EST 1892 LSBU

Course Specification

<table>
<tr><th colspan="5">A. Course Information</th></tr>
<tr><td>Final award title(s)</td><td colspan="4">MEng (Hons) Chemical Engineering (Integrated)</td></tr>
<tr><td>Intermediate exit award title(s)</td><td colspan="4">CertHE in Chemical Engineering
DipHE in Chemical Engineering
BEng (Hons) Chemical Engineering</td></tr>
<tr><td>UCAS Code</td><td colspan="2"></td><td>Course Code(s)</td><td>6009</td></tr>
<tr><td></td><td colspan="4">London South Bank University</td></tr>
<tr><td>School</td><td colspan="4">☐ ASC ☐ ACI ☐ BEA ☐ BUS ☒ ENG ☐ HSC ☐ LSS</td></tr>
<tr><td>Division</td><td colspan="4">Chemical and Energy Engineering</td></tr>
<tr><td>Course Director</td><td colspan="4">Dr Maria Centeno</td></tr>
<tr><td>Delivery site(s) for course(s)</td><td colspan="4">☒ Southwark ☐ Havering
☐ Other: please specify</td></tr>
<tr><td>Mode(s) of delivery</td><td colspan="4">☒Full time ☐Part time ☐other please specify</td></tr>
<tr><td>Length of course/start and finish dates</td><td colspan="4"><table><tr><th>Mode</th><th>Length years</th><th>Start - month</th><th>Finish - month</th></tr><tr><td>Full time</td><td>4</td><td>September</td><td>July</td></tr><tr><td>Full time with placement</td><td>5</td><td>September</td><td>July</td></tr></table></td></tr>
<tr><td>Is this course suitable for a Visa Sponsored Student?</td><td colspan="4">☒ Yes ☐ No</td></tr>
<tr><td rowspan="3">Approval dates:</td><td colspan="3">Course(s) validated</td><td>Aprill 2024</td></tr>
<tr><td colspan="3">Course review date</td><td>April 2025</td></tr>
<tr><td colspan="3">Course specification last updated and signed off</td><td>September 2024</td></tr>
<tr><td>Professional, Statutory & Regulatory Body accreditation</td><td colspan="4">MEng NOT accredited with IChemE</td></tr>
<tr><td>Reference points:</td><td>Internal</td><td colspan="3">Corporate Strategy 2020-2025
Academic Quality and Enhancement Guidance
School Strategy
Undergraduate Curriculum Framework 2022
LSBU Academic Regulations</td></tr>
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	External	OfS Guidance Framework for Higher Education Qualifications FHEQ Outcome Classification Descriptions Level 6 Subject Benchmark Statements: Engineering (2019) The Accreditation of Higher Education Programmes (AHEP-4 2021) SEEC Level Descriptors 2021 Competitions and Markets Authority QAA The UK Quality Code for Higher Education

B. Course Aims and Features	
Distinctive features of course	The MEng in Chemical Engineering is distinctive in that it teaches the theory of chemical engineering coupled with computer simulation, laboratory practice and industrial placement that enable graduates to be well equipped with desired skills sought after by employers. This UG programme has the added value of introducing topics that important for the future chemical process engineering. In the first year, students are introduced basic engineering design on the base of learning the knowledge of maths and engineering principles. The second-year focusses on core unit operations such as fluid flow, thermodynamics, chemical reaction & separation, process simulation and control. After three-years of study, the students can opt to having one-year industrial placement. Also, during the second year, the BEng student who have passed all modules with an average over 55% receive an offer to transfer to MEng. In the third year of the MEng, the students are trained in topics in process safety and control, reactor design and sustainability and the environment. The students apply all the knowledge gained in their previous study into project design from raw materials to final desired product. The fourth year, Level 7, takes the student to more advanced topics, like process management, reaction engineering, materials engineering, modelling and simulation. Advanced laboratory practice and research methods are also taught on the course and developed via a 40 credit Group Project.
Course Aims	The MEng Chemical Engineering aims to: 1. Produce graduates trained in the core discipline of chemical engineering including energy, materials and reaction engineering, and project management. 2. To produce MEng graduates who are equipped with the relevant understanding, skills and knowledge required to operate effectively in the chemical and energy engineering sector.

	3. Produce graduates capable of contributing to the profession of chemical engineering in the context of modern industrial practice and sustainable development. 4. To enable students to develop an understanding of relevant disciplines associated with chemical and energy engineering in order to operate in multidisciplinary teams. 5. Develop students' knowledge of mathematics, applied sciences, engineering methods and safety, in support of the central themes of the course. 6. Develop students' intellectual and reasoning powers, their ability to perceive the broader perspective, and their problem-solving skills through the integration of a broad range of subject material. 7. Teach students to communicate clearly, to argue rationally and to draw conclusions based on an analytical and critical approach to data and systems. 8. To encourage the development of personal qualities and professional competences of chemical engineers with an emphasis for energy. 9. Develop the transferable skills expected of an honours graduate who will work in multi-disciplinary teams with technical, commercial and management staff in industrial and other occupations.
Course Learning Outcomes	a) Students will have knowledge and understanding of: A1. Mathematics, science and engineering underlying the practice of chemical engineering. A2. The interactions involved in chemical engineering systems and analytical and computational tools to deal with these. A3. The scope of chemical engineering from the molecular to the large scale. A4. The economic, management and statutory requirements involved in the practice of chemical engineering. b) Students will develop their intellectual skills such that they are able to: B1. Use mathematics, science, and engineering to support theoretical and practical analysis of process operations. B2. Employ concepts from the applied and engineering sciences creatively to design industrial processes and equipment. B3. Show awareness of the significance of scale-up techniques in design work. B4. Use fundamental knowledge to investigate new and emerging technologies.

	B5. Extract data pertinent to an unfamiliar problem and apply in its solution using computer-based tools when appropriate. B6. Integrate engineering principles of a multi-disciplinary nature in order to propose solution to problems. B7. Apply management and business practices appropriately. B8. Produce engineering solutions which are consistent with ethical and social responsibilities. c) Students will acquire and develop practical skills such that they are able to: C1. Use computers and current software in quantitative and analytical work, as well as general information technology for communication and data handling. C2. Plan and manage work both individually and in teams. Communicate effectively using appropriate media. C3. Evaluate designs and systems to identify areas of potential hazard and environmental threat and propose improvements. C4. Use laboratory, engineering and measuring equipment to provide data in support of theoretical understanding. C5. Analyse and solve engineering problems, often on the basis of limited and imperfect data. Critically apply scientific evidence-based methods in the solution of problems. C6 Apply principles of project management. d) Students will acquire and develop transferrable skills such that they are able to: D1. Manipulate, sort and present data in forms useful for understanding. Select, interpret, and validate data, identifying possible errors and inconsistencies D2. Clearly communicate the findings of experiments, projects and other assignments using written reports, oral and visual presentations. D3. Work effectively in a team, recognising the roles played by different team members. D4. Manage own responsibilities, including time and task management. D5. Undertake self-development and the capacity to learn. D6. Identify and solve problems in familiar and unfamiliar situations. D7. Adapt to change in the working environment.
C. Teaching and Learning Strategy	

A. Lectures, tutorials and laboratory practical cover A1. The behaviour of systems, A2, is introduced in classes at all levels, and is a feature of Design Project (L6) and Group Project work (L7). The two project works also shows the scope of the discipline, A3.
Much of the understanding of A4 will be gained in specific modules, mainly at L5, L6 and L7. Statutory requirements, including safety, feature throughout the course, in practical work in particular.
Students are encouraged to attend the seminars/event such as those organised by IChemE. Also, invited speakers will deliver presentations at LSBU on relevant and current topics in chemical engineering.

B. Most of the curriculum will support B1-B8; they are developed through lectures, individual and group problem-based work, including the design project. In private study, students will develop skills by writing laboratory reports, and tackling problems set by the tutor or in past examinations, case studies, and projects.
The intellectual skills developed in computer laboratory sessions embedded in modules and projects will cover B5

C. Computing skills for engineering and science are developed in practical workshops at level L4 and L5. Students also learn the principles and study the application of specialist engineering packages in L6 and L7.
C2 and C3 will be major part of small projects embedded in some modules and in the two project modules (L6, L7) and students will receive guidance on application of principles studied earlier. C4 will be acquired in practical workshop and laboratory sessions.
The projects (L6, L7), will be open-ended, developing C5 and C6.

D. The transferable skills in D1 are developed in laboratory practical work and design tasks; students for example obtain data from handbooks and computer databases, and use it in calculations, graphical solutions and computer applications throughout the course.
The transferable skills D2 and D3 covering report-writing and team-working skills are developed in laboratory and project-oriented modules throughout the course. D4-D7 are developed throughout the MEng course.

Virtual Learning Environment (VLE)

Each course has a course site on the VLE, where relevant information is posted by the respective Course Director. Each module on the course has a Module site on the VLE and all relevant teaching and learning material such as module guides, lecture notes, teaching slides, tutorial and seminar sheets, workshop exercises, past exam papers, assignments, supplement material etc. are made available by the module leader. The VLE is based on the Moodle platform, and can be accessed using the Windows OS login credentials, and from any internet-connected PC inside or outside of the LSBU campus.

D. Assessment

A. Summative assessment: Content, knowledge and understanding is assessed through coursework, or coursework and examination. Coursework can take many forms (based on the practical or theoretical content of the module) including essays, reports, group work, oral presentations, production of posters, and in-class tests. Examinations normally take the form of a 2 or 3-hour unseen end-of-semester paper.

Formative assessment includes: tutorials exercises, simulation exercises, discussions in classroom, questions and answer sessions, peer discussions, observations, reflection on learning, presentation rehearsals.

B. Intellectual skills are normally assessed through formal examinations, student presentations and individual viva voce examination. Preparation of laboratory and project reports will also contribute.

C. C1 will be assessed through computing assignments, C2-C6 as parts of the major project assessment, and C4 in the marking of laboratory reports. C5-C6: projects will be marked for a critical approach to problem-solving.

D. A variety of assessment methods are used to assess transferable skills. These include computer laboratory exercises and simulations, oral presentations, written reports, and final project.
For instance: D1 is assessed in many of the written examination papers, also laboratory and project reports. Laboratory teachers give students considerable feedback on the quality of written laboratory reports, D2; students discuss this feedback with their personal tutors. The effectiveness of teamwork, D3, is assessed as an element in the major project.

E. Academic Regulations

1. Assessment regulations

The University's Academic Regulations apply for this course. For course specific protocols and intermediate exit awards please refer to the School of Engineering /Division of Chemical and Energy Engineering protocol document.

Support for students: The University places a high priority on providing support for students. Student Services in Student Life Centre, provide advice and support for students on a wide range of non-academic and educational needs and at the programme level, the teaching staff provide course specific support. Student Services support focuses on developing students' skills to enhance their performance on the programme and to facilitate their transition to employment.

1.1 Programme and course level support:

All students are allocated a Personal Tutor on initial enrolment to the course will meet their tutor at the start of 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 first year has two compulsory meetings per Semester.

The primary teaching contact with students, in classrooms, laboratories and workshop, is supported by print and by 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 Library and may obtain copies of

past exam papers. All guides and support are found on LSBU's Virtual Learning Environment (VLE)

Students on the course benefit from a number of contacts with industry and other outside bodies. A programme of industrial visits will be organised each year with the aim of introducing students to chemical industries in the UK.

All students are encouraged to take the industrial placement option. Students who complete placements have reported that the experience is invaluable in future employment. Students will find more information on placements via LSBU's Careers Hub and a placements co-ordinator in Division for Chemical and Energy Engineering will (normally) organise placement information events in-class.

The major projects taken by final year degree students have strong industrial orientation. External speakers from industry are invited to visit during the year to give students an appreciation of industrial technology and practice and, for example, the importance of health and safety in process industries.

The MEng level group research project is directly supported by the level 7 Advanced Materials module, which teaches research methods and laboratory practice to master's level.

1.2 Student Life Support

Student Life Support- Is the main centre which provides a wide range of personal and academic services to students and works with other departments and faculties in the University to ensure that the services offered meet the needs of students, see below for more breakdown of services. All these services, such as accommodation, enrolment practical information is based on 103 Borough Road, the main campus in Southwark. Some services are provided in the evening. Information about all services is included on the website: https://www.lsbu.ac.uk/student-life
Skills for Learning Centre – offers students a range of interactive workshops, one-to-one tutorials and drop-in sessions delivered by experienced learning developers.

The Academic Practice and English Language team provide guidance to maximise your reading, writing, and thinking, and the Maths and Stats team deliver tailored support to refresh and improve your numerical, mathematical or statistical knowledge. https://www.lsbu.ac.uk/student-life/student-services/learning-resources

The Employability Team – helps students to access job opportunities and experience the world of work. The team support students an opportunity to undertake a work placement, internship or other professional experience or study abroad during their degree. The Employability Team deliver free employability workshops for students all year round on a variety of employment related topics.

https://www.lsbu.ac.uk/student-life/student-services/student-employability

Careers Hub- Covers a variety of career guidance: Tailoring CVs, cover letters and job applications, one-to-one mock interviews, temporary jobs, placement and internship opportunities and graduate roles. Also supports in sourcing relevant employability related online resources and services.

Personal Development and Advice – an advisory service to discuss personal concerns or difficulties during their programme which might affect their personal development and academic performance, support for students with disabilities including dedicated dyslexia support, chaplaincy to provide confidential pastoral care.

Disability & Dyslexia Support (DDS) https://www.lsbu.ac.uk/student-life/student-services/disability-dyslexia-support

Health and Wellbeing Support https://www.lsbu.ac.uk/student-life/student-services/health-wellbeing

2. Quality indicators

Accreditation is sought from IChemE/ IOM^3 following from previously accredited courses in the area. Our BEng (Hons) Chemical Engineering course has been accredited by the Institution of Chemical Engineering (IChemE) as meeting the educational requirements for Chartered Engineers at BEng(Hons) level.

A Course Board, made up of staff and student representatives from each year of the course, meets at least once per term to discuss issues to do with learning and teaching and course developments. The course board is convened and chaired by the course director.

The course is reviewed at an annual meeting of teaching staff. The review takes into account the progression statistics for the individual modules, students' end of module questionnaires and external examiners' comments. On the basis of these, modifications to modules and the course are proposed and where necessary, submitted to the School Academic Standards Committee for approval. The course is monitored through the annual course development plan for Chemical and Energy Engineering courses.

F. Entry Requirements

In order to be considered for entry to the programme applicants will be required to have:

- A Level (AAB)or;
- BTEC National Diploma (DDD) or;
- Access to HE qualifications with 28 x Distinctions, 24 x Merits or;
- Equivalent Level 3 qualifications worth 150 UCAS points, that must include mathematics and a science related subject.
- Applicants must hold 5x GCSEs A-C, including Maths and English or equivalent (reformed GCSEs grade 4 or above).

Equivalent international qualifications can be accepted. English language qualifications for international students: IELTS score of 6.0 or Cambridge Proficiency or Advanced Grade C. Equivalent international qualifications can be accepted. English language qualifications for international students: IELTS score of 6.0 or Cambridge Proficiency or Advanced Grade C.

Course specific protocols: Students enrolled onto the BEng course may be offered an opportunity to transfer to the MEng course, after completing level 5, if they fulfil the following criteria:

1. Students must have passed all 120 credits at level 4 (no compensations)
2. Students must have passed all 120 credits at level 5 (no compensations)
3. The average percentage grade from level 4 and level 5 modules must be 55% or more

G. Course structure(s)

Course overview

- MEng (Hons) degree programmes consist of modules with a total credit value of 480 credits; a maximum of 40 credits may be at Level S and a minimal of 120 credits at Level 7.
- The 480 points are made up of 20 standard modules of 20 points each, a project module of 40 points (level 6) and a Group project module of 40 points (level 7). Each year the students need to complete 120 credits.

	Semester 1		**Semester 2**	
Level 4	Engineering Mathematics and Modelling		Engineering Mathematics and Modelling	20
	Design & Practice		Design & Practice	20
	Mass and Energy Balances	20	Computing for Chemical Engineering	20
	Engineering Principles	20	Materials and Thermofluids	20
Level 5	Advanced Eng Mathematics and Modelling		Advanced Eng Mathematics and Modelling	20
	Thermodynamics		Thermodynamics	20
	Separation Processes	20	Principles of Control	20
	Kinetics and Reaction Engineering	20	Process Design and Simulation	20
Level 6	Design Project		Design Project	40
	Separation and Reactor Design	20	Process Control and Compressible Fluids	20
	Process Safety and Environmental Management	20	Sustainability and Process Integration	20
Optional Placement Year				
	Group Project		Group Project	40

Level 7	Process Management	20	Modelling and Computer Simulation	20
	Advanced Materials Engineering	20	Advanced Reaction Engineering	20

Placement information

Students can take one year place cement after completing Year 3. When placement vacancies are available, students will be notified by announcements in Moodle. The students are encouraged to find likely industrial placement by any means.

H. Course Modules and Assessment

Module Code	Module Title	Level	Semester	Credit value	Assessment
EEE_4_EMM	Engineering Mathematics and Modelling	4	1&2	20	CW&Exam
MED_4_DAP	Design & Practice	4	1&2	20	CW
CEE_4_EGP	Engineering Principles	4	1	20	CW
CEE_4_MEB	Mass and Energy Balances	4	1	20	CW
CEE_4_CCE	Computing for Chemical Engineering	4	2	20	CW
CEE_4_MMF	Materials and Thermofluids	4	2	20	CW
MED_5_AMM	Advanced Eng Mathematics and Modelling	5	1&2	20	CW&Exam
CEE_5_TMD	Thermodynamics	5	1&2	20	CW
CEE_5_KRE	Kinetics and Reaction Engineering	5	1	20	CW&Exam
CEE_5_SEP	Separation Processes	5	1	20	CW&Exam
EEE_5_POC	Principles of Control	5	2	20	CW&Exam
CEE_5_PDS	Process Design and Simulation	5	2	20	CW
CEE_6_DEP	Design Project	6	1&2	40	CW
CEE_6_SRD	Separation and Reactor Design	6	1	20	CW&Exam
CEE_6_PEM	Process Safety and Environmental Management	6	1	20	CW&Exam
CEE_6_SPI	Sustainability and Process Integration	6	2	20	CW
CEE_6_PCC	Process Control and Compressible Fluids	6	2	20	CW&Exam
CEE_7_GRP	Group Project	7	1&2	40	CW

CEE_7_PRM	Process Management	7	1	20	CW&Exam
CEE_7_AME	Advanced Materials Engineering	7	1	20	CW
CEE_7_MCS	Modelling and Computer Simulation	7	2	20	CW
CEE_7_ARE	Advanced Reaction Engineering	7	2	20	CW

I. Timetable information

Students will be able to access a full timetable for the course from the start of semester and will be notified of any changes. Maximum effort is made to leave at least one afternoon/day free from timetable.

J. Costs and financial support

Course related costs

- Although all core books can be found in the library or online as free e-books, the student may wish to buy core reading material for each module. There are also costs associated with printing during the course, workshop laboratory coats and protective eyewear, clothing required for industrial work placements, which are not covered.

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: Educational Framework

Appendix C: 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			**Course Outcomes**																								
Level	**Title**	**Code**	**A1**	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**B8**	**C1**	**C2**	**C3**	**C4**	**C5**	**C6**	**D1**	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**
4	Engineering Mathematics and Modelling	EEE_4_EMM	TDA	TDA	TDA		TDA	TDA	TDA	TDA											TDA		TDA				
4	Design & Practice	MED_4_DAP		TDA			TDA	TDA	TDA	TDA	TDA	TDA		TDA	TDA	TDA		TDA	TDA	TDA	TDA	TDA	TDA	TDA			
4	Engineering Principles	CEE_4_EGP	TDA	TDA			TDA	TDA								TDA	TDA	TDA			TDA	TDA	TD		TD	TD	
4	Mass and Energy Balances	CEE_4_MEB	TDA	TDA	TDA		TDA	TDA			TDA				TDA				TDA		TDA	TDA	TDA				
4	Computing for Chemical Engineering	CEE_4_CCE	TDA	TDA			TDA	TDA	TDA		TDA				TDA	TDA			TDA		TDA	TDA	TDA	TDA			
4	Materials and Thermofluids	CEE_4_MMF	TDA				TDA					TDA				TDA	TDA	TDA	TDA		TDA	TDA	TDA				
5	Advanced Eng Mathemati	MED_5_AMM	TDA	TDA	TDA		TDA	TDA	TDA	TDA											TDA						

	cs and Modelling																										
5	Thermodynamics	CEE_5_TMD	TDA		TDA		TDA	TDA										TDA	TDA			TDA	TD				
5	Kinetics and Reaction Engineering	CEE_5_KRE	TDA	TDA			TDA	TDA									TDA	TDA	TDA			TDA	TDA	D		D	
5	Separation Processes	CEE_5_SEP	TDA	TDA			TDA	TDA							TDA			TDA	TDA		TDA	TDA		D		D	
5	Principles of Control	EEE_5_POC	TDA	TDA	TDA		TDA	TDA							TDA	TDA	TDA	TD	TD				TD			D	
5	Process Design and Simulation	CEE_5_PDS	TDA	TDA	TDA	TDA	TDA	TDA			TDA		TDA		TDA	TDA			TDA		TDA	TDA	DA	DA			
6	Design Project	CEE_6_DEP		DA	DA	DA	DA	DA	DA	DA	DA	DA	DA	DA	DA	DA	DA		DA	DA	DA	DA	DA	DA	DA	D	D
6	Separation and Reactor Design	CEE_6_SRD	TDA	TDA			TDA	TDA											TDA			DA	DA				
6	Process Safety and Environmental Management	CEE_6_PEM	TDA		TDA	TDA	TDA				TDA	TDA		TDA			TDA		TDA	DA	DA	DA			D	D	

6	Sustainability and Process Integration	CEE_6_SPI	T DA	T DA	T DA		T DA			T DA		T DA			T DA	T DA			T DA		DA	DA	DA	D		D	
6	Process Control and Compressible Fluids	CEE_6_PCC	T DA	T DA	T DA		T DA	T DA							T DA		T DA		T DA		DA	DA	DA	D			
7	Group Project	CEE_7_GRP	DA	DA	DA	DA	DA	DA		DA	DA		DA	DA	DA	DA		DA	DA	DA	DA	DA	DA	DA	DA	DA	D	D
7	Process Management	CEE_7_PRM	T DA		T DA											T DA	T DA				DA		DA				
7	Advanced Materials Engineering	CEE_7_AME	T DA	T DA			T DA		T DA	T DA		T DA		T DA				T DA	T DA		DA	DA			DA		
7	Modelling and Computer Simulation	CEE_7_MCS	T DA	T DA			T DA	T DA		T DA	T DA				T DA		T DA		T DA		DA	DA	DA				
7	Advanced Reaction Engineering	CEE_7_ARE	T DA			T DA	T DA	T DA							T DA												

T: Taught; D: Developed; A: Assessed

Appendix B: 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	Level 7
1 Supporting the development and recognition of skills through the personal tutor system.	Personal Tutor scheme embedded in Design & Practice module	Continuation of personal tutor	Continuation of personal tutor	Continuation of personal tutor
2 Supporting the development and recognition of skills in academic modules/modules.	Design & Practice module	Laboratory and computer based modules	Design Project	Group Project
3 Supporting the development and recognition of skills through purpose designed modules/modules.	Design & Practice module	Laboratory and computer based modules	Design Project	Group Project
4 Supporting the development and recognition of skills through research projects and dissertations work.	Design & Practice	Chemical engineering Process 1	Design Project Research.	Group Project research
5 Supporting the development and recognition of career management skills.	Introduction to Chemical Engineering	Process safety & Environment Protection	Design Project Energy Technologies	Group Project.
6 Supporting the development and recognition of career management skills through work placements or work experience.				Group Project
7 Supporting the development of skills by recognising that they can be developed through extra curricula activities.		Industrial events	IChemE Seminars attendance.	

8 Supporting the development of the skills and attitudes as a basis for continuing professional development.			Design Project, IChemE Seminars	Group Project.
9 Other approaches to personal development planning.			Design Project	
10 The means by which self-reflection, evaluation and planned development is supported e.g. electronic or paper-based learning log or diary.	Design & Practice		Design Project	Group Project

Appendix C: Terminology

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
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

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
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