Template C4

Programme Specification

Title of Course: *BEng (Hons) Civil Engineering Degree Apprenticeship*

Date first produced	30/06/2017
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Version number	5
Faculty	Faculty of Engineering, Computing and the Environment
School	School of Built Environment and Geography
Department	Department of Civil Engineering, Surveying and Construction
Delivery Institution	Kingston University

This Programme Specification is designed for prospective students, current students, academic staff and employers. It provides a concise summary of the main features of the programme and the intended learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if they take full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes and content of each modules can be found in the course VLE site and in individual Module Descriptors.

SECTION 1: GENERAL INFORMATION

Award(s) and Title(s): ***Up to 10 pathways***	BEng (Hons) Civil Engineering Degree Apprenticeship
Intermediate Awards(s) and Title(s): ***There are 4 Intermediate awards for each pathway***	Certificate of Higher Education in Civil Engineering Diploma of Higher Education in Civil Engineering BEng Civil Engineering
Course Code ***For each pathway and mode of delivery***	UPCIE1CIE30 UFCIE1CIE20
UCAS code ***For each pathway***	H210 (3 year full-time) H211 (4 year sandwich)

RQF Level for the Final Award:	Level 6
Awarding Institution:	Kingston University
Teaching Institution:	Kingston University
Location:	Penrhyn Road Campus, Kingston
Language of Delivery:	English
Modes of Delivery:	Part-time
Available as:	
Minimum period of registration:	Part-time - 5
Maximum period of registration:	Part-time - 10
Entry Requirements:	The minimum entry qualifications for the programme are: - UCAS tariff points: 112-128: • From A levels: A-level (or equivalent) in Mathematics at grade C or above. General studies and Native language at both A-Level and AS Level not accepted in the tariff. • From BTEC: BTEC Level 3 Extended Diploma in Engineering including Construction and Built Environment, including minimum Merit in Maths and Further Maths • From BTEC Level 3 National Diploma: with D*D* and in addition must hold an A-level in Maths with a minimum grade of C. • T Level- Merit in Design, Surveying and Planning for Construction - Candidates are normally required to hold five GCSE subjects at grade C/4 or above, including Mathematics and English Language.

	- Access Diploma: Access HE diploma is not accepted. - Applications from those that have undertaken an Engineering foundation year will also be considered. - Entry is normally at Level 4 with A-level or equivalent qualifications. - Transfer from a similar course is possible at Level 5 with passes in comparable Level 4 modules – but is at the discretion of the course team. - Intake is normally in September. - Entry into level 4, an applicant meeting entry requirements stated above and direct entry to level 5, requiring appropriate employment, employer approval and academic qualifications deemed equivalent to BEng level 4 (normally HNC/D) in a Civil Engineering or equivalent discipline. - Learners who have alternative or non-standard qualifications that needs to be credited on an 'RPCL' and 'RPEL' basis are considered on an individual basis and is at the discretion of the course team.
Programme Accredited by:	This degree is accredited by the Joint Board of Moderators (JBM) comprising the Institution of Civil Engineers, Institution of Structural Engineers, Institute of Highway Engineers, the Chartered Institution of Highways and Transportation and the Permanent Way Institution on behalf of the Engineering Council (Accreditation of Higher Education Programmes) for the purposes of fully meeting the academic requirement for registration as an Incorporated Engineer (IEng) and partially meeting the academic requirement for registration as a Chartered Engineer (CEng). Candidates must hold a masters or doctorate accredited as further learning for CEng to hold accredited qualifications for CEng registration. See www.jbm.org.uk for further information and details of Further Learning programmes for CEng.
QAA Subject Benchmark Statements:	Engineering
Approved Variants:	Yes, we have approved variants required to meet the new Engineering Council
Is this Higher or Degree Apprenticeship course?	

For Higher or Degree Apprenticeship proposals only

Higher or Degree Apprenticeship standard:	Civil Engineer (Degree)- ST0417
Recruitment, Selection and Admission process:	Information regarding available apprenticeships with a number of Employers can be found on the Institute for Technical Apprenticeships and Education . Apprentices apply for positions with Employers, and then, following application, interview and selection process, successful apprentices apply for the degree apprenticeship through our application process led by the Central Apprenticeships Team (CAT), Admission Tutor and Programme Course Leader. Assuming qualification stipulations are met by the apprentice, they will be invited to complete the on-boarding process through our end-to-end software Aptem. This includes completion of an Initial Needs Assessment - with the apprentice declaring Recognised Prior Learning - both academic and experiential - against the learning outcomes for the academic programme and its modules. Please see our apprenticeship webpages - https://www.kingston.ac.uk/degree-apprenticeships/ Higher and Degree Apprenticeships - Kingston University London - for more information."
End Point Assessment Organisation(s):	Institution of Civil Engineers (ICE)

SECTION 2: THE COURSE

A. Aims of the Course

The general aim of the programme is:

- To equip graduates with engineering science, design, management, business and interpersonal skills required to become a professional Civil Engineer, as well as to enable them to follow careers in other professional disciplines where clear, logical, numerate skills in combination with the ability to solve problems, communicate solutions and work in teams are valued.

More specific aims of the programme are:

- To produce graduates with a good design capability together with the required breadth and depth of theoretical and practical knowledge of established technologies and methods in Civil Engineering;
- To enable graduates to develop analytical and problem-solving skills and to evaluate evidence and assumptions to reach sound judgements and communicate these effectively;
- To inculcate a deep understanding of engineering principles that prepare graduates with a creative approach to the solution of civil engineering challenges and the requisite technical skills to realise these solutions with responsibility for project management;
- To equip graduates with the research skills required for postgraduate study and employability skills required for work in the civil engineering and the built-environmental fields;
- To furnish graduates with a firm grasp of design, sustainability, health and safety risk management, professionalism, ethics and inclusion practice principles.
- To develop skills in problem solving, communication, information retrieval, working with others and the effective use of technologies.
- To plan and carry out a personal programme of work, adjusting where appropriate, and develop the capacity for independent study and lifelong learning.

The course outcomes are referenced to the QAA subject benchmarks for Engineering (2023), the IfATE Level 6 Degree Apprenticeship standard for “Civil Engineer”, ST0417 and the Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies (2014) relating to the typical Apprentice. The course provides opportunities for learners to develop and demonstrate knowledge and understanding specific to the subject, key skills and graduate attributes in the following areas:

In addition, the defined learning outcomes are those published by the Engineering Council in the UK Standard for Professional Engineering Competence (UK-SPEC): The accreditation of Higher Education Programmes - Fourth edition.

B. Intended Learning Outcomes

The course outcomes are referenced to the QAA subject benchmarks for Engineering (2023), the IfATE Level 6 Degree Apprenticeship standard for “Civil Engineer”, ST0417 and the Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies (2014) relating to the typical Apprentice. The course provides opportunities for learners to develop and demonstrate knowledge and understanding specific to the subject, key skills and graduate attributes in the following areas:

In addition, the defined learning outcomes are those published by the Engineering Council in the UK Standard for Professional Engineering Competence (UK-SPEC): The accreditation of Higher Education Programmes - Fourth edition.

The programme learning outcomes are the high-level learning outcomes that will have been achieved by all students receiving this award. They must align to the levels set out in the 'Sector Recognised Standards in England' (OFS 2022).

Programme Learning Outcomes					
	Knowledge and Understanding On completion of the course students will be able to:		**Intellectual Skills** On completion of the course students will be able to		**Subject Practical Skills** On completion of the course students will be able to
A1	Demonstrate knowledge and understanding of scientific principles and methodology necessary to underpin their education in civil engineering, to enable appreciation of its scientific and engineering context, and to devise sustainable, safe, economical and creative practical solutions.	B1	Apply fundamental theoretical studies of scientific and mathematical principles that underpin engineering and specifically civil engineering	C1	Use laboratory and workshop equipment, safely, for experimental investigation and evaluate data to produce practically valuable results
A2	Demonstrate knowledge and understanding of materials, structures, geotechnics, hydraulics, surveying, water, highway, transportation and environmental engineering	B2	Use mathematics as a tool for solving complex problems, communicating results, concepts and ideas	C2	Undertake fieldwork and analyse the data obtained for use in planning and design
A3	Demonstrate knowledge and appreciation of broader technical and non-technical engineering subjects	B3	Think creatively and imaginatively to solve design problems and manage continuous improvement through quality management	B3	Use a range of complex technical equipment and instruments, and work with information that may be incomplete or uncertain and quantify the effect of this on the design and construction.
A4	Relate management and business applications to civil engineering	B4	Manage projects, people, resources and time taking account of legal and statutory requirements, risk, safety, quality and reliability	C4	Use computer technology to assist with information retrieval, management and communication, recognising the appropriate software that supports analysis, design and digital construction.

A5	Demonstrate understanding of the importance of Risk and Health and Safety in the engineering industry	B5	Demonstrate a positive attitude to learning that encourages continuing professional development throughout their careers	C5	Comply with Health and Safety regulation and procedure in practical engineering situations
A6	Relate all their studies to a knowledge and holistic understanding of sustainability including social, economic and environmental aspects as well as the effect of global challenge, wrapped up in the Climate Emergency, and environmental assessments	B6	Recognise the importance of professional bodies and develop the professional conduct expected of Professional Engineers	C6	Work independently or as part of a team to initiate, investigate, plan, manage and drive projects to a successful conclusion and produce the associated documentation (proposals, plans, reports, presentations). Communicate their work to technical and non-technical audiences

In addition to the programme learning outcomes, the programme of study defined in this programme specification will allow students to develop the following range of Graduate Attributes:

1. Creative Problem Solving
2. Digital Competency
3. Enterprise
4. Questioning Mindset
5. Adaptability
6. Empathy
7. Collaboration
8. Resilience
9. Self-Awareness

C. Outline Programme Structure

BEng (Honours) Civil Engineering - Degree Apprenticeship is aimed at apprentices who wish to study Civil Engineering to Honours Degree level through the five-year Degree Apprenticeship Scheme. The programme embraces recent developments in higher education and industry and the curriculum and teaching benefits from the research interests of the academic staff. The programme is accredited by the Joint Board of Moderation (JBM) and has been designed in accordance with the IfATE Standard ST0417 and associated KSBs.

The course is offered as a five-year non-integrated Degree Apprenticeship programme (60 months plus 6 months for completion of the End Point Assessment for those in Civil Engineering-related employment, sponsored by the employers. The programme comprises 18 modules (12 modules of 15 credits + 6 modules of 30 credits) spanning from level 4 to level 6 utilising a minimum of 20% of the apprenticeship time over the main 5-year period of study (60 months) followed by Gateway and End Point Assessment (EPA) preparation (an additional 6 months). The taught commitment is typically one-day per week educational programme at Kingston University for each of the five years of the programme, and addition to some pre-advertised block release for activities such as Site visits, fieldtrips and other project based work. Hours associated with module assessments are also included within the minimum 20% off-the-job training, and these can be spread out throughout the main academic calendar (i.e., late September to end May) around workplace commitments. There is an opportunity for direct entry to Level 5 with appropriate academic qualifications and professional experience.

The BEng (Honours) Civil Engineering - Degree Apprenticeship draws on staff expertise in the Department of Civil, Surveying and construction management; from staff in the Faculty of Engineering, Computing and the Environment, university support services (e.g., the Guild of Students), and working closely with Kingston University Sustainability Hub (KUSH) to ensure the course is compliant to the principles and values of sustainable development.

The majority of modules will be co-taught with students on the 3-year full-time and 5-year part-time BEng (Honours) Civil Engineering programme with dedicated support from Personal Tutors, the Academic Lead, and the Degree Apprenticeship Skills Coach. Support is tailored to the needs of the Degree Apprentices, including: employer liaison prior to the commencement of training (e.g., on-boarding and induction); bespoken tutorials and Tripartite Review Meetings during the 60 months of core-training; and guidance and support in the completion of the Gateway Process and preparation to sit final End Point Assessment.

Additionally, the apprentices are supported by an Employer Mentor at the workplace who will monitor apprentices' progress. As a minimum the apprentices will meet with the Degree Apprenticeship Skills Coach/Academic Lead (i.e., training provider representative) and the Workplace Mentor/Line Manager (i.e., employer representative) at least four times per year at strategically defined points in the curriculum – these being the Tripartite Meetings, to ensure that the apprentices are progressing as planned in both their studies and learning experience at the university and in the workplace, and to discuss academic and practitioner-based development in relation to the Apprenticeship Standard Knowledge, Skills and Behaviours (KSBs), learning gains and future learning needs. Progress will be monitored through the completion of Learning Logs, the monitoring of module assessment results and feedback, discussion and review during Tripartite meetings, and – following the main training period – the Gateway meeting. All forms of monitoring will be uploaded to and reviewed using the University's end-to-end software package, Aptem.

Kingston University Civil Engineering apprentices are ideally placed to develop their career aspirations with their employment environment and apply their knowledge and skills training in a range of learning environments. Civil Engineering learning and teaching is informed directly by staff who are actively engaged in research and consultancy-based activities to embed pedagogically informed best practices into our teaching. We will foster a developmental partnership between the employer, Kingston University and the apprentices to develop professional competence. We place emphasis on practical skills development and the integration of theoretical and academic practical elements with their work-based learning experiences.

On-boarding Process

The minimum entry qualifications for the programme are:
- UCAS tariff points: 112-128:
    - From A levels: A-level (or equivalent) in Mathematics at grade C or above. General studies and Native language at both A-Level and AS Level not accepted in the tariff.
    - From BTEC: BTEC Level 3 Extended Diploma in Engineering including Construction and Built Environment, including minimum Merit in Maths and Further Maths
    - From BTEC Level 3 National Diploma: with D*D* and in addition must hold an A-level in Maths with a minimum grade of C.
    - T Level- Merit in Design, Surveying and Planning for Construction
- Candidates are normally required to hold five GCSE subjects at grade C/4 or above, including Mathematics and English Language.
- Access Diploma: Access HE diploma is not accepted.
- Applications from those that have undertaken an Engineering foundation year will also be considered.
- Apprentices with equivalent international qualifications are welcomed.

All apprentices are subject to an Initial Needs Assessment (INA) against the KSBs as defined by IfATE and the L6 Civil Engineer Standard ST0417 in consultation between the employer, university and apprentice. The INA addresses Recognised Prior Learning (RPL) and identifies the apprentice's starting level of competency against the learning outcomes for each core module, in-so-doing allowing the Academic Lead to determine the correct Entry Level and module diet. The INA is completed as part of Kingston Universities On-boarding Process for apprentices, all documentation being completed, reviewed, and stored using the end-to-end software Aptem.

Following completion and review of the INA, a Learner Journey is created to fit the needs of the apprentice. This is agreed by all parties and signed as part of the contract process. Note, RPL will be conducted in accordance with Section H of the AQSH.

Entry to this programme is normally at Level 4 with A-Level or equivalent (level 3) qualifications as stated above. Advanced entry to Level 5 requires academic qualifications in a relevant field that deemed equivalent to BEng at Level 4 (normally HNC) or academic qualification deemed equivalent to BEng Level 5 (normally HND).

BEng (Hons) Civil Engineering Degree Apprenticeship

Level 4							
BEng (Hons) Civil Engineering Degree Apprenticeship							
Core modules	**Module code**	**Credit Value**	**Level**	**Teaching Block**	**Pre-requisites**	**Full Time**	**Part Time**
Fluid and Soil Mechanics	CE4011	30	4	TY13		1	2
Introduction to Mechanics & Materials	CE4025	15	4	TB2		1	1
Mathematics & Engineering Analytics	CE4024	15	4	TB1		1	1
Navigating your Apprenticeship Journey	EG4031	15	4	TB1			1
Structural Analysis & Design	CE4023	30	4	TY13		1	1
Sustainability for professional practice	EG4022	15	4	TB2		1	2
Optional Modules							

Level 5							
BEng (Hons) Civil Engineering Degree Apprenticeship							
Core modules	**Module code**	**Credit Value**	**Level**	**Teaching Block**	**Pre-requisites**	**Full Time**	**Part Time**
Digital Construction & Building Information Modelling (BIM)	CE5020	15	5	TB1		2	2
Engineering Geodesy and GIS	CE5022	15	5	TB2		2	2
Exploring Professional Skills in Project Management	EG5017	15	5	TB2			2
Geotechnics & Materials	CE5024	30	5	TY13		3	4
Hydraulics & Water Engineering	CE5021	15	5	TB1		3	3
Structural Analysis & Design 2	CE5023	30	5	TY13		3	3
Optional Modules							

Progression to Level 6

Progression to level 6 requires passes in all four modules to give 120 credits at level 5. Students exiting the programme at this point, who have successfully completed 120 credits, are eligible for the award of Diploma of Higher Education Civil and Infrastructure Engineering.

A level average of at least 65% at level 5 is required for transfer to Level 6 of the 4yr MEng Civil and Infrastructure Engineering programme.

Level 6							
BEng (Hons) Civil Engineering Degree Apprenticeship							
Core modules	**Module code**	**Credit Value**	**Level**	**Teaching Block**	**Pre-requisites**	**Full Time**	**Part Time**
Advance Structural Modelling & Design	CE6020	30	6	TY13		4	4
Application of your Professional Skills for End Point Assessment	EG6025	15	6	TB1			3
Geotechnical & Environmental Engineering	CE6021	15	6	TB2		5	5
Highway, Transport & Traffic Engineering	CE6024	15	6	TB1		4	3
Individual Project	CE6114	30	6	TY13			1
Integrated Design project	CE6027	15	6	TB2		4	4
Optional Modules							

Level 6 requires the completion of

Completion of Level 6 requires passes in all modules to give 120 credits and qualify for BEng (Hons) Civil and Infrastructure Engineering

D. Principles of Teaching, Learning and Assessment

The BEng (Hons) Civil Engineering - Degree Apprenticeship course has been designed, considering the Kingston University Curriculum Design Principles, to help develop Apprentices into graduates that are professional, thoughtful, creative, resilient, proactive and globally aware independent, equipping them to be lifelong learners.

Overarching principles
All learners on the course are working to develop in a professional career in which they must be able to exercise judgement, communicate with clients and the public and throughout take an ethical approach to all that they do; we also encourage them through the design and execution of the curriculum to be both knowledgeable in terms of how sustainability principles apply to their own field but also develop a responsible attitude towards the role

that built environment professionals can play in helping to manage resources in ways which promote environmental sustainability, good governance, respect for people, well-being and the pursuit of economic goals. Sustainability may not be mentioned specifically in many of the titles of modules, however, the principles of regenerative design, intervention which has societal benefit, and sustainable development are reflected in the learning outcomes and it underpins all that we teach and the way we encourage learners to approach their own learning in a reflective way seeking to find themselves as individuals.
The role of teaching and assessment is to underpin Apprentice learning and throughout the programme the strategy is to engage apprentices with a wide range of activities that enable them to develop the knowledge and skills that they will need as practitioners alongside their knowledge base. The apprentice should, as far as practicable, be empowered to take control of their learning but be supported strongly through the process. It follows that as the apprentice progresses through the levels the emphasis will be from lecturer-led to apprentice-led work though lectures will feature at all levels of the programme. In delivering on this principle, much of the teaching related to knowledge and understanding will be focused on simulated real-life study and projects in which apprentices will be led through the materials and required to develop their skills through the tasks set. Field trips, Laboratory work and site visits are therefore key components of the strategy and support sessions aimed at skills development are an important part of the delivery strategy.
Work-based learning
This course is aimed at apprentices in Civil Engineering-related employment who wish to compliment and develop their employability knowledge and skills portfolio. The Civil engineering non-integrated Degree Apprenticeship programme is a bridge between the academic and the practitioner environment. Apprentices can expect to spend a minimum of 20% of their employment time related to the academic component of their apprenticeship, net one-day per week over five years but with a negotiated level of flexibility to allow for specific learning tasks, including assessment preparation, examination revision, residential fieldwork. The remaining maximum 80% involves on-the-job training and experiential learning.

Teaching & Learning
A solid and comprehensive technical and professional knowledge base is non-negotiable and is delivered through lectures and seminars provided in a collaborative working environment which aims to facilitate lecturer/learner and learner-to-learner interaction across disciplines. Lectures are used to impart key information and will normally be followed up by tutorials and workshops which provide opportunities for problem-based learning (PBL), project-based learning (PjBL), flipped classrooms and game learning via a range of in-class activities including for instance scenario analysis, role-play and simulations.
Module guides set out clear expectations for guided independent learning. Apprentices will be directed to reading and Technology Enhanced Learning (TEL) packages to prepare for individual topics or sessions and also to problem sets or exercises to consolidate and test their learning afterwards. This will be introduced at level 4. The Virtual Learning Environment (VLE) at Kingston will support learning throughout the course through a variety of TEL objects such videos, screencasts, on-line, discussion boards and interactive teaching packages. It will also deliver teaching material such as lecture notes/presentations, problems set and worked examples to reinforce the Apprentices learning and helps them to understand how construction elements are put together. This helps support an inclusive approach as apprentices can access learning material at their convenience and work through it at their own pace with the opportunity to pause and rewind as they wish. Teaching may be augmented by on-line discussion boards to aid understanding. We recognise that an ability to be comfortable with a range of digital media is important to employability skills and effective learning. Apprentices also need to be computer literate and able to operate industry standard computer packages.
Development of Independent learning through the course

The learning, teaching and assessment strategy of the course is aimed at supporting progression in curriculum content and skills development through the levels of study. At level 4 there is a clear structure and guidance for apprentices' learning with an emphasis on the acquisition of fundamental engineering knowledge and skills (Mathematics and IT in CE4024 Mathematics & Engineering Analytics), practical skills (CE4025 Introduction to Mechanics & Materials) and, (CE4011 Fluid and Soil Mechanics) and, the initial development of key employability skills (EG4015 Navigate). This provides a solid foundation for apprentices to undertake a deeper study in a specific engineering discipline at level 5. At level 5 there will be an increased expectation of independent study, supported by a reduced emphasis on the use of traditional lectures. At level 6 apprentices will be expected to take greater ownership of their independent study with academics taking on more of a supervisory role of apprentice independent study, this is exemplified in the group and individual project modules CE6XXX Integrated Group Design Project and, CE6XXX Individual Research Project

Integrated and interdisciplinary collaboration

All apprentices within the School of Built Environment & Geography at Kingston University take two (15 credit) common modules at Level 4 namely (EG4015 Navigate) and (EG4022 Sustainability for Practice). This provides opportunity to study and work with apprentices/students from different disciplines is a distinct feature of the course at Kingston University. In EG4015 Navigate apprentices will be able to demonstrate the ability to plan their personal development and to use graduate attributes to explore problem within the specific discipline context. In EG4022 Sustainability for Professional Practice, apprentices able to focus on the 21st century environmental and climate change challenges at the same time to unleash the interconnectedness among topics such as United Nation Sustainable Development Goals (UNSDGs), Net Zero Carbon and Circular Economy whilst identify approaches to problem-solving in a real-world scenarios.
The (EG4015 Navigate) module is extended into the Level 5 in (EG5017 Explore) where apprentices will be able to demonstrate the ability to critically evaluate their own personal development through reflection on their progress and goals, and at the same time demonstrate the use of graduate attributes to explore problems beyond the discipline.
In addition, at Level 5, apprentices will have the opportunity to collaborate with apprentices from Construction engineering management, Building Surveying and Quantity Surveying in (CE5020 Digital Construction & Building Information Modelling (BIM)) where apprentices have the opportunity for interdisciplinary Project-based Learning (PjBL) applying BIM and data management techniques and present solutions to small scale engineering/project challenges. This will give the apprentices an opportunity to talk about how they have worked with an external company on a construction engineering problem as part of a team, when they apply for an industrial placement.
The (EG5017 Explore) module is then further scaffolds into the Level 6 in (EG6026 Apply) where apprentices will be able to demonstrate the ability to set goals and take action relating to their development and future plans, and at the same time demonstrate the use of their graduate attributes to explore complex challenges beyond the University.
In addition, at Level 6, apprentices will continue to have collaboration with apprentices from Other Engineering discipline in (EG6XXX) where apprentices develop further their interdisciplinary group working through Project-based Learning (PjBL) demonstrating the range of skills underpin successful project delivery client care, market analysis, business context and risk management. Apprentices will have opportunities to develop interpersonal skills to facilitate collaborative working practices including conflict management and avoidance techniques.

Focus on active learning and enhancing apprentice engagement

A feature of the learning, teaching and assessment strategy in the School of Engineering is that many instructional lectures have been replaced by collaborative, problem solving or

enquiry-based learning workshops and tutorials. These require apprentices to prepare for, and participate in, the classroom activities, rather than passively listening to the lecturer. Apprentices are expected to engage with the guided learning to prepare for these teaching sessions and consolidate their learning after the session through preparation of assessments. These interactive sessions also provide apprentices with opportunities for peer learning, group work and presentation practice.
Examples of interactive sessions can be found in all CE modules at all levels where apprentices are offered a highly interactive enquiry-based environment to solve realistic civil engineering problems. In these sessions the lecturer facilitates learning by supporting apprentices in creating their own knowledge and understanding. Lecturers may also introduce and summarise key concepts with short mini-lectures. Project based Learning (PBjL) is introduced in EG4022 Sustainability for Professional Practice and developed further in CE5020 Digital Construction & Building Information Modelling (BIM). These collaborative activities encourage apprentices to draw on their own set of experiences and cultural backgrounds when tackling real world challenges.
The use of Future Skills and Graduate Attributes through EG4015 Navigate, EG5017 Explore and EG6026 Apply within the discipline context where at Level 4 these are linked to the Learning to Learn where apprentices identify their learning targets from Induction to graduation; beyond the discipline at Level 5 which includes an inter-departmental team sustainability design project; beyond the university at Level 6 which is to foster a bridge to the wider professional communities of practice for the apprentice's subject discipline.
Active and collaborative learning is also incorporated in traditional lectures which may have question-and-answer sessions, brief Apprentice discussions, Mentimeter activities integrated into the lecture. These methods ensure that valuable contact time is focussed on the application and critical analysis of knowledge and the development of key skills such as problem solving, communication, and group-work.
The high percentage use of active learning sessions in the teaching hours is aimed at improving apprentice engagement, creativity, confidence and self-reliance. The course endeavours to further secure apprentice engagement by making apprentices feel part of a community and increasing their sense of belonging which is supports to improved retention and progression. This is achieved by providing opportunities to interact with staff and students both socially and academically. In addition, to the active learning sessions and group work, this is achieved through: the Personal Tutoring scheme, field work, industrial visits, extra-curricular seminars, research internships, course representative system, apprentice course representative work, peer mentoring, civic engagement and outreach opportunities.

Hands-on Practical work

A hand on practical experience in workshops and laboratories is fundamental in developing practical skills as well as enhancing data collection and analysis skills. Apprentices will have the opportunity to work in laboratories and workshops as well as field trips in most of their modules. Practical work is closely related to the taught content to provide context for the theoretical work. At level 4 apprentices are introduced to basic skills of measuring, interpreting and recording experimental data and how to apply these in a laboratory environment and present the results with (CE4025 Introduction to Mechanics & Materials) and (CE4011 Fluid and Soil Mechanics). Complying with Health & Safety requirements when in the lab is paramount. At level 5 the focus is on further testing and measurement of a variety of parameters in support of more level 5 concepts delivered in lectures with CE5021 (Hydraulics and water Engineering), CE5023 (Structural Analysis & Design 2) and CE5024 (Geotechnics & Materials). This is delivered through supervised practical sessions with experiment protocols. At level 6 apprentices and expected to select and apply requisite practical skills in their own independent research work in (CE6XXX the Individual Research Project) module.

Academics are committed to practical fieldwork, encouraging Apprentices to acquire fieldwork skills, including health and safety, group coordination and management. This programme includes a number of field excursions, modules that include field work include: CE5022 (Engineering Geodesy and GIS), CE6XXX (Geotechnical & Environmental Engineering). Site visits are arranged for groups of apprentices and students whenever possible (levels 5 & 6) and are important in understanding the practical application of their academic work, as well as an appreciation of the apprentices' career development prospects.

Practice and research-informed teaching
Embedded in our teaching and learning practice are two major shifts in pedagogy, specifically, our teaching is both practice and research informed.
A formal arrangement exists with a selection of engineers in full-time practice who generously give their time to support the department through the work of the Industrial Advisory Board. This Board meets with senior School staff two times per year to discuss policy and course structure in the department. Some deliverables of the IAB include guest lectures (structures, H&S, sustainability, professional practice), course design (e.g. embedding JBM threads, relevance of skills to employability and career development), research (co-supervision, subjects, KTPs), and JBM visits. Industrial Members have been chosen to reflect both the various courses offered by the Department and the types of organisations for which many of our graduates end up working. We have, therefore, industrial members who are representative of both consultancy organisations – representing both international, and locally based companies, and contracting organisations – representing both major and smaller contractors. In addition, these industrial members have a range of professional qualifications including membership of Professional Engineering Institution. Our Apprentices take full advantage by being in continuous contact with the IAB members via mentoring by them, presenting their work to them, placements, applying for vacancies, IAB award, etc. including the yearly award for the best learner by the Institution of Civil Engineers.

The majority of the course team are either engineering research active or are involved in industry related professional activities, through KTPs or other direct involvement with industry. These activities played a major part in informing the course design and content, as did the direct input from industry through the activities of the Industrial Advisory Board. At Kingston, research in the field of Civil Engineering has in recent years been concentrated in the areas of (i) structures and materials (concrete and sustainable materials) and (ii) geotechnical and hydraulic engineering science. Most of the teaching staff are also actively involved in the various Research Centres and/or Research Groups of the Faculty, or may be following interest areas of their own. These activities take them into, amongst other areas, advanced structural design, sustainable construction, composite materials, fire and blast resistance, earthquake engineering, geology and geotechnics, etc. Modules are mainly taught and managed by academic staff that are engaged in research in various areas and include their research findings in addition to well established principles, for example in module (CE6XXX integrated Group Design Project) subject areas such as structures under complex loadings, Finite Elements, pre-stressed concrete, slope stabilisation, deep foundations, etc. are introduced (e.g. CE6XXX (Advanced Structural Modelling & Design).

Apprentices are encouraged to develop their own research skills which are a fundamental part of the curriculum throughout all levels of the programme. They are often encouraged, through project work, to work with research active staff on elements of live projects, and these research skills enable Apprentices to determine, distinguish and present appropriate evidence in an argument, which is of great value to employers.

Academic staff are also engaged widely with the research and development of ideas in teaching and learning in Higher Education and into wider pedagogic issues which will then

feed through to support learning in lectures and other forms of Apprentice engagement the programme, both formal and extra-curricular. As parts of pedagogic research computing resources in fundamental subjects such as Maths and Mechanics/Physics have been developed and been embedded into VLE system. The use of an Electronic Voting System in the class room for summative and formative assessments is another example of pedagogic research undertaken by the teaching staff. This reflective, evidence-based professional practice by academic staff serves as exemplar to Apprentices in their future professional practice.

Development of Graduate Attributes and Future Skills
The progressive development of a range key Graduate Attributes is another feature of the course as exemplified in teamwork and development of Future Skills are effectively scaffold from Level 4 to 6 in (EG4015 Navigate, EG5017 Explore and EG6026 Apply), where Apprentices able to plan their personal development through learning journey, critically evaluate their own personal development through reflection and to set goals and take action relating to their development.
To complement the development of Graduate Attributes and Future Skills within the curriculum, Personal tutors will encourage Apprentices to engage in a range of extra-curricular activities such as apprentice representation, part-time work, sports and recreation, society membership, leadership and mentoring; cultural and creative activities; academic and professional collaboration; placement activity; enterprise activity; Careers events and opportunities. Activity in these areas is recognised by the university's Kingston Award Scheme. Careers and Employability Service offers a range of events, including spotlight on engineering networking activities where employers and alumni are invited on campus to talk about career pathways.
Assessment for Learning

The assessment strategy has been designed to help Apprentices to learn and prepare them for continuous career development, rather than just a tool to measure their learning. The assessment is designed to be authentic, inclusive and transparent. The assessment tasks focus on the real world engineering activities that enhance Apprentices' employability. All CE module assessments are related to real world problems. For example, in CE5xxx (surveying and setting out of a road), CE5023 (design of elements in steel and concrete of framed buildings) and CE6XXX (Modelling of Road Junctions for traffic growth) All modules have explicit formative assessments to provide opportunities for practice and the chance to use 'feed forward' to help apprentices improve their work in subsequent summative assessments. For example in CE5XXX, formative assessment is provided in the form of quick, regular and detailed feedback on laboratory reports facilitating improvement of these reports throughout the academic year.

Examinations are still used as they are an effective way of assessing basic knowledge and understanding, and professional bodies expect to see examination covering key curriculum content. However, the strategy recognises that other assessment methods are better suited to assessing higher level problem solving skills. This is reflected in the decreasing use of assessment by examination at levels 4, 5 to level 6. The use of a well-balanced range of assessment methods is key part to of our inclusive assessment strategy. Group and teamwork assessment is instrumental in developing and recognising this important employability skill. For example, Apprentices study fundamental principles of structural mechanics and then demonstrate their applications in different practical examples of analysing structures in group work presentations at Level 4, e.g. understanding the principle of statics and equilibrium leads to its application i.e. ability to use statics and equilibrium in analysing a roof truss. Similar examples follow at levels 5 & 6. This demonstrates progressive skills and competences development – thus preparing employment ready graduates

Inclusive Teaching and Assessment Practices

Apprentice participate in Student Voice Committees and School Education Committee provide opportunities for apprentices to make suggestion on how to develop a more inclusive curriculum by taking into account the specific circumstances of the apprenticeship body. The variety of teaching activities also takes account of the apprentice's different learning preferences and experiences and there is a careful balance of individual and group-based activities.

Marking criteria are provided for all assessments as part of the assessment booklet at the beginning of the year for each module and care is taken to ensure that the language used is clear. Assessment and marking criteria for all substantial assessments are discussed in class so all learners have an opportunity to interrogate the criteria.

In the programme as a whole, the following components are used in the assessment of the various modules:

- Practical exercises: to assess Apprentices' understanding and technical competence
- Individual and group-based case project work: to assess ability to understand requirements, to provide solutions to realistic problems and to interact and work effectively with others as a contributing member of a team. The outcomes can be:
- Written reports, where the ability to communicate the relevant concepts, methods, results and conclusions effectively will be assessed.
- Oral presentations, where the ability to summarise accurately and communicate clearly the key points from the work in a brief presentation will be assessed.
- Video, which may replicate features of oral presentations but allows advance preparation away from the audience (which may suit some Apprentices better).
- Multiple choice or short answer questions: to assess competence in basic techniques and understanding of concepts.
- Long answer structured questions in coursework assignments: to assess ability to apply learned techniques to solve simple to medium problems and which may include a limited investigative component
- Long answer structured questions in end-of-module examinations: to assess overall breadth of knowledge and technical competence to provide concise and accurate solutions within restricted time
- Project: The individual project module represents an opportunity for Apprentices to draw together different aspects of their learning on the course and to apply the techniques learned in an extended study. As such the assessment here will place a greater emphasis on ability to plan work, manage time effectively, and research background information, culminating in a written report and interview.
- Individual and group practical laboratory reports
- Posters: The group project is presented in posters to and assessed by academic staff as well as members of the industrial advisory board.
- Model building: in the first year, where Apprentices make a structure with little wooden sticks and tape e.g. a small bridge and load it to breaking point.
- Short in-class tests and on-line assessments: throughout a number of modules.

At the beginning of each academic year deadlines for submission and feedback are planned carefully and a full assessment timeline calendar is constructed to ensure that there is no summative assessment bunching and thus Apprentice workloads are managed. In addition, this calendar is then presented to the cohorts for consultation before it is formally fixed. The calendar then offers a synchronised and coherent delivery of the programme that is clearly understood by staff and Apprentices who can appreciate the integrated nature of their learning emanating from various module assessments.

Engineering Curriculum

Level 5 of the core programme builds on the fundamental knowledge and skills in science and mathematics gained at Level 4. Post-level-4 mathematics is deliberately incorporated with the teaching of each engineering topic that it relates to, rather than as a stand-alone subject. In all years, the industrial application of knowledge and professional practice in a multidisciplinary context are included. Level 5 focuses on knowledge and understanding of the engineering principles underpinning civil engineering. Learning-by-doing is implemented through all modules via tutorials, lab sessions, field courses, real world course works, etc.

CE5XXX & CE5XXX enables Apprentices to apply the principles of fluid mechanics and soils learned at level 4 (CE4011) in developing skills to carry out the analysis and design of engineering problems in hydraulics and geotechnics. Hydraulics includes natural river courses and the conveyance of water through pipelines, culverts and canals. Geotechnics concentrates on geology emphasizing the influence of subsurface conditions on civil engineering and construction; effective stress and shear strength of soil and their effect in designing geotechnical problems. Groundwater seepage and dewatering of groundworks are examined effectively linking hydraulics and geotechnics.

CE5XXX is a core module covering the subjects of structures and design. It builds and expands essential concepts of Engineering Mechanics, Structures and Materials learned at level 4 (CE4023 & CE4025) into the structural analysis and design of elements in construction materials such as steel, concrete, masonry and timber. Modern codes of practice such as the Eurocodes are introduced and used throughout and Apprentices become familiar with the design process from conception to detailed design and drawings. Material behaviour under loading is carefully examined at lectures and hands-on sessions and further verified by testing specimens in the lab and producing reports.

CE5XXX is a core module offering a fundamental skill expected of any civil engineer. This module exposes Apprentices to the instrumentation and observation principle of modern engineering surveying and develops their theoretical understanding and relevant mathematical expertise as well as their practical skills. The operating principles of surveying equipment including GNSS / GPS are all covered in the lecture programme and supported by practical exercises and a residential field course.

EG5XXX introduces the principles and commercial practices for the management of engineering projects and related wider business operations. The nature of project engineering and business management is considered in the context of time, quality, risk and sustainability aspects. It introduces the legal, commercial, social and ethical framework in engineering environments. This module provides opportunities for developing the team-working and communication skills in group discussions and seminars.

Level 6 of the programme continues the themes of structures, materials and geotechnics and emphasises the development of self-management, independent learning, professional skills, and deep understanding of knowledge required in civil engineering. Independent learning is expected to increase at this level as Apprentices have acquired the skills required to achieve it via guidance and support (e.g. SASC) with resources as well as peer mentoring (e.g. level 4 Apprentices mentored by level 5 & 6 Apprentices) at earlier years.

CE6XXX is a core module in structures and design building on knowledge and skills attained at level 5 (CE5XXX). Apprentices will learn how to analyse and design structural frames made of elements in steel and concrete which they learned at level 5. The design of advanced elements such as in pre-stressed concrete are introduced together with state-of-the-art computer-based analysis and design techniques such as Finite Elements for structural problems.

In CE6XXX, the geotechnics part of the module includes slope stability, deep foundations and elements of coastal engineering. Opportunities to link structures with geotechnics i.e. the soil and foundations supporting them are provided throughout.

CE6XXX is a core module in sustainable infrastructure that follows elements learned at level 5. Sustainable solutions to problems in infrastructure such transportation modelling and highway design are covered.

In CE6XXX module, Apprentices are taught about various key aspects of project planning and management before engaging in a group project based in the Civil Engineering field and drawing on knowledge and experience gained previously. It will consist of substantial Project-Based Learning (PjBL) driven by the Apprentices with supervisor/facilitators encourage professionalism and leadership in a group activity support. It provides Apprentices with an understanding of the process of project planning and an opportunity to put theory into practice in a virtual industrial project. The module encourages professionalism and leadership in a collaborative group setting in which sustainability and ethics are embedded within the project context.

CE6XXX the Individual Research Project module combines the technical and academic facets of the programme and provides Apprentices with an opportunity to complete a capstone project applying the knowledge and skills learnt during the programme to achieve agreed deliverables. It enables Apprentices to develop their research skills using and applying information from the technical literature.

E. Support for Students and their Learning

Apprentices are supported by:

- A Course Leader to help Apprentices understand their programme structure and progression and to ensure Learners' support(s)
- A Degree Apprenticeship Skills Coach to support the apprentice throughout their Apprenticeship Journey and to assist in keeping the apprentice on track through quarterly Tripartite Review Meetings and monitoring of Learning Logs and KSB Trackers.
- A Module Leader for each module to provide academic support.
- A module team for each module to provide academic support.
- A Personal Tutor programme which ensures that apprentices have a designated personal tutor for the duration of their studies to foster a close and engaged academic relationship
- An Apprentice Mentoring scheme.
- A Future Skills and Employability Team to provide apprentices with advice on career development and progression, future job applications, updating CVs and mock-interview opportunities
- Technical support to advise apprentices on IT and the use of software packages.
- A designated programme administrator.
- An induction week at the beginning of each new academic session.
- Course Representatives and a Student Voice Committee.
- CANVAS– a versatile on-line interactive learning environment
- A range of Study Skills and Academic Skills support services
- Student support facilities that provide advice on issues such as finance, regulations, legal matters, and accommodation.

- A faculty-based Student Support Team that provides advice and guidance on mitigation and student issues.
- A Disability, Dyslexia and Wellbeing student support centre.
- A Students' Union who run a range of clubs and societies and student advice services
- A student society who organises discipline related social events
- Academic Success Centre is a one-to-one drop-in Study Skills session for learners every weekday. Help is available on a range of academic skills from writing reports, note-taking, to exam revision, referencing, programming and mathematical skills.

Personal Tutor Scheme (PTS)
The following provides the aims and structure of the Personal Tutor Scheme (PTS). It is intended that the PTS is embedded within the modular provision of the BEng. Course.

Aims

- To build a rapport between staff and learners and contribute to personalising their experience acting as a central pillar of the pastoral care system
- To support apprentices in the development of their academic skills providing appropriate advice and guidance to learners throughout their time at Kingston, while monitoring their progress, helping to identify individual needs and referring Apprentices to other University services as appropriate
- To help apprentices to develop the ability to be self-reliant and confident self-reflective learners who use feedback to their best advantage
- To encourage Apprentices to reflect on how their learning relates to a wider context and their personal career progression

Allocation of Personal Tutors

- Personal tutors will be allocated during induction week
- Tutors will be allocated on a course basis where appropriate with Apprentice numbers being equally divided amongst the staff within the school
- Apprentices will keep the same tutor throughout their course of study

Assessment
The PTS is embedded in core curriculum modules at each level of undergraduate study:
Level 4 – EG4015 Navigate
Level 5 – EG5017 Explore
Level 6 – EG6026 Apply
There are specific aims and outcomes for each level that will be assessed, as the PTS is a progressive and cumulative scheme building on the skills developed in previous levels.

F. Ensuring and Enhancing the Quality of the Course

The University has several methods for evaluating and improving the quality and standards of its provision. These include:

- External examiners
- Boards of study with student representation
- Annual review and development
- Periodic review undertaken at subject level
- Student evaluation
- Moderation policies

Quality is also assured by the requirement for professional body (JBM) reaccreditation, generally at a five year interval.

G. Employability and work-based learning

This curriculum is designed so that it embeds the development of employability skills throughout the course and equips Apprentices with the ability to relate the knowledge and skills that they have learnt to real world contexts in which they may work in the future. Initially Apprentices are guided towards learning about employability skills and career pathways, but as they move through the course, they are expected to become more independent and take ownership of their career development by engaging with classes provided by Careers and Employability Service, including; Professional Communication, Time and Self-Management and Identifying and Articulating Skills. There are also opportunities to perfect skills required to progress in employment such as; CV writing, Psychometric tests and using LinkedIn-Learning modules (an active list is prepared and updated by a library and learning resources specialist). Apprentice's development and career options are discussed in personal tutor meetings and guidance given as appropriate. This is in liaison with the University's Careers and Employability Service team.
The apprentice's development of Future skills and Graduate Attribute is supported through active engagement in the KU Navigate Programme enabling apprentices to understand and develop a design thinking approach to Future Skills development.
Development of employability skills throughout the course
The development of a range of employment skills that complement the work-based component of the Degree Apprenticeship is central to our learning design. Employability skills are constructively aligned from the course level to the module level and closely managed by the Course Leader.
The progressive development of a range key employability skills is another feature of the course as exemplified in teamwork/group work discussed above. Regarding communication skills, at level 4 the focus is on writing individual practical reports (CE4011 Fluid and Soil Mechanics) using a standard format and style, and encouraging Apprentices to orally communicate the outcomes of small group exercises in the active learning teaching sessions in (CE4023 Engineering Design) and (CE4025 Mechanics and Materials). To help development of these skills Apprentice will be required to submit a draft of a report for (CE4025 Introduction To Mechanics & Materials) to the School Academic Success Centre (SASC) for feedback and to discuss this with their personal tutor. The module (EG4015 Navigate) which is closely linked to the Personal tutor scheme and it introduces key academic and employability skills. In addition, it focuses on reflective practice on feedback on their progress with academic and employability skills.
At level 5 Apprentices will be required to participate in a substantial multi-disciplinary group project on sustainability and present their individual findings in (EG5017 Explore). This module aims to assist Apprentices in reflecting on the skills that they are developing and consider how they relate to employability. In many other modules i.e. CE5023, CE5022 and CE5020, Apprentices are required to produce individual/group laboratory reports on more challenging topics.

Employability skills continue to be enhanced at level 6 with the module (EG6026 Apply) where entrepreneurship is addressed using KU Bright Ideas competition as well as encouraging Apprentices to reflect on the employability skills they have developed and be proactive in moving towards a professional life and/or further study. With modules (CE6XXX Design Project) where group design activities are at the centre of learning and CE6XXX that also include lab reports, presentations and group discussions. The In the Individual Project module CE6XXX Apprentices will be taught how to synthesise and critical review information from a variety of sources and report this and their research results in a formal research report and an oral presentation.

Civil Engineering apprentices at Kingston are taught by qualified engineers with substantial personal experience of industry gained either prior to joining the University or through continuing consultancy practice. Industrial consultancy has a similar beneficial effect to research and scholarship, which together inform the teaching at all levels. The beneficial effects diffuse throughout the courses, ranging from the laboratories into such areas as the choice of locations and sites for visits and field courses, selection of case records for study and areas for project work as well as informing syllabus content, course design, as well as update of the content of individual lectures. The School has been an academic partner with the Institution of Civil Engineers for many years where Apprentices are introduced to the institute from induction and many times throughout their learning journey and are encouraged to join the ICE portal for recording and assessing the Apprentices' Initial Professional Development. This will help Apprentices' employability as they will be able to satisfy the ICE attributes through their studies and achieve their professional qualification soon after graduation.
This course has been designed to fully meet the exemplifying academic benchmark requirements, for an Incorporated Engineer (IEng) and (with further learning) for Chartered Engineer (CEng) status. Most graduates will aspire to careers in the construction industry and to becoming chartered. Graduates develop careers in all branches of the Civil Engineering/Construction industry, in the UK and throughout the world; as contractors and consulting engineers, and within local authorities, water authorities, government organisations, businesses and the defence industry. Where Apprentices take an industrial placement they are, in many instances, able to secure employment with the placement organisation following graduation. The academic and key skills developed throughout a course allow graduates to follow careers in other professions such as ICT, finance, teaching and as construction professionals. In addition, a number of graduates will progress to MSc courses in Civil/Structural/Construction-related specialist areas before continuing their career in industry or research.

An Industrial Placement comprises a period of at least 36 weeks with an approved employer. Students are required to produce quarterly reports on their placement and are supported throughout the period by their personal tutor, who will visit them at their place of work on at least one occasion. The personal tutor will discuss progress with the student and employer and will recommend any improvements to the learning opportunities, if appropriate. Students fulfilling the requirements for an Industrial Placement will be awarded a BEng (Hons) Sandwich Degree on the completion of level 6.

This programme has been designed to fulfil the core curriculum requirements (with further learning) for Chartered Engineer (CEng) status. Most graduates will aspire to careers in the engineering/construction industry and to becoming Chartered Engineers. Graduates develop careers in all branches of the Civil Engineering industry, in the UK and throughout the world; as contractors and consulting engineers, and within local authorities, water authorities, government organisations and the defence industry. In many cases, students taking an industrial placement are able to secure employment with the placement organisation following graduation. The academic and key skills developed throughout this engineering course also allow graduates to follow careers in other professions such as ICT, finance, accountancy and teaching. In addition, a number of graduates will progress to MSc courses in Civil Engineering and related specialist areas or other fields before continuing their career in industry or research.

Professional practice is embedded into the curriculum and ensures that the curriculum is industry driven, the students are industry ready and academic staff are engaged in professional practice of their discipline. Professional practice is introduced in the first year in the module **EG4010**, in which the students are introduced to the employment opportunities in the specialist engineering field, this is followed through all other modules at levels 5 and 6,

especially in **EG5014** Project Engineering and Management, **EG6023** Business Management and Group Project and **CE6014** Individual project.

Work-based learning, including sandwich courses and higher or degree apprenticeships

All students are encouraged to make use of the opportunity to enhance their learning and personal development by undertaking an industrial placement after the second year of their programme. All placements are reviewed to ensure that they provide a relevant experience in which students can apply their learning in a practical situation. Students have the responsibility for securing an industrial placement; placements are not guaranteed. All students on the course receive support from the placement specialists (Careers and Employability Service Preparation Officers) within the Kingston University team in securing a position and while in the workplace. Careers and Employability Service also organises employers' events for student recruitment.

An Industrial Placement comprises a period of at least 36 weeks with an approved employer. Students are required to produce quarterly reports on their placement and are supported throughout the period by their personal tutor, who will visit them at their place of work on at least one occasion. The personal tutor will discuss progress with the student and employer and will recommend any improvements to the learning opportunities, if appropriate. This allows students to reflect upon their own personal experience of working in an applied setting, to focus on aspects of this experience that they can clearly relate to theoretical concepts and to evaluate the relationship between theory and practice.

H. Other sources of information that you may wish to consult

Engineering subject benchmark:
www.qaa.ac.uk/Publications/InformationAndGuidance/Pages/Subject-benchmark-statement-Engineering-.aspx

UK Standard for Professional Engineering Competence (UK-SPEC): The accreditation of Higher Education Programmes - Fourth edition.

Professional bodies:
www.ice.org.uk/
www.istructe.org/
www.theihe.org/
www.ciht.org.uk/
www.thepwi.org/

Professional accreditation:
www.jbm.org.uk/

School Website:
www.sec.kingston.ac.uk/about-SEC/schools/civil-engineering/

See Appendix A for:

Learning Outcomes for Accreditation: EC UK-SPEC: Engineering Council UK Standard for Professional Engineering Competence - Specific Learning Outcomes in Engineering in accordance with UK Standard for Professional Engineering Competence (UK-SPEC): The accreditation of Higher Education Programmes - Fourth edition (AHEP4).

See Appendix B for:

Mapping the Course Contents to the Knowledge, Skill & Behaviours of the IfATE Level 6 Degree Apprenticeship standard for “Civil Engineer”, ST0417

I. Development of Course Learning Outcomes in Modules

This table maps where course learning outcomes are **summatively** assessed across the modules for this course. It provides an aid to academic staff in understanding how individual modules contribute to the course aims, a means to help students monitor their own learning, personal and professional development as the course progresses and a checklist for quality assurance purposes.

Module Code		Level 4						Level 5						Level 6					
		CE4011	CE4024	EG4022	CE4023	CE4025	EG4031	CE5022	EG5017	CE5020	CE5021	CE5023	CE5024	CE6024	CE6020	CE6027	CE6021	EG6025	CE6114
Knowledge & Understanding	A1			S		S						S	S	S		S	S		
	A2							S			S	S		S		S			
	A3	S								S					S				
	A4				S					S					S				
	A5			S		S		S				S	S	S		S	S		
	A6				S					S		S			S	S			
Intellectual Skills	B1		S	S		S		S				S	S			S	S		
	B2		S	S		S		S				S	S			S	S		
	B3									S	S				S				
	B4				S			S		S					S				
	B5	S								S					S				
	B6	S								S					S				

Practical Skills	C1							S						S					
	C2							S			S	S		S		S			
	B3			S		S		S				S	S	S		S	S		
	C4					S		S			S		S	S	S		S		
	C5			S		S		S				S	S	S		S	S		
	C6			S		S				S	S	S	S	S	S	S	S		

Students will be provided with formative assessment opportunities throughout the course to practise and develop their proficiency in the range of assessment methods utilised.