



## **Programme Specification**

### **Architecture and Environmental Engineering**

**[Sep][FT][Frenchay][4yrs]**

Version: 2022-23, v2.0, 01 Jun 2022

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## Section 1: Key Programme Details

### Part A: Programme Information

**Programme title:** Architecture and Environmental Engineering

[Sep][FT][Frenchay][4yrs]

**Highest award:** BEng (Hons) Architecture and Environmental Engineering

**Interim award:** BSc (Hons) Built Environment

**Interim award:** BSc Built Environment

**Interim award:** DipHE Architecture and Environmental Engineering

**Interim award:** CertHE Architecture and Environmental Engineering

**Awarding institution:** UWE Bristol

**Affiliated institutions:** Not applicable

**Teaching institutions:** UWE Bristol

**Study abroad:** No

**Year abroad:** No

**Sandwich year:** No

**Credit recognition:** No

**Department responsible for the programme:** FET Dept of Architecture & Built Environ, Faculty of Environment & Technology

**Contributing departments:** Not applicable

**Professional, statutory or regulatory bodies:**

Architects Registration Board (ARB)

Board of Architects Malaysia

Chartered Institution of Building Services Engineers (CIBSE)

Royal Institute of British Architects (RIBA)

**Apprenticeship:** Not applicable

**Mode of delivery:** Full-time

**Entry requirements:** For the current entry requirements see the UWE public website

**For implementation from:** 01 September 2022

**Programme code:** KH12-SEP-FT-FR-KH12

## **Section 2: Programme Overview, Aims and Learning Outcomes**

### **Part A: Programme Overview, Aims and Learning Outcomes**

**Overview:** BEng(Hons) Architecture and 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).

**Educational Aims:** 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.

**Programme Learning Outcomes:**

On successful completion of this programme graduates will achieve the following learning outcomes.

**Knowledge and Understanding**

- A1. The nature of architectural and engineering design and the design process
- A2. The relevant engineering principles and mathematical methods to the analysis and solution of building design problems
- A3. The concepts and principles of sustainable development and the environmental design of buildings and associated technologies
- A4. Building structures, construction and the properties of materials and building fabric and mechanical systems as modifiers of the external environment
- A5. Mathematical models (and their limitations) used in the environmental design of buildings
- A6. 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
- A7. The needs of clients and users of building, the social and ethical responsibilities of architects and engineers and the social consequences of development
- A8. The framework of statutory regulation, codes of practice and issues relating to health and safety within the built environment
- A9. The processes of the procurement of buildings and their engineering systems, with regard to finance, law, quality control, and business practice
- A10. The role of IT in supporting architects, engineers and other construction professionals

- A11. The roles played by other built environment professions, and the distinct perspectives which they bring to bear in the development process

### **Intellectual Skills**

- B1. Apply reflective, critical, analytical and imaginative reasoning in the design of buildings
- B2. Apply knowledge, and evidence-based reasoning to design problems with objective outcomes
- B3. Understand a range of approaches to architectural composition and the manipulation of space
- B4. Select and apply a range of analytical methods to define parameters and to model physical phenomena
- B5. Evaluate critically the designs of others and to be able to accept criticism as part of an evolving creative process
- B6. 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
- B7. 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
- B8. To use rigorous research methods (qualitative and quantitative) to produce well argued, well researched written work based on evidence
- B9. To engage in fair negotiation with others while offering persuasive arguments in support of concepts, results, and ideas
- B10. To recognise when existing knowledge or skills are insufficient to the task

### **Subject/Professional Practice Skills**

- C1. Apply analytical skills and broadly based knowledge of structure, construction, materials and environmental performance to the design of resource-efficient buildings
- C2. Appreciate the values and needs of different groups in society and mediate between the requirements of the client and users of buildings
- C3. Make informed ethical judgments at the level of responsibility of the professional to the client and in the wider social and environmental context

- C4. Understand all stages of the design and construction process, including feasibility analysis, sketch and detailed design, installation, commissioning, and feedback appraisal
- C5. Master the conventions of architectural and engineering representation in two and three dimensions
- C6. 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
- C7. Undertake research and data collection and demonstrate a clear and analytical writing style suited to the professional role of the architect and engineer
- C8. Maintain a professional approach to self-appraisal, personal development, and to relationships with clients and colleagues

### **Transferable Skills and other attributes**

- D1. Draw conceptually and observationally
- D2. To identify, access, research, manipulate and interpret data
- D3. Deploy evidence and reasoning in support of decisions
- D4. Communicate orally, in writing, graphically to a high standard
- D5. To be competent in the use of word processing, data gathering, modelling and analytic software
- D6. Work independently and as part of single-discipline or multi-discipline teams with a broad awareness of equal opportunities issues

### **Part B: Programme Structure**

#### **Year 1**

The student must take 120 credits from the modules in Year 1.

#### **Year 1 Compulsory Modules**

The student must take 120 credits from the modules in Compulsory Modules.

<b>Module Code</b>	<b>Module Title</b>	<b>Credit</b>
UBLLYC-60-1	Design Studio 1 2022-23	60

UBLLWQ-15-1	Engineering Principles (Building Engineering) 2022-23	15
UBLMSS-30-1	Environmental Physics and Materials 2022-23	30
UFMFYG-15-1	Mathematics for Civil and Environmental Engineering 2022-23	15

**Year 2**

The student must take 120 credits from the modules in Year 2.

**Year 2 Compulsory Modules**

The student must take 120 credits from the modules in Compulsory Modules.

<b>Module Code</b>	<b>Module Title</b>	<b>Credit</b>
UBLMTB-30-2	Building Services Applications 2023-24	30
UBLMTV-15-2	Design Representation 2023-24	15
UBLMD1-15-2	Histories and Theories of Architecture 2023-24	15
UBLMNv-15-2	Research and Design Strategies 2023-24	15
UBLMXE-45-2	Studio 2 2023-24	45

**Year 3**

The student must take 120 credits from the modules in Year 3.

**Year 3 Compulsory Modules**

The student must take 120 credits from the modules in Compulsory Modules.

<b>Module Code</b>	<b>Module Title</b>	<b>Credit</b>
UFMFF7-15-2	Applications of Mathematics in Civil and Environmental Engineering 2024-25	15
UBLMRE-45-3	Design and Engineering Studio 3 2024-25	45

UBLMHP-15-3	Interactive Systems and Comfort Controls 2024-25	15
UBLMN7-30-3	Low Carbon Building Services 2024-25	30
UBLMYV-15-3	Theories of Architecture and Design 2024-25	15

**Year 4**

The student must take 120 credits from the modules in Year 4.

**Year 4 Compulsory Modules**

The student must take 120 credits from the modules in Compulsory Modules.

<b>Module Code</b>	<b>Module Title</b>	<b>Credit</b>
UBLMNE-15-3	Collaborative Practice 2025-26	15
UBLMRV-60-3	Design and Engineering Studio 4 2025-26	60
UBLMGP-15-3	Energy Management and Performance Evaluation 2025-26	15
UBLMPB-30-3	Mechanical Services 2025-26	30

**Part C: Higher Education Achievement Record (HEAR) Synopsis**

BEng(Hons) Architecture and 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 Planning and Architecture 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 his design-led programme that draws on the department's research in architecture, urban design, contextual studies, health, sustainability and engineering. The programme fosters understanding of the wider professional, cultural and social setting within which the architect operates, the organisation of the construction industry and its inter-professional nature and the management of architectural and engineering practice.

#### **Part D: External 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 and 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

### **Part E: Regulations**

The programme will be assessed using the current version of the University's Academic Regulations and Procedures.