PROGRAMME SPECIFICATION

Part 1: Basic Data		
Awarding Institution	UWE	
Teaching Institution	UWE	
Delivery Location	Frenchay	
Faculty responsible for programme	Faculty of Environment and Technology	
Department responsible for programme	Architecture and the Built Environment	
Modular Scheme Title	FE TUG Modular Scheme	
Professional Statutory or Regulatory Body Links	Architects Registration Board, Royal Institute of British Architects, Chartered Institution of Building Services Engineers	
Highest Award Title	BEng(Hons) Architecture and Environmental Engineering	
Default Award Title		
Interim Award Titles	BSc(Hons) Built Environment BSc Built Environment DipHE Architecture and Environmental Engineering CertHE Architecture and Environmental Engineering	
UWE Progression Route		
Mode(s) of Delivery	Full time with Foundation year	
Codes	UCAS:KH12	JACS:
	ISIS2: KH12 KH1A (wfy-FT)	HESA:
Relevant QAA Subject Benchmark Statements	Architecture, Engineering	
CAP Approval Date	30 May 2017 v3; 7 March 2018 v4, 30 January 2019 v5	
Valid From	September 2017 v3; September 2018 v4, September 2019	
Valid until Date		
Version	5	

Part 2: Educational Aims of the Programme

BEng(Hons) Architecture & Environmental Engineering is a four year undergraduate programme designed to meet the requirements for prescription by the Architects Registration Board (ARB) and validation by the Royal Institute of British Architects (RIBA) as a Part 1 qualification in architecture, an essential step towards becoming a registered architect in the UK and to meet the academic requirements of the Chartered Institute of Building Services Engineers (CIBSE).

The programme aims to educate critically engaged architectural and environmental engineering professionals with an ethically responsible attitude towards society, clients, users and the environment. The inter-professional ethos of the Department of Architecture Built Environment and the particular academic character of UWE's suite of undergraduate degree courses set the context for the programme. Three themes: **people, context** and **sustainability** underlie the structure of this design-led programme that draws on the department's research in architecture, urban design, contextual studies, health, sustainability and engineering. The programme fosters an understanding of the wider professional, cultural and social setting within which the architect and engineer operate, the organisation of the construction industry and its inter-professional nature, and the management of architectural and engineering practice.

The knowledge and skills developed in the programme are conceived in the context of the general criteria and graduate attributes contained in the RIBA/ARB criteria for validation/prescription that are derived from the requirements of article 46 of the EU Qualifications Directive and echoed in the QAA Benchmark Statement for Architecture. The programme also is designed to meet the requirements of CIBSE, Engineering Council UK, (preparatory to CEng qualification) and the QAA Benchmark Statement for Engineering.

Part 3: Learning Outcomes of the Programme

The focus of the foundation year (level 0) is on the acquisition both of appropriate academic skills and relevant subject knowledge to allow students to develop and progress through levels 1, 2 and 3 in relation to knowledge and understanding, cognitive, subject specific and study skills.

The award route provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas:

The ARB/RIBA criteria for prescription/ validation of Part 1 qualifications are identical to those at part 2 and are based on the requirements of article 46 of the EU Qualifications Directive. The learning outcomes of Part 1 are distinguished from those of Part 2 by seven graduate attributes. They are set out below in bold type.

1. ability to generate design proposals using understanding of a body of knowledge; some at the current boundaries of professional practice and the academic discipline of architecture;
2. ability to apply a range of communication methods and media to present design proposals clearly and effectively;
3. understanding of the alternative materials, processes and techniques that apply to architectural design and building construction;
4. ability to evaluate evidence, arguments and assumptions in order to make and present sound judgments within a structured discourse relating to architectural culture, theory and design;
5. knowledge of the context of the architect and the construction industry;
6. and the professional qualities needed for decision making in complex and unpredictable circumstances;
7. ability to identify individual learning needs and understand the personal responsibility required for further professional education.

The output standards quoted by CIBSE and the Engineering Council are extracted from 'UK Standard for Professional Engineer Competence: The Accreditation of Higher Education Programmes (May 2004) and fall under the major headings:

Underpinning Science and Mathematics
Engineering Analysis
Design
Economic, social, and environmental context
Engineering Practice

Learning Outcomes	**Teaching, Learning and Assessment Strategies**
A Knowledge and Understanding	
A Knowledge and understanding of 1) the nature of architectural and engineering design and the design process 2) the relevant engineering principles and mathematical methods to the analysis and solution of building design problems 3) the concepts and principles of sustainable development and the environmental design of buildings and associated. technologies 4) building structures, construction and the properties of materials and building fabric and mechanical systems as modifiers of the external environment. 5) mathematical models (and their limitations) used in the environmental design of buildings	Teaching/learning methods and strategies: 1) Design projects are the main vehicle for learning in this programme. They are structured around core themes in each year. The sequence culminates in the final year with a comprehensive design study that requires students to demonstrate knowledge and skills acquired during the course in an integrated architectural and engineering design in a defined setting. 2) Focused knowledge development takes in modules based on lectures, seminars, workshops and laboratory sessions. The core subjects covered include history, theories and contexts of architecture, engineering mathematics, building physics, building services technology and inter-professional studies.

Part 3: Learning Outcomes of the Programme	
6) the changing contexts (economic, social, cultural, political, spatial, and environmental) of building design and ability to engage in debate about how these might be interpreted 7) the needs of clients and users of building, the social and ethical responsibilities of architects and engineers and the social consequences of development 8) the framework of statutory regulation, codes of practice and issues relating to health and safety within the built environment. 9) the processes of the procurement of buildings and their engineering systems, with regard to finance, law, quality control, and business practice. 10) the role of IT in supporting architects, engineers and other construction professionals. 11) the roles played by other built environment professions, and the distinct perspectives which they bring to bear in the development process	3) The technical research study and other extended written assignments develop students research and written communication skills 4) Residential and local field courses that allow students experience a variety of built environments. Assessment: Knowledge and understanding are assessed through a portfolio of design projects, examinations, the technical research study and a variety of other coursework assignments.
B Intellectual Skills	
B Intellectual Skills 1) apply reflective, critical, analytical and imaginative reasoning in the design of buildings. 2) apply knowledge, and evidence-based reasoning to design problems with objective outcomes. 3) understand a range of approaches to architectural composition and the manipulation of space. 4) select and apply a range of analytical methods to define parameters and to model physical phenomena 5) evaluate critically the designs of others and to be able to accept criticism as part of an evolving creative process. 6) respond creatively to the needs of building users, sponsors and the wider community and bring to bear an ethically informed perspective embracing environmental and social responsibilities. 7) make links between areas of the course and wider social, economic and environmental issues and apply the understanding of place and context to the design of buildings. 8) to use rigorous research methods (qualitative and quantitative) to produce well argued, well researched written work based on evidence. 10. to engage in fair negotiation with others while offering persuasive arguments in support of concepts, results, and ideas 11. to recognise when existing knowledge or skills are insufficient to the task .	Teaching/learning methods and strategies: 1) Design projects are the main vehicle for the development of students' design skills and creative thinking 2) Lectures, tutorials and seminars allow focused inquiry and discussion. 3) Field courses place intellectual inquiry within direct experience . Assessment: Intellectual skills are assessed in a variety of ways: 1) discussion and critique of the students' portfolio of design studio work, both at interim and final stages. 3) presentations and reflective reports design, theory and engineering modules. 4) coursework of lecture based modules. 5) examinations in lecture based modules. 6) technical research study and other extended written assignments.

C Subject, Professional and Practical Skills	
C Subject, Professional and Practical Skills 1) apply analytical skills and broadly based knowledge of structure, construction, materials and environmental performance to the design of resource-efficient buildings. 2) appreciate the values and needs of different groups in society and mediate between the requirements of the client and users of buildings 3) make informed ethical judgments at the level of responsibility of the professional to the client and in the wider social and environmental context. 4) understand all stages of the design and construction process, including feasibility analysis, sketch and detailed design, installation, commissioning, and feedback appraisal. 5) master the conventions of architectural and engineering representation in two and three dimensions 6) select and use scientific and technical equipment and specialist analytical tools in experimental investigations of building fabric and systems and the solution of design problems 7) undertake research and data collection and demonstrate a clear and analytical writing style suited to the professional role of the architect and engineer. 8) maintain a professional approach to self-appraisal, personal development, and to relationships with clients and colleagues.	Teaching/learning methods and strategies: 1)Design projects are the context in which analytic and synthetic skills are acquired and developed through iteration and experiment. 2)Technical skills and skills are developed in laboratory sessions and hand-on computer workshops. 3)Research skills are developed through a range of modules but come together in the dissertation. Assessment: 1)Design related skills are assessed in interim and final reviews and through the submission of a portfolio of design studio work and. 2)Other skills are assessed through observation of student demonstrations, for example in laboratory reports or workshop exercises and reflective reports based on the results of practical work.
D Transferable Skills and other attributes	
D Transferable Skills and other attributes 1) draw conceptually and observationally. 2) to identify, access, research, manipulate and interpret data 3)deploy evidence and reasoning in support of decisions 4)communicate -orally, in writing, graphically - to a high standard. 5) to be competent in the use of word processing, data gathering, modelling and analytic software. 6) work independently and as part of single-discipline or multi-discipline teams with a broad awareness of equal opportunities issues.	Teaching/learning methods and strategies: Transferable skills are developed through the design project modules which require their use in all years of the programme. Key transferable skills are introduced in a programme of skills development in level 1 modules including time management, report and essay writing, presentation skills. Team working is developed in many modules and inter-professional team work is assessed in the inter-professional modules Assessment: Transferable skills are explicitly assessed through the modules within which they are introduces. Thereafter these skills will be assessed as a requirement of all pieces of working including the design projects, core planning modules and technical modules.Team working will be assessed through the presentations and reports required for the inter-professional modules.

Part 4: Programme Structure
This structure diagram demonstrates the student journey from Entry through to Graduation for a **full time student**, including: level and credit requirements, interim award requirements, module diet, including compulsory and optional modules

ENTRY	Year 1 (level 0)	**Compulsory Modules** UBLMWM-15-0 Foundation Engineering for Designers UBLMSA-15-0 Foundation Mathematics for the Built Environment UBLML7-30-0 Foundation Design Studio UBLMYM-30-0 Foundation Design Communication UBLMLR-30-0 Context of Design and Development	**Interim Awards** 120 credits at Level 0 Successful completion of all level 0 modules required to permit progression to level 1.
	Year 2 (level 1)	**Compulsory Modules** UBLLYC-60-1 Design Studio 1 UFMFYG-15-1 Mathematics for Civil and Environmental Engineering UBLLWQ-15-1 Engineering Principles (Building Engineering) UBLMSS-30-1 Building Science	**CertHE Architecture and Environmental Engineering** Credit Requirements: 240 credits At least 100 credits at level 1 or above. 120 credits at level 0
	Year 3 (level 2)	**Compulsory Modules** UBLMXE-45-2 Studio 2 UBLMTV-15-2 IT for Designers (renamed to Design Representation, to implement from Sep 2019 for new students) UBLMTE-15-2 History of Architecture UBLMNV-15-2 Research & Design Strategies UBLMTB-30-2 Building Services Applications	**DipHE Architecture and Environmental Engineering** Credit requirements: 360 credits At least 100 credits at level 2 or above. At least 120 credits at level 1 or above. 120 credits at level 0.

Year 4 (level 3) 3.1	**Compulsory Modules** UBLMRE-45-3 Design & Engineering Studio 3 UBLMHP-15-3 Interactive Systems and Comfort Control UFMFF7-15-2 Application of Mathematics in Civil and Mechanical Engineering UBLMYV-15-3 Theories of Architecture and Design UBLMN7-30-3 Low Carbon Building Services	**BSc Built Environment** Credit requirements: 420 credits At least 60 credits at level 3 or above. At least 100 credits at level 2 or above. At least 140 credits at level 1 or above. 120 credits at level 0. **BSc(Hons) Built Environment** Credit requirements: 480 credits At least 100 credits at level 3 or above. At least 100 credits at level 2 or above. At least 140 credits at level 1 or above. 120 credits at level 0.
	Optional Placement Year: Students may optionally complete a placement. For students completing the optional industrial placement, they must complete the 15 credit module UBLMG4-15-3 Work-based Research Project (for which they are exempted from the later module UBLMNE-15-3).	
Year 5 (level 3)	Compulsory Modules UBLMRV-60-3 Design & Engineering Studio 4 UBLMGP-15-3 Energy Management and Performance Evaluation UBLMNE-15-3 Collaborative Practice (see note above for placement year) UBLMPB-30-3 Mechanical Services	**BEng (Hons) Architecture and Environmental Engineering** Credit requirements: 600 credits At least 240 credits at level 3 or above. At least 100 credits at level 2 or above. At least 140 credits at level 1 or above. 120 credits at level 0.

Part 5: Entry Requirements

The University's Standard Entry Requirements apply with the following additions/exceptions*:

Applicants must all have achieved a GCSE pass at Grade C or above (or equivalent) in English and Maths. All applicants must have a Grade C or above at A-level Maths.

Tariff points as appropriate for the year of entry - up to date requirements are available through the courses database

Part 6: Assessment

Approved to University Regulations and Procedures

The degree classification is based upon the best marks achieved across 300 credits at levels 2 and 3. In calculating the classification marks for the best 200 credits at level 3 are weighted at three times the next best 100 credits at level 2 and above. The mark for the final year design module must be included within the 200 level 3 credit pool of marks to be weighted at three times the next best 100 credits at level 2 or above.

It is the Award Board's responsibility to determine whether the student's attainment at level 0 is sufficient to progress to level 1.

Part 7: Student Learning

Teaching, learning and assessment strategies to enable learning outcomes to be achieved and demonstrated

At UWE, Bristol there is a policy for a minimum average requirement of 12 hours/week contact time over the course of the full undergraduate programme. This contact time encompasses a range of face:face activities as described below. In addition a range of other learning activities will be embedded within the programme which, together with the contact time, will enable learning outcomes to be achieved and demonstrated.

On the BEng(Hons) Architecture & Environmental Engineering programme teaching is a mix of scheduled and independent learning].

Scheduled learning includes design studios, lectures, seminars, tutorials, project supervision, demonstration, practical classes and workshops, external visits; supervised time in studio/workshop.

Independent learning includes hours engaged with essential reading, case study preparation, assignment preparation and completion etc. These sessions constitute an average time per level as indicated in the table below.

Description of Distinctive Features and Support

The foundation year is common with a number of other construction and property programmes which allows the flexibility for students to transfer between programmes in this subject area as is most appropriate to their emergent subject and/or their professional interests.

The Faculty of Environment and Technology has a strong commitment to interdisciplinary professional education, as is evident in the design of all its undergraduate programmes. It offers a number of jointly validated professional degrees including Property Development & Planning (PDP) and Architecture & Planning (A&P) which is prescribed by the Architects Registration Board (ARB) and Royal Institute of British Architects (RIBA) as a part 1 qualification in architecture and is validated by the Royal Town Planning Institute (RTPI). A&P was the first dual accredited architecture and planning programme in UK. BEng (Hons) Architecture Environmental Engineering (A&EE) is designed to sit alongside A&P sharing some of its modules and creating further opportunities for linkages between disciplines.

The programme brings together the curricular and outcome requirements of the (RIBA) and the Architects' Registration Board (ARB) with those of the Chartered Institute of Building Services Engineers (CIBSE) and is designed to be validated by both professions: by RIBA and ARB as giving exemption from the RIBA Part 1 examination, by CIBSE as providing the first step in the academic route to Chartered Engineer status.

The programme aims to educate practitioners and researchers who are equipped for careers in architecture and the building services/environmental design professionals and who possess a unique appreciation of buildings and their energy performance. Highly creative architect-engineers able to work both intuitively and analytically can make a significant contribution the development of a new generation of buildings that meet the challenges imposed by climate change and resource depletion.

Part 7: Student Learning

Whichever path graduates choose to follow, having a dual qualification in architecture & environmental engineering will open up a wide range of opportunities in the job market.

Part 8: Reference Points and Benchmarks

Description of ***how*** the following reference points and benchmarks have been used in the design of the programme:

The curriculum, learning methods, aims and learning outcomes of this award respond to the guidelines and requirements of the EU, the Royal Institute of British Architects (RIBA) and the Architects Registration Board (ARB) and the QAA benchmark statement for architecture and engineering.

- EU Directive 2005/36/EC on the Recognition of Professional Qualifications: Article 46 Training of Architects
- Procedures for Validation and Validation Criteria for UK & International Courses and Examinations in Architecture RIBA 2011
- Prescription of Qualifications: ARB Criteria at Parts 1,2 and 3 ARB 2011
- UK standard for Professional Engineering Competence: ECuk
- CIBSE Requirements

QAA publications subject benchmark statements:

- QAA Architecture benchmark statement QAA361 09/10
- QAA Engineering benchmark statement 09/2010

We also have looked at:

- UWE Employability Strategy
- QAA code of practice: section 8 Career Education, information, advice and guidance
- UWE Widening Participation Strategy
- UWE Sustainability Strategy
- UWE Teaching and Learning Strategy

STUDENT AND ACADEMIC SERVICES

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First Approval Date	June 2015			
Revision Approval Date *Update this row each time a change goes to CAP*	-	Version	1	
	Feb 2017		2	Link to RIA (ID 4144)
	30 May 2017		3	Link to RIA (ID 4284)
	7 March 2018 15 Jan 2019		4 5	Link to RIA (ID 4610) Link to RIA (ID 4678) Link to RIA (ID 5006)
Next Periodic Curriculum Review due date	2021			
Date of last Periodic Curriculum Review				