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**Programme Specification**

**Title of Course: BSc (Hons) Building Surveying**

 **Degree Apprenticeship**

**Date Specification Produced: July 2018**

**Date Specification Last Revised:**

This Programme Specification is designed for prospective apprentices, current apprentices, academic staff and potential employers. It provides a concise summary of the main features of the programme and the intended learning outcomes that a typical apprentice might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the teaching, learning and assessment methods, learning outcomes and content of each module can be found in the Course Handbook and Module Descriptors.

*Examples of completed programme specifications can be found on the:*

[KU Programme Specification Archive](http://www.kingston.ac.uk/programme-specifications/)**SECTION 1: GENERAL INFORMATION**

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| **Title:** | **BSc (Hons) Building Surveying****Degree Apprenticeship** |
| **Awarding Institution:** | Kingston University |
| **Teaching Institution:** | Kingston University |
| **Location:** | Kingston University |
| **Programme Accredited by:** | To be confirmed |

**SECTION2: THE PROGRAMME**

1. **Programme Introduction**

As defined in “English Apprenticeship: Our Vision 2020”, published in 2015, an apprenticeship is a job with a formal programme of training. This Degree Apprenticeship (DA) programme is designed to provide the underpinning knowledge (K) identified by the approved apprenticeship standard (Chartered Surveyor Degree Standard Ref: ST0331). For apprentices who wish to study Building Surveying to Honours Degree level (L6) through this five-year DA programme and aspire to achieve the professional status of Chartered Surveyor, their learning Journey is set out so that they would gain the technical and theoretical knowledge up to the required level (L6). The programme’s content was also reviewed against the relevant DA standards ensuring that it delivers on set skills (S) and professional behaviours (B). This is captured by the mapping of the programme’s modules to the sets of Core/optional knowledge and skill as well as the set of professional behaviours (refer to the mapping document). The academic delivery of this BSc (Hons) qualification is offered through a 1-day a week release which will predominantly account for the required 20% off-the-job training.

It is also designed so that the academic team working in partnership with the employer ensure that, in addition to the relevant practical experience gained through the job itself, a specific on-the-job training takes place to develop the technical and professional skills and behaviours much more fully and in line with standards. This is captured by the Stakeholder Commitments Matrix (refer to appendix B in the Academic Liaison & Staff Development document).

The role of the Building Surveyor is varied and concerns all matters relating to the physical well-being of buildings. Building Surveyors understand how buildings work and are specialists in the long-term effects of building design and materials on the life of a building and they have knowledge of why and how buildings can deteriorate or fail. Many specialise in maintenance, repair and refurbishments and work alongside engineers in defect diagnosis and architects in respect of design specification. Some may become very involved in the handling and resolution of disputes between adjoining owners or between landlord and tenant in respect of repair liability and ownership issues.

Building Surveyors are often involved in the designing of residential and commercial buildings and have the ability both to sketch and design using computer aided design tools. Furthermore, they frequently carry out surveys of buildings to advise on their current condition and to provide advice to owners, tenants and/or potential purchasers on works that should be carried out to ensure future performance. They also work for large property portfolio owners and provide strategic advice about planned and preventative maintenance programmes and major refurbishment schemes. Some Building Surveyors choose to specialise in historic buildings and all apprentices on this programme will study historic building materials. Finally, with the increasing realisation that buildings are major emitters of carbon, and with the strong government commitment to reduce the carbon impact of buildings, Building surveyors play a crucial role in designing the alterations and future maintenance of buildings such that their environmental impact can be reduced

This BSc (Hons) Building Surveying Degree Apprenticeship is offered as a 1-day a week five-year L6 degree apprenticeship programme for those taking up building surveying related apprenticeship employment with their employers. 30 credits at Level 6 will be delivered via a work-based learning module. The remaining 330 credits will be taught via an intensive one-day a week education programme at Kingston University for each of the five years of the course (See Section E for the programme structure). The degree apprenticeship course has been designed for those wishing to undertake a challenging programme which will enable them to study in depth many aspects of building surveying.

A distinctive feature of the field/course is the integrated curriculum provided at Level 4. The Level 4 modules on this field/course are designed to share learning outcomes with Level 4 modules on other construction and engineering related fields/courses whilst also maintaining certain discrete quantity surveying related learning outcomes. This aims to develop a culture of interdisciplinary and collaborative working which are at the top of the construction industry’s agenda. This further allows apprentices to experience various surveying related disciplines at the start of their course. Shared modules at Levels 5 and 6 give further opportunities for interaction across disciplines and associated group work on real world problems. A feature of the learning and teaching strategy is a focus on active learning sessions.

Throughout the course, apprentices will have the support of a personal tutor who can provide one-to-one guidance and advice on academic matters. The personal tutor will be an academic staff member allocated to each apprentice on their first day at the university. The apprentices are also supported by an employer mentor, a professional building surveyor, at the work place who will monitor the progress of the apprentices’ continuing learning at work, especially in achieving the learning outcomes of the work-based module. Reports on the apprentices’ progress by the employer mentor will be conducted through an agreed reporting mechanism and by means of scheduled visits to the work place where progress review meetings would take place. The personal tutor and the employer mentor will meet at least once every teaching block to ensure that the apprentices are progressing as planned and their learning experience at the university and at the work place is also acquiring the broader competencies such as: communication, team working, time and project management, computer literacy and problem solving skills.

Apprentices will be taught by both expert academics and qualified practitioners who continuously feedback the outputs of their research and latest developments into their teaching. Academic staff are also involved with the professional bodies, some as assessors, and provide support for apprentices towards their preparation for entry into the professional bodies (End Point Assessment). The professional development of apprentices on this programme will be continuously recorded and monitored, especially in the last 2 academic years of the degree, where this becomes an integral part of the progress review(s) to meet with the mandatory requirements of professional bodies.

1. **Aims of the Field/Course**

The overarching aim of the programme is:

* To equip graduates to be professional, intelligent, knowledgeable, resourceful, observant, respectful, perceptive and good communicators to take their place in a broader perspective and the context of a society focused on moving towards greater sustainability, economically, environmentally and socially.

More specific aims of the programme are to provide:

* Those in relevant employment an opportunity to study a degree in building surveying on an apprencticeship day-release basis;
* The ability to innovate and solve problems related to building surveying;
* The understanding, knowledge and skills to become, after appropriate further practical experience, competent practitioners in their chosen field of building surveying;
* Knowledge and understanding of building design, construction and services, such that they can describe buildings’ structures, using computer technology as appropriate;
* A working knowledge of construction, its technology, structures, architectural design and building services and their influences on the British built environment,;
* The ability to take a brief, assess building condition and performance and propose alternative uses and costed outline designs for alteration schemes to existing buildings;
* The knowledge and developing ability to prepare simple building works documentation and supervise new build and refurbishment projects, taking due account of legislation and other constraints;
* Sound knowledge of building control regulation, planning and other legislation and consultation procedures, documentation and due processes in relation to building works;
* A working knowledge of legal constraints and law, as they affect building design such that they can advise appropriately;
* Knowledge and emerging skills in how to undertake building inspections, schedules of conditions and dilapidations, planned maintenance, defects analysis, party wall surveys, insurance valuations, property and project management; and
* Research skills that are sufficiently developed that they are prepared for Masters level work.
1. **Intended Learning Outcomes**

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| **Programme Learning Outcomes** |
|  | **Knowledge and Understanding**On completion of the course, apprentices will be able to: |  | **Intellectual skills** On completion of the course, apprentices will be able to: |  | **Subject Practical skills** On completion of the course, apprentices will be able to: |
| A1 | Demonstrate a wide appreciation of construction, its key players, building technology, structures, architectural design and building services in residential and commercial buildings and their influence on the built environment, | B1 | Critically analyse the information and knowledge base within which they are working and be able to challenge ideas rationally and constructively; | C1 | Have the ability to carry out measured surveys, the subsequent production of drawings (manual and computer aided design) and structural and service installation appraisals;  |
| A2 | Demonstrate an understanding of the law relating to land, contracts, tortious liability, dispute resolution, the construction process and matters pertaining to professional practice and develop a critical appreciation of legal and regulatory framework matters relating to their discipline; | B2 | Identify practice related problems and prepare logically sound plans for their solution;  | C2 | Use standard industry software packages for drawing and project management and be able to describe the main costs associated with the construction and use of buildings; |
| A3 | Understand the role of Building Surveying in relation to delivering professional services to the Client to meet their objectives and organisational strategy and the way these affect repair, adaptation, rehabilitation and conservation works | B3 | Think creatively and with imagination and bring these capacities to solve problems related to their studies;  | C3 | Use digital technologies to assist with information retrieval and management;  |
| A4 | Demonstrate knowledge in the diagnosis, investigation, analysis and use of associated testing equipment in assessing building conditions and performance and building pathology; | B4 | Exercise sound judgement based on appropriate evidence in relation to professional practice problems and research questions; | C4 | Undertake building inspections, schedules of conditions and dilapidations, planned maintenance, defects analysis, party wall surveys, insurance valuations, property and project management; |
| A5 | Demonstrate knowledge of and familiarity with all pre-application legislation, legal controls, consultation procedures, documentation and due processes; be sufficiently knowledgeable to ensure compliance with Building Regulations, Local Acts and Bye-Laws;  | B5 | Recognise the implications of ethics and economic, social and environmental sustainability and apply these principles to all their studies in preparation for their future professional lives. | C5 | Prepare professional reports applying technical competencies to meet Client’s strategic objections |
| A6 | Relate all their studies to a well-attuned knowledge and holistic understanding of sustainability as well as processes and systems that deliver inclusive environments.  |  |  | C6 | Present a case for presentation at a professional scenario. |

In addition to the programme learning outcomes identified overleaf, the programme of study defined in this programme specification will allow

apprentices to develop a range of Key Skills as follows:

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| **Key Skills** |
| **Self-awareness Skills** | **Communication Skills** | **Interpersonal Skills** | **Research and Information Literacy Skills** | **Numeracy Skills** | **Management & Leadership Skills** | **Creativity and Problem Solving Skills** |
| Take responsibility for own learning and plan for and record own personal development | Express ideas clearly and unambiguously in writing and the spoken work | Work well with others in a group or team | Search for and select relevant sources of information | Collect data from primary and secondary sources and use appropriate methods to manipulate and analyse this data | Determine the scope of a task (or project) | Apply scientific and other knowledge to analyse and evaluate information and data and to find solutions to problems |
| Recognise own academic strengths and weaknesses, reflect on performance and progress and respond to feedback | Present, challenge and defend ideas and results effectively orally and in writing | Work flexibly and respond to change | Critically evaluate information and use it appropriately | Present and record data in appropriate formats | Identify resources needed to undertake the task (or project) and to schedule and manage the resources | Work with complex ideas and justify judgements made through effective use of evidence |
| Organise self effectively, agreeing and setting realistic targets, accessing support where appropriate and managing time to achieve targets | Actively listen and respond appropriately to ideas of others | Discuss and debate with others and make concession to reach agreement | Apply the ethical and legal requirements in both the access and use of information | Interpret and evaluate data to inform and justify arguments | Evidence ability to successfully complete and evaluate a task (or project), revising the plan where necessary |  |
| Work effectively with limited supervision in unfamiliar contexts |  | Give, accept and respond to constructive feedback | Accurately cite and reference information sources | Be aware of issues of selection, accuracy and uncertainty in the collection and analysis of data | Motivate and direct others to enable an effective contribution from all participants |  |
|  |  | Show sensitivity and respect for diverse values and beliefs | Use software and IT technology as appropriate |  |  |  |

1. **Entry Requirements**

The minimum entry qualifications for the programme are:

From A levels: Three A2 levels at Grade C or higher or their equivalent but the final decision is that of each employer.

Technician

Apprenticeship: Level 3 apprenticeship in a construction or property related discipline

Plus: GCSE (A\*-C on the previous GCSE grading system or 9-4 on the new GCSE grading system) minimum of 5 subjects including English language and Mathematics

Following receipt of the potential apprentice’s application, the University will review the candidate’s application against the published entry requirements to ensure these have been met. Accordingly, the University will advise the Employer if a place on the programme can be offered.

1. **Field/Course Structure**

This programme is offered in apprenticeship day release mode, with weekly one-day release from employment for scheduled learning at the University and continuing learning at the work place and leads to the award of BSc Building Surveying. The course is completed when apprentices have successfully achieved 330 credits at the University and 30 credits in the work-based module at Level 6.

Advanced entry to Level 5 requires academic qualifications deemed equivalent to BSc Level 5 (normally HNC) and the sponsorship of an approved employer in the construction industry.

Intake is normally in September.

**E1. Professional and Statutory Regulatory Bodies**

**E2. Work-based learning**

This BSc programme is designed for those employed within the quantity surveying related industry. There is one work-based module in the programme at Level 6, namely CE6214 Individual Project. This work-based module provides apprentices opportunities to acquire and apply knowledge in the work place while developing professionally.

Apprentices set out to achieve the learning outcomes of the work-based module by writing the learning plan. The learning plan must include an initial assessment of the learning outcomes and the level of competency learners have already achieved, and list the evidence required through planned activities at work to demonstrate that the learning outcomes of the work based element have been achieved. Through the learning plan, apprentices will match the knowledge acquisition in the work place to the learning outcomes for the work-based module.

The assessment of the work-based learning is stated in the module descriptor. It comprises:

• Two assignments designed to assess the demonstration of knowledge and understanding and their advanced application in a quantity surveying related real-world commercial situation,

• An oral presentation at the university.

The benefits of this work-based module are two-fold:

• Apprentices having the opportunity to acquire knowledge and apply that knowledge in complex work place situations,

• Enhancing the University’s engagement with industry.

**E3. Outline Programme Structure**

Please refer to the Course Diagram in the Appendix at the end of this document. Each level is made up of 4 modules, each worth 30 credit points. Typically an apprentice must complete 120 credits at each level. All apprentices will be provided with the University regulations and specific additions that are sometimes required for accreditation by outside bodies (e.g. professional or statutory bodies that confer professional accreditation). Full details of each module will be provided in module descriptors and apprentice module guides.

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| **Level 4** (all core) |
| **Compulsory modules** | **Module code** | **Credit** **Value** | **Level**  | **Teaching Block** |
| Engineering Design and Professional Practice | EG4010 | 30 | 4 | 1&2 |
| Structures, Materials and Construction Methods | EG4020 | 30 | 4 | 1&2 |
| Applied Mathematics and Computing Applications | EG4030 | 30 | 4 | 1&2 |
| Construction Management and Site Investigation | EG4040 | 30 | 4 | 1&2 |

To progress from Level 4 to Level 5, an apprentice should normally have achieved not less than 120 credits at Level 4. However, a PAB may permit an apprentice to progress to Level 5 with 90 credits at Level 4.

Apprentices exiting the field/course at this point who have successfully completed 120 credits are eligible for the award of Certificate of Higher Education in Building Surveying.

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| **Level 5** (all core) |
| **Compulsory modules** | **Module code** | **Credit** **Value** | **Level**  | **Teaching Block** |
| CAD & Building Science | CE5103 | 30 | 5 | 1 & 2 |
| Commercial Construction Technology | CE5104 | 30 | 5 | 1 & 2 |
| Contract Administration | CE5107 | 30 | 5 | 1 & 2 |
| Building Maintenance & Management | CE5122 | 30 | 5 | 1 & 2 |

Progression to Level 6 requires an apprentice to have achived not less than 120 credits at Level 5.

Apprentices exiting the programme at this point who have successfully completed 120 credits at Level 4 and 120 credits at Level 5 are eligible for the award of Diploma of Higher Education in Building Surveying.

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| **Level 6** (all core) |
| **Compulsory modules** | **Module code** | **Credit** **Value** | **Level**  | **Teaching Block** |
| Building Design & Application | CE6101 | 30 | 6 | 1 & 2 |
| Professional Practice in Context | CE6105 | 30 | 6 | 1 & 2 |
| The Existing Built Environment | CE6110 | 30 | 6 | 1 & 2 |
| Individual Project  | CE6214\* | 30 | 6 | 1 & 2 |

\* Work-based module

Level 6 requires the completion of all the modules in the three tables immediately above.

1. **Principles of Teaching, Learning and Assessment**

The BSc (Hons) Building Surveying Degree Apprenticeship has been designed, taking into account 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.

The programme provides opportunities for apprentices to develop and demonstrate knowledge and understanding specific to the subject, key skills and graduate attributes in the following areas. The programme outcomes are referenced to the Institute for Apprenticeships Chartered Surveyor (Degree) Standard (ST0331), the QAA subject benchmarks for Land, Construction, Real Estate and Surveying (2016) and the Framework for Higher Education Qualifications in England, Wales and Northern Ireland (2008).

Alongside studying technical and professional subjects, apprentices will have their entry level communication skills developed further though all different levels of the degree apprenticeship programme. Teaching staff will demonstrate a full range of communication skills for the apprentices to emulate. Apprentices will be given opportunities during interactive in-class sessions to practice these skills. Within this context, communication skills will encompass professional report/essay writing, oral presentations supported by visual means, time management and appropriate academic referencing.

Assessment and coursework marking schemes in particular, will reward the quality, clarity, cogency, structure, professional presentation standards and overall effectiveness of the communication. Feedforward will provide apprentices with direction and guidance utilising good practice examples for apprentices to follow. Feedback will clearly point out areas where apprentices need to achieve further improvements in relation to their communication skills development.

Written assessments will typically evolve from a few hundred words at Level 4 to a few thousand at Level 6. The rationale for this is so that apprentices are set assessments appropriate to the development of their communication skills. These will enable apprentices to progressively practice, demonstrate and enhance their communication skills through more advanced applications and be supported in this process through the steps outlined above. Oral presentations will typically be 10 minutes followed by a questions and answers session to match the requirements of the professional bodies.

Apprentices will be directed towards the SEC Academic Success Centre (SASC), where apprentices can obtain help on a range of academic skills from writing reports, note-taking, exam revision, referencing, programming and mathematical skills. SASC provides assistance and advice on draft assignments prior to hand-in to the teaching staff. Personal tutors will also utilise one-to-one tutorial sessions to maintain oversight of the apprentices’ communication skills development, provide time for reflection and self-assessment and support apprentices to develop an improvement plan.

**Overarching principles**

All apprentices on the programme are working towards 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 is woven into the fabric of each module and underpins the teaching and learning approaches used in order to achieve deep and holistic learning of sustainability concepts, principles and values.

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 shift from teacher-led learning to apprentice-led learning though lectures will continue to 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 and site visits are key components of the strategy. Although apprentices will have the work-based element of learning, field trips and site visits with other learners will provide additional benefits. They will provide the apprentices a chance to get up close to the construction and management of a variety of projects in new environments. Furthermore, field trips and site visits will enhance the apprentice’s experience, by helping them develop investigation and teambuilding skills, and reinforcing their social, personal and emotional development

**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 clear structure and guidance for apprentices’ learning with an emphasis on the acquisition of fundamental knowledge and skills e.g. Mathematics and IT in **EG4030** **Applied Mathematics and Computing Applications**, practical skills in **EG4040** **Construction Management and Site Investigation** and the initial development of key employability skills. This provides a solid foundation for apprentices to undertake a deeper study of building surveying at Level 6. At Level 5, there will be an increased expectation of independent study, supported by a reduced emphasis on the use of 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 individual and group project modules **CE6101** **Building Design and Application** and **CE6214 Individual Project.**

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. 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 MCQs, discussion boards and interactive teaching packages. It will also deliver teaching material such as lecture notes/presentations, problems sets and worked examples. This helps support an inclusive approach as apprenticescan access learning material at their convenience and work through it at their own pace with the opportunity to pause and rewind as they wish.

**Integrated first year and interdisciplinary collaboration**.

All quantity surveying, building and construction management undergraduate apprentices at Kingston University take a common set of four (30 credit) modules at Level 4. The opportunity to study and work with apprentices from different disciplines is a distinct feature of the course at Kingston University. In **EG4010** **Engineering Design and Professional Practice** apprentices will be introduced to the principles and importance of group work. Project-based learning (PjBL) is introduced in this module and requires interdisciplinary teams to design, build and present solutions to small scale challenges. The outputs of these will be part of the summative assessment. Interdisciplinary group work will be further developed at Level 5. At this level, apprentices work on more real life problems. At Level 6, apprentices consolidate their group working skills when undertaking projects in their own surveying discipline, applying the knowledge learned in earlier years.

**Work-based learning**

There are 30 credits of work-based learning at Level 6. Apprentices are expected to achieve all the learning outcomes through the application of knowledge in projects at the work place under the guidance of the Employer Mentor supplemented by sessions at the University. Academic tutorials are provided regularly where lecturers provide direction and guidance on the design of the apprentices’ projects and the application of research methodology and execution. Apprentices will have access to all materials delivered within the equivalent University-based module, which are uploaded to the University’s virtual learning environment.

**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 guided sessions and consolidate their learning after the session. These interactive sessions also provide apprentices with opportunities for peer learning, group work and presentation practice. In these sessions, the lecturer facilitates learning by supporting apprentices 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 **EG4010 Engineering Design and Professional Practice** and developed further in **CE5107** **Contract Administration** and **CE6101** **Building Design and Application**. These collaborative activities encourage apprentices to draw on their own set of experiences and cultural backgrounds when tackling real world challenges. The flipped classroom approach is introduced in **EG4010** **Engineering Design and Professional Practice** where the curriculum (lecture content) of a small topic is delivered via on-line materials (e.g. screencasts, videos or study packs) and then developed and applied in workshops. At Level 5, **CE5122** **Building Maintenance and Management** has a more substantial flipped classroom approach.

Active and collaborative learning is also incorporated in the delivery which may have question-and-answer sessions, brief apprentice discussions, clicker activities etc. integrated into the sessions. 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 apprentices both socially and academically. In addition, to the active learning sessions and group work, this is facilitated through: the Personal Tutoring Scheme (PTS), field work, industrial visits, extra-curricular seminars, research internships, course representative system, apprentice ambassador work, peer mentoring, and outreach opportunities etc.

**Development of professional employability skills**

The progressive development of a range of key professioanal and employability skills is another feature of the course as exemplified in teamwork/groupwork discussed above. Regarding communication skills, at Level 4, the focus is on writing individual practical reports **EG4020** **Structures, Materials and Construction Methods** 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 **EG4010** **Engineering Design and Professional Practice.** At Level 5, apprentices will be required to produce a substantial written group report and present their individual findings in **CE5122 Building Maintenance and Management**. To help the development of these skills apprentices will be encouraged to submit a draft of a report to the Support for Academic Success Centre for feedback. At Level 6, in the **CE6214 Individual Project** module, apprentices will be taught how to synthesise and critically review information from a variety of sources and report this and their research results in a formal research report and an oral presentation.

To complement the development of employability skills within the curriculum, personal tutors will encourage apprentices to engage in a range of extra-curricular activities such as apprentice representation, sports and recreation,  society membership,  volunteering , apprentice ambassadorship, leadership and mentoring; cultural and creative activities;  academic and professional collaboration; enterprise activity; KU Talent events and opportunities, among others. Activity in these areas is recognised by the university’s Kingston Award Scheme. KU Talent offers a range of events, including Careers Uncovered fairs, which include employers coming to campus to promote graduate opportunities. On Spotlight on Engineering and Construction networking activities, employers and alumni are invited on campus to talk about career pathways.

**Hands-on Practical work**

Hands on practical experience in undertaking surveys and in laboratories is a fundamental in developing practical skills as well as enhancing data collection and analysis skills. Apprentices will have the opportunity to work in laboratories and undertake surveys in some of their modules. Practical work is closely related to the taught content to provide context for the theoretical work. For building surveyors specifically, an understanding of how materials fail is key, as this enhances their understanding of defects which they observe during condition surveys. It is also important to understand how basic structures and construction engineering materials perform under testing conditions which are covered in **EG4020** **Structures, Materials and Construction Methods**.At Level 5,the focus is on structural testing and the manufacturing of materials which are then tested to failure in **CE5103** **CAD & Building Science**. This is delivered through supervised prac

tical sessions with experiment protocols. At Level 6, apprentices are expected to provide reasoned advice to clients in simulated hearing/expert witness sessions in **CE6105** **Professional Practice in Context** as well as select and apply requisite practical skills in **CE6214** **Individual Project**.

**Research-informed Teaching**

Our approach to research-informed teaching is one that places apprentices at the heart of constructing new knowledge. It seeks to transform apprentices from passive recipients of information to active self-motivated independent learners and researchers who are enabled to challenge existing knowledge bases and partake in the creation and dissemination of new knowledge that furthers and advances scholarship and professional practice within their discipline. There are varied manifestations of research-informed teaching in the course taking several forms of experiential learning achieved through in-class problem-based learning, field work and laboratory work.

These create opportunities for apprentices to investigate and critique theory and its application and share their reflective findings with other staff and apprentices. Research-informed teaching is also achieved through research undertaken by academic staff teaching on the course, which in turn informs the design of learning activities as well as collaborative research projects involving staff and apprentices which often result in publishable research outputs.

The majority of the course team are either construction and/or surveying research active or are involved in industry related professional activities, through KTPs or have other direct involvement with the 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 School Industrial Advisory Board. 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. Staff research is undertaken amongst other areas into Building Information Modelling (BIM), design and specification, sustainable construction methods and materials, building control and other regulatory compliance policies and systems. For instance, in **CE5107** **Contract Administration** apprentices are taught how the use of appropriate contracts can minimize time and cost overruns whilst in **CE6110** **Existing Built Environment** they learn about the application of sustainable technologies in the restoration and conservation of existing buildings.

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 they then feed through to support learning in lectures and other forms of apprentice engagement with the programme, both formal and extra-curricular. As parts of pedagogic research computing resources in fundamental subjects such as and cost estimating are being developed and been embedded into VLE system. The use of an Electronic Voting System in the class room for summative and formative assessments as well as software designed to facilitate peer assessments are other examples 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.

**Practice-informed Teaching**

Embedded in our teaching and learning practice is another major shift in pedagogy, specifically, our teaching is both practice-informed. In addition to academic staff, the teaching of specialist topics for instance, collateral warranties, international procurement etc. is delivered by experienced practitioners including recent graduates. The involvement of practitioners in our teaching delivers a range of benefits to the apprentice experience. Practitioners are able to share their professional experience and bring a wealth of knowledge in relation to current and emerging issues within the respective discipline and industry-led practice. Practitioners also serve as inspiring role models for apprentices preparing to enter practice.

**Assessment for Learning**

The assessment strategy has been designed help apprentices to learn and prepare them for employment, rather than just a tool to measure their learning. The assessments are designed to be authentic, inclusive and transparent. The assessment tasks focus on the real world-quantity surveying activities that enhance apprentices’ employability.

At Level 4, apprentices will be expected to work in groups to produce a 3D model of a construction site which complies with a specific requirement set in their client’s brief in **EG4040 Construction Management and Site Investigation**. At Level 5, apprentices will expected to produce innovative client-focused solutions on renewable technologies and the use of sustainable and modern methods of construction to enhance building performance in **CE5104** **Commercial Construction Technology**. At Level 6, apprentices will be expected to produce their capstone project in **CE6101** **Building Design and Application** bringing together knowledge gained throughout the programme.

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. At Level 4 apprentices will be using computer automated taking off software to produce preliminary estimates and get formative feedback. At Level 5, tutorial sessions are designed to provide formative feedback on building maintenance technigues which apprentices can use to enhance their summative assessment. At Level 6 feedforward workshops are utilized to provide formative feedback on the development of the apprentices’ design projects in **CE6101** **Building Design and Application**.

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. It is reflected in the minimise use of examination in only one module at level 5 and another module at 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.

**Inclusive Teaching Practice**

Staff-Student Consultative Committees and Boards of Study provide opportunities for apprentices to make suggestions on how to develop a more inclusive curriculum by taking into account the specific circumstances of the apprentice body. The variety of teaching activities also takes account of the apprentices’ 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 briefs 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 apprentices have an opportunity to interrogate the criteria. One such typical example is the assignment brief issued for the project that apprentices undertake as part of their Level 5 residential field trip to a European destination in **CE5107** **Contract Administration**. The brief contains detailed client instructions so that apprentices are able to fully interrogate the assessment criteria that relate to project appraisal, site investigation, and proposed project delivery solution once they have been able to visit the selected sites.

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-based outcomes in both **CE6101 Building Design and Application** and **CE6214 Individual Project** modules which provide 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 in both will place 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.

**Employability**

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 KU Talent, including; professional communication, time management, organisation and other skills. There are also opportunities to perfect skills required to gain employment such as; CV writing, Psychometric Test and Using LinkedIn. An apprentice’s development and career options are discussed in personal tutor meetings and guidance given as appropriate. This is in liaison with the KU Talent team, the University’s Careers Service.

Apprentices receive added value to their learning experience through an informed curriculum and by undertaking field trips, site visits, simulated practice projects and a series of support activities such as employability evenings, CV writing sessions etc. Apprentices are also encouraged to take part in professional body competitions. However, we recognise that employers also value a range of other skills and experiences and apprentices are encouraged to take part in the wider life of the University through sporting, musical or other activities or through community volunteering. In recent years, apprentices within the School have won numerous awards including the National Women in Property Award, the national CIOB Novus Challenge competition and RICS Student Award.

1. **Support for Apprentices and their Learning**

The University recognises that the learning experience is unique to each apprentice. A key part of our approach to an inclusive curriculum is that we acknowledge and where possible accommodate their individual circumstances. The personal tutor scheme is central to the efforts to provide a personalised learning experience. At Level 4 and 5 a core set of problems for each quantity surveying module are issued to apprentices. These cover the whole curriculum for a particular level. Apprentices are required to work through these formative assessment problems as they cover the relevant curriculum. This allows apprentices to test their learning and measure their progress. Discussion of progress on these problem sets will be a key part of the Personal Tutor Scheme. Apprentices are required to upload their progress on these activities onto the learning log created on the University VLE system. The learning log will be available to the relevant personal tutors for further discussion during one-to-one meetings. There will be milestones for apprentices to meet at every level, and it will be one of the personal tutor’s roles to monitor the apprentices’ progress and give appropriate advice*.*  Where difficulties are encountered, personal tutors will be able to help or direct apprentices to available support including peer mentoring schemes, PAL, Maths aid and on-line resources etc.

Apprentices are supported by:

* **A Module Leader** for each module
* **A Course Leader** to help apprentices understand their programme structure and provide academic support
* **A Personal Tutor** (PT) to foster a close and engaging academic relationship with the apprentices and advise and refer them to other University services.
* An **Employer Mentor** on the apprenticeship route for work based learning
* There is a **Student Support and Engagement Team** to help apprentices with any problem that is affecting their studies.
* A dedicated **Undergraduate Course Administrator**
* **An induction programme** and study skills sessions at the start of each academic year
* **SEC Academic Success Centre (SASC)** is a one-to-one drop-in Study Skills session for apprentices every weekday. Help is available on a range of academic skills from writing reports, note-taking, to exam revision, referencing, programming and mathematical skills.
* **VLE** – a versatile on-line interactive intranet and learning environment accessible both on-site and remotely
* **Course Representative scheme**
* **KUTalent** a University Careers and Employability Service
* Comprehensive University support systems including the provision of advice on finance, regulations, legal matters, accommodation, international apprentice support, disability and equality support.
* The **Student Union**
* An **Academic Team** that seeks to maintain an open door policy in the spirit of supporting apprentices.

**Personal Tutor Scheme (PTS) in the School of Engineering**

The following provides the aims and structure of the Personal Tutor Scheme (PTS) for the School of Engineering. It is intended that the PTS be embedded within the BSc programme.

**Overall Aims**

* To build a rapport between staff and apprentices and contribute to personalising apprentices’ experience within the School of Engineering
* To support apprentices in the development of their academic skills providing appropriate advice and guidance to apprentices 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 If they change discipline at the end of TB1 a change of PT is likely to occur to allow comprehensive support through the programme.

There are specific aims and outcomes for each level, as the PTS is progressive and cumulative, apprentices will find that they are building on the skills developed in previous levels. Formative assessment will be provided in the form of regular feedback during meetings with the Personal Tutor and Employer Mentor when the apprentice will be able to put forward draft assignments for evaluation. The summative assessment will be part of the assignments given in each module.

**Level 4: Settling in and building confidence**

**Aims and Learning Outcomes**

* To assist apprentices in making the transition to Higher Education and to generate a sense of belonging to the School Engineering with an emphasis on widening participation issues
* To help apprentices to develop good academic habits and to gain the confidence to operate successfully in a university context
* To prepare apprentices to make the most of feedback throughout their course

**Contact:**

* Teaching block 1: three one-to-one meetings during induction week, weeks 2 and 6-7
* Teaching block 2: two one-to-one meetings during week 1 and week 6-7
* End of academic year individual ‘wrap up’ email

In addition to a core set of problems for each module apprentices are also given a list of engagement activities that they are encouraged to take advantage of at Level 4. PT will discuss progress on problem sets and engagement with certain activities with tutees throughout the year.The learning log will be available to the relevant personal tutors for further discussion during one-to-one meetings. There will be milestones for apprentices to meet at every level, and personal tutors’ will monitor the apprentices’ progress and give appropriate advice.

**EG4010 Engineering Design and Professional Practice** is closely linked to the Personal Tutor Scheme as it introduces key academic and employability skills. In addition it focuses on reflective practice on feedback and their progress with academic and employability skills. It is expected that these are topics of conversation personal tutor meetings.

**Level 5: Stepping it up and broadening horizons**

**Aims and Learning Outcomes**

* To help apprentices comprehend and plan for the academic demands of level 5 and to support increasing independence
* To encourage apprentices to look forward, to take up opportunities to develop wider skills and to take responsibility for their personal development
* To foster apprentices’ ability to build on and respond proactively to the feedback they have received
* To assist apprentices in reflecting on the skills that they are developing and consider how they relate to employability

**Contact:**

* One-to-one meeting in week 1
* Email contact at the end of teaching block 1
* Individual ‘wrap up’ email at end of academic year

Throughout the year, apprentices are expected to reflect on their acquisition of skills with their Personal Tutors. This activity is integrated into **CE5107** **Contract Administration** where apprentices are required to producea reflective diary and provide a self-evaluation of the competences developed and their learning journey up to that level.

**Level 6: Maximising success and moving on**

**Aims and Learning Outcomes**

* To support apprentices with the planning necessary to maximise success in their penultimate undergraduate year
* To encourage apprentices to reflect on the employability skills they have developed and be proactive in moving towards a professional life and/or further study
* To help apprentices to make best use of the feedback they have received so that they can build on their strengths and take steps to address any weaknesses

**Contact:**

* One-to-one meeting in week 1
* Email contact at the end of teaching block 1
* Individual ‘wrap up’ email at end of academic year

The application of skills closely linked to the PTS is key requirement of the work-based learning module **CE6214 Individual Project.** In this module, apprentices are enabled to make connections across various other modules and undertake a research project tailored to situations they face at their work place. In doing so, they are required to demonstrate a range of employability skills including independent and analytical thinking, problem-solving and advanced communication and literacy.

Personal Tutors would have access to all the formative and summative assessment results of their tutees and would be responsible to discuss them with their tutees and assist them to prepare plans for further improvements and advise on any academic issues they may have. The personal tutors are also responsible for giving a bigger and more complete picture of learning, teaching, learning outcome and assessment and their linkage to the tutees.

1. **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 apprentice representation
* Annual review and development
* Periodic review undertaken at subject level
* Apprentice evaluation
* Moderation policies

The School interfaces with several professional bodies in the context of annual monitoring and periodic reviews and these provide other opportunities for reflection and external contribution to course design and quality assurance and enhancement. Employer liaison groups which take varying forms also provide the opportunity for external input to the quality assurance and enhancements of the School’s programmes.

1. **Employability Statement**

The curriculum embeds the development of employability skills throughout the Course and is designed to equip apprentices with the ability to relate the knowledge and skills that they have learned to the real world contexts. Group work in conjunction with external organisations at Level 4 will provide apprentices with relevant experience to add to their CV. Apprentices are required to produce a CV early at Level 5 and to enhance this following feedback.

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 KU Talent, including; professional communication, time management and computer literacy skills. There are also opportunities to perfect skills required to gain employment such as; CV writing, Psychometric Test and using LinkedIn. An apprentice’s development and career options are discussed in personal tutor meetings and guidance given as appropriate. This is in liaison with the KU Talent team, the University’s Careers Service.

Graduates develop careers in all branches of the construction industry both here in the UK and throughout the world; as contract and consulting building surveyors, within local authorities, utility, government organisations and private practices. The academic and employability skills developed throughout a surveying course also allow graduates to follow careers in other professions such as ICT, finance, accountancy and teaching.

Professional practice and ethics are introduced in the first year in the **EG4010** **Engineering Design and Professional Practice** this is followed through all other modules at Levels 5 and 6, especially in **CE5107** **Contract Administration, CE6101 Building Design and Application, CE6214 Individual Project**.

1. **Approved Variants from the Undergraduate Regulations**

None.

1. **Other sources of information that you may wish to consult**

Subject benchmark

<http://www.qaa.ac.uk/assuring-standards-and-quality/the-quality-code/subject-benchmark-statements/honours-degree-subjects>

Professional Body:

[www.rics.org](http://www.rics.org)

[www.ciob.org](http://www.ciob.org)

**Development of Field/Course Learning Outcomes in Modules**

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

|  |  |  | **Level 4** | **Level 5** | **Level 6** |
| --- | --- | --- | --- | --- | --- |
|  | **Module Code** |  | **EG4010** | **EG4020** | **EG4030** | **EG4040** | **CE5103** | **CE5104** | **CE5107**  | **CE5122** | **CE6101** | **CE6105** | **CE6110** | **CE6214** |
| **Programme Learning Outcomes** | **Knowledge & Understanding** | **A1** |  |  | S |  | S |  | S | S | S |  | S |  |
| **A2** | S | S |  | S |  |  | S | S | S | S | S | S |
| **A3** |  | S | S | S | S |  |  | S | S |  | S |  |
| **A4** |  |  |  |  | S |  |  | S | S | S | S |  |
| **A5** |  | S |  | S | S |  |  | S | S | S | S |  |
| **A6** | S |  | S | S | S | S |  | S | S | S | S | S |
| **Intellectual Skills** | **B1** | S |  |  |  | S | S | S | S | S | S | S | S |
| **B2** |  | S |  | S | S |  |  | S | S | S | S | S |
| **B3** |  |  |  |  | S | S |  | S | S | S | S | S |
| **B4** | S |  | S |  | S | S |  | S | S | S | S | S |
| **B5** | S | S |  | S | S | S |  | S | S | S | S | S |
| **Practical Skills** | **C1** |  |  |  |  | S |  | S | S | S |  | S |  |
| **C2** |  |  |  |  | S |  |  | S | S |  |  |  |
| **C3** |  |  |  |  | S | S | S |  | S | S | S | S |
| **C4** | S |  |  |  |  | S |  | S | S |  | S |  |
| **C5** | S |  |  |  | S | S | S | S | S |  | S |  |
| **C6** |  |  |  |  |  | S |  |  | S | S |  |  |

**S**  indicates where a summative assessment occurs.

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

**Technical Annex**

|  |  |
| --- | --- |
| **Final Award(s):** | BSc (Hons) Building Surveying |
| **Intermediate Award(s):** | Cert HE in Building SurveyingDip HE in Building Surveying  |
| **Minimum period of registration:** | PT = 5 years (Direct entry to Level 5 = 3 years) |
| **Maximum period of registration:** | PT = 10 years (Direct entry to Level 5 = 6 years) |
| **FHEQ Level for the Final Award:** | Level 6 |
| **QAA Subject Benchmark:** | Land, Construction, Real Estate and Surveying  |
| **Apprenticeship Standard:** | Institute for Apprenticeships Chartered Surveyor (Degree) Standard (ST0331) |
| **Modes of Delivery:** | Degree Apprenticeship Day Release |
| **Language of Delivery:** | English |
| **Faculty:** | Science, Engineering and Computing |
| **School:** | Engineering |
| **Department:** | Construction and Surveying |
| **JACS code:** | K230 – Building SurveyingThis is the [Joint Academic Coding System](https://www.hesa.ac.uk/index.php?option=com_content&view=article&id=1805&ItemId=296&limit=&start=#q10) (JACS) agreed jointly by UCAS and HESA.  |
| **Course/Route Code:** | UPBSU1BSU77 |

**APPENDIX**

**BSc (Hons) Building Surveying Degree Apprenticeship – course diagram**

**APPRENTICESHIP ONE-DAY RELEASE**

 **YEAR 1 OF 5 YEAR 2 OF 5 YEAR 3 OF 5**

 **TB1 TB2 TB1 TB2 TB1 TB2**

CE5107

Contract Administration

30 credits

30 credits

EG4010

Engineering Design and Professional Practice

30 credits

EG4030

Applied Mathematics and Computing Applications

30 credits

CE5103

CAD & Building Science

30 credits

EG4040

Construction Management and Site Investigation

30 credits

EG4020

Structures, Materials and Construction Methods

30 credits

CE5104

Commercial Construction Technology

30 credits

**APPRENTICESHIP ONE-DAY RELEASE (cont.)**

 **YEAR 4 OF 5 YEAR 5 OF 5**

 **TB1 TB2 TB1 TB2**

CE6101

Building Design & Application

30 credits

30 credits

CE6214

Individual Project

30 credits.

CE5122

Building Maintenance & Management

30 credits

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CE6110

The Existing Built Environment

30 credits

CE6105

Professional Practice in Context

30 credits