). The student will develop their coursework topic in consultation with the unit leader (b2, b3) and are likely to have to address methodological problems to bring the project to completion (b2).

Safe practice in laboratories begins with the first semester unit Study & Laboratory Skills and is further reinforced through the stream specific units in semester two (c1, c3). These units develop confidence in the laboratory and relate experimental activities to scientific understanding. In all units there is some methodological component, even if there is no practical element per se- coursework exercises are used in some units to assess student understanding of these techniques, often as part of a tutorial or group-work session.

A key emphasis of the Extended Degree Scheme is the development of the student's practical and analytical skills through both subject-specific and generic practicals. Students are inducted into teamwork skills in the Study & Laboratory Skills unit and part of their assessment of this unit is to produce a reflective account of their experiences in the laboratory (c1). Students are encouraged to consider alternative ways to approach specific problems, or to address specific questions (c1, c2, c3), typically through their practical work. In this way we are able to build student confidence in their technical and practical skills and reinforce the basic concepts delivered in the associated lecture programme.

The stream specific units again integrate many of these skills, and also requires the students to analyse and present their data in a standard scientific manner. The student has to organise their schedule of work in consultation with the unit leader and bring this to conclusion with a properly presented report (c3-c6).

These skills are fully mapped through the curriculum and each is met by the combination of units undertaken. A number of tasks assessed in both the Study & Laboratory Skills unit measure their progress in managing their own learning (d1, d5) and to work effectively as part of a team (d6). These all require a flexible approach to data acquisition, interpretation and presentation, not least because of the range of topics being covered (d1). Presentations and seminars are used extensively in semester 2. The second semester project work again is seen as serving an important test of many of these skills (d1-d5).

All students are allocated a personal tutor on initial enrolment to the course. The personal tutor is the point of contact for all matters relating to the student's welfare and progress whilst at London South Bank. The personal tutors are supported by year tutors, one for each year of the course. All tutees will meet their course team at the start and throughout the course.

The primary teaching contact with students, in classrooms, laboratories and workshop, is supported by print and electronic material. For their general understanding of the course, students receive a course guide and a summary of the syllabus; these are updated annually. For each module, the module leader provides a module guide. Subject tutors provide further material as appropriate, including course notes, supporting information and reprints, problem sets, assignment briefs and experiment instructions. Students have access to books in the Perry library, and may obtain copies of past exam papers.

The VLE will contain information for core and additional learning experiences.

D. Assessment

Students experience variety of assessments during their first year, including the initial review of their proficiency in maths and English as they commence the Study & Laboratory Skills unit. Knowledge is tested by unseen in-class assessments and open book written examination in the Scientific Principles unit (a1) in the first semester. Other units assess using essays or problem solving exercise. Great emphasis is placed on a series of subject specific practical experiences that have to be completed satisfactorily to pass the Study & Laboratory Skills unit and in this way we are able to check student competencies in basic practical skills. In the second semester the variety of assessment styles is continued, assessment is a combination of examination, a variety of coursework, including presentations (a3), essays, problem-solving exercises (a4) intended to aim development and preparation for undergraduate study.

E. Academic Regulations

Assessment regulations laid down in the current edition of the university's Academic Regulations for Taught Programmes apply to the course, subject to any exceptions noted in the text below and any instances where local protocols supersede University guidelines for accreditation purposes.

The most current Academic Regulations can be found here:

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

F. Entry Requirements

Entry requirements

- A Level DD **or**;
- BTEC National Diploma MPP **or**;
- Access to HE qualifications with Pass **or**;

- Equivalent level 3 qualifications worth 64 UCAS points
- Applicants must hold 5 GCSEs A-C including Maths and English or equivalent (reformed GCSEs grade 4 or above).

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

G. Course structure(s)

Course overview

ED Engineering, full-time (120 credits)

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|----------------------------|---|--|---|
| Yr 1, Sem 1 | Applied Mathematics Owner: chem-pet Credits: 20 | Scientific Principles for Engineering (+ Labs) Owner: chem-pet Credits: 20 | Study & Laboratory Skills Owner: biosci Credits: 20 |
| Yr 1, Sem 2 | Mathematics for Engineering Owner: chem-pet Credits: 20 | Engineering Science Owner: chem-pet Credits: 20 | Stream-specific unit Owner: Credits: 20 |

| Proposed stream-specific units | Unit title |
|--------------------------------|--------------------------|
| Electronics | Practical Electronics |
| Mech & Build Serv | Eng Des & model |
| Chem & Pet Eng | Chemistry & applications |
| Civil | Constructing the BE |

ED Engineering, part-time (80 credits)

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|----------------------------|---|--|
| Yr 1, Sem 1 | Applied Mathematics Owner: chem-pet Credits: 20 | Scientific Principles for Engineering (+ labs) Owner: biosci Credits: 20 |
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|----------------------------|---|---|--|
| Yr 1, Sem 2 | Mathematics for Engineering Owner: chem-pet Credits: 20 | Engineering science Owner: chem-pet Credits: 20 | |
|----------------------------|---|---|--|

ED Science, full-time (120 credits)

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|----------------------------|---|---|---|
| Yr 1, Sem 1 | Applied Mathematics 1 Owner: chem-pet Credits: 20 | Scientific Principles for Applied Science Owner: biosci Credits: 20 | Study & Laboratory Skills Owner: biosci Credits: 20 |
| Yr 1, Sem 2 | Mathematics for Science Owner: chem-pet Credits: 20 | Chemistry and Applications Owner: biosci Credits: 20 | Biology and Applications Owner: biosci Credits: 20 |

| | Semester 1 | | Semester 2 | | |
|----------------|--|----|---|-------------|--|
| Level S | Applied Mathematics EAB_S_971 | 20 | Mathematics for Engineering EAB_S_126 | 20 | |
| | Scientific Principles for Engineering EAB_S_125 | 20 | Engineering Science EAB_S_127 | 20 | |
| | Study & Laboratory Skills EAB_S_972 | 20 | Practical Electronics EAB_S_128 | 20 optional | |
| | | | Engineering Design & Modelling EAB_S_129 | 20 optional | |
| | | | Chemistry & Applications EAB_S_973 | 20 optional | |
| | | | Constructing the Built Environment EBB_S_008 | 20 optional | |
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| Extended Degree – Part time | | | | |
| | Semester 1 | | Semester 2 | |
| Level S | Applied Mathematics EAB_S_971 | 20 | Mathematics for Engineering EAB_S_126 | 20 |
| | Scientific Principles for Engineering EAB_S_125 | 20 | Engineering Science EAB_S_127 | 20 |
| Year 1 | {enter module title, optional/compulsory} | {enter credit value} | {enter module title, optional/compulsory} | {enter credit value} |
| | {enter module title, optional/compulsory} | {enter credit value} | {enter module title, optional/compulsory} | {enter credit value} |
| Year 2 | {enter module title, optional/compulsory} | {enter credit value} | {enter module title, optional/compulsory} | {enter credit value} |
| | {enter module title, optional/compulsory} | {enter credit value} | {enter module title, optional/compulsory} | {enter credit value} |
| Year 3 | {enter module title, optional/compulsory} | {enter credit value} | {enter module title, optional/compulsory} | {enter credit value} |
| | {enter module title, optional/compulsory} | {enter credit value} | {enter module title, optional/compulsory} | {enter credit value} |
| Year 4 | {enter module title, optional/compulsory} | {enter credit value} | {enter module title, optional/compulsory} | {enter credit value} |
| | {enter module title, optional/compulsory} | {enter credit value} | {enter module title, optional/compulsory} | {enter credit value} |
| Year 5 | {enter module title, optional/compulsory} | {enter credit value} | {enter module title, optional/compulsory} | {enter credit value} |
| Placements information | | | | |
| None | | | | |

H. Course Modules

| Module Code | Module Title | Level | Semester | Credit value | Assessment |
|-------------|---------------------------------------|-------|----------|--------------|------------|
| EAB_S_971 | Applied Mathematics | S | 1 | 20 | |
| EAB_S_125 | Scientific Principles for Engineering | S | 1 | 20 | |
| EAB_S_972 | Study & Laboratory Skills | S | 1 | 20 | |
| EAB_S_126 | Mathematics for Engineering | S | 2 | 20 | |
| EAB_S_127 | Engineering Science | S | 2 | 20 | |
| EAB_S_128 | Practical Electronics | S | 2 | 20 optional | |
| EAB_S_129 | Engineering Design & Modelling | S | 2 | 20 optional | |
| EAB_S_973 | Chemistry & Applications | S | 2 | 20 optional | |
| EBB_S_008 | Constructing the Built Environment | S | 2 | 20 optional | |

I. Timetable information

Information regarding the timetable will be available to students once they have completed enrolment. An informal review of the timetable can be obtained by communicating with the Course Director. NOTE this informal timetable information may change due to requirements beyond our control.

J. Costs and financial support

Course related costs

Fees for the course do not cover any off-campus experiences such as field trips or visits to sites or other activities of interest.

Tuition fees/financial support/accommodation and living costs

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

List of Appendices

Appendix A: Curriculum Map

Appendix B: 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.

| Modules | | | Course outcomes | | | | | | | | | | | | | | | | | | | |
|---------|---|-----------|-----------------|---------|---------|---------|----|----|---------|----|---------|----|---------|---------|---------|---------|---------|---------|---------|---------|-----|-----|
| Level | Title | Code | A1 | A2 | A3 | A4 | B1 | B2 | B3 | B4 | C1 | C2 | C3 | C4 | C5 | C6 | D1 | D2 | D3 | D4 | D5 | D6 |
| S | Scientific Principles for Engineering | EAB_S_971 | DT A | | DT A | | | | D | DT | DT | | | | | | D | D | | | D | |
| S | Scientific Principles for Applied Science | EAB_S_125 | DT A | | DT A | | | | D | DT | DT | | | | | | D | D | | | D | |
| S | Study and Laboratory Skills for Extended Degree | EAB_S_972 | | DT A | DT A | DT A | D | D | DT A | | DT A | DT | DT A | DT A | DT A | DT A | DT A | DT A | DT A | DT A | DTA | DTA |
| S | Applied Mathematics 1 | EAB_S_126 | DT A | | | D | | DT | | | | | | | | | D | D | | | DT | |
| S | Biological and Applications | EAB_S_127 | DT A | | | DT | D | | D | DT | | | | | | | D | | | D | DT | |
| S | Chemistry and Applications | EAB_S_128 | DT A | | | DT | D | | D | DT | | | | | | | D | | | D | DT | |
| S | Mathematics for Science | EAB_S_129 | DT A | | | DT | | DT | | | | | | | | DT A | D | | | | DT | |
| S | Mathematics for Engineering | EAB_S_973 | DT A | | | DT | | DT | | | | | | | | DT A | D | | | | DT | |
| S | Engineering Science | EBB_S_008 | DT A | | | DT | D | DT | | DT | | | | | | | | | | | | |

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|---|------------------------------------|-------------------|---------|---------|--|----|--|----|--|----|--|--|----|--|--|--|--|---|--|--|--|--|
| S | Constructing the Built Environment | EAB _S_9 71 | DT A | DT A | | | | | | DT | | | DT | | | | | D | | | | |
| S | Practical Electronics | EAB _S_1 25 | DT A | DT A | | DT | | DT | | | | | DT | | | | | D | | | | |
| S | Engineering Design and Modelling | EAB _S_9 72 | DT A | DT A | | | | DT | | | | | DT | | | | | D | | | | |

Appendix B: Terminology

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| 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 |

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| 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 learning |
| 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 |

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| 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 |