Programme Specification

Architecture and Environmental Engineering [Frenchay]

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Contents

Section 1: Key Programme Details

Part A: Programme Information

Programme title: Architecture and Environmental Engineering [Frenchay]

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

Teaching institutions: UWE

Study abroad: Yes

Year abroad: No

Sandwich year: No

Credit recognition: No

School responsible for the programme: CATE School of Architecture and Environment, College of Arts, Technology and Environment

Professional, statutory or regulatory bodies: Not applicable

Modes of delivery: Full-time

Entry requirements:

For implementation from: 01 September 2025

Programme code: KH1L13

Section 2: Programme Overview, Aims and Learning Outcomes

Part A: Programme Overview, Aims and Learning Outcomes

Overview: The BEng (Hons) Architecture and Environmental Engineering at the UWE Bristol School of Architecture and Environment is a four-year dual-accredited programme combining two professional qualifications. Graduates gain the flexibility to pursue careers as architects, or as building services engineers, or in emerging hybrid professions addressing social inequalities, economic constraints, and environmental sustainability.

The programme provides creative and critical skills for contemporary architectural practice, enhanced by the analytical and technological expertise of engineering. Graduates acquire a unique skillset in demand across both professions. It emphasises sustainable design, integrating architectural creativity with engineering problem-solving to address a range of challenges facing the built environment, from the need for high performance buildings to climate resilience. Core skills include sustainable design, fire and life safety, technology-driven design, and the use of environmentally conscious materials and structures.

This programme fosters a reflective and innovative approach to design, encouraging students to integrate technical expertise with an understanding of ethical and environmental responsibilities while pursuing their own interests. Students engage with concepts such as climate resilience, regenerative design, and engineering of internal environments while developing their ability to conceptualise and realise architectural projects that meet the needs of diverse communities. With an emphasis on hands-on learning and real-world application, the course blends studio-based pedagogy, technical workshops, and live projects with theoretical and contextual studies.

Learning is hands-on and real-world-focused, blending studio-based teaching, technical workshops, lab explorations, and live projects around the city and the wider region. The course meets dual accreditation requirements: RIBA Part 1 for architecture and CIBSE standards for Incorporated Engineer status. It also prepares students for ARB-validated master's programmes.

Embedded in local industry, the programme connects students with a network of employers through part-time studio tutors, guest lectures, site visits, internships, and graduate opportunities. Employability skills are integral, ensuring graduates are well-prepared for professional practice.

Features of the programme: Professional Alignment: The course meets the dual accreditation requirements of RIBA Part 1 for architecture and CIBSE standards for Incorporated Engineer status. It also prepares students for ARB-validated master's programmes.

Sustainability: The programme is at the leading edge of sustainable design, combining the creative approach of the architect, with the analytical problem-solving skills of the engineer, to acquire a deep understanding of the design techniques and technologies at the heart of climate-resilient architecture.

Teaching resources: UWE Bristol has extensive facilities to support hands-on learning, in our specially designed buildings, including R-block, home to our architecture studios and one of the most sustainable buildings in Bristol, and Z-block, our latest building designed to teach future generations of engineers where we have labs dedicated to low carbon design and construction materials.

Digital Literacy: Integration of practice-facing digital skills into the design process. Students will develop a wide range of skills from image rendering, to data analysis, to energy modelling.

Interdisciplinary Collaboration: UWE Bristol is one of the few universities in the UK to have professionally accredited programmes from all the main built environment professions including architecture, civil engineering, building services engineering, planning, construction management, quantity surveying, building surveying and real estate. There are opportunities to learn across these professions built into the programme.

Global and Local Perspectives: Encouragement to address architectural challenges at both community and international levels, with a focus on creating meaningful and

context-sensitive solutions.

Industry engagement: opportunities to engage with employers in a range of formats.

Educational Aims: PA1 – To develop graduates who can demonstrate all the knowledge, skills and behaviours required to practice as a professional part 1 architecture graduate or as a graduate engineer, relating to the design and analysis of buildings, considering social and environmental challenges.

PA2 – To develop graduates who are collaborative by nature, who are aware of attributes of inclusive and diverse working environment, and who are ready to assume their role as progressive citizens in the workplace.

PA3 – To develop graduates who are reflective in their practice, in their way of communicating effectively and in their planning for continuous career development.

PA4 – To develop graduates who can practice at the leading edge of sustainable and zero carbon building design, making innovative use of the latest digital design techniques and technologies.

PA5 – To develop graduates equipped for the world of work, fostering transferable skills such as problem-solving, communication, and digital literacy, competencies which empower them to explore a wide range of career paths, from local practices to global and multinational organisations.

PA6 – To develop graduates who are curious and creative in how the solve problems, who are critical in their thinking and who are aware of the role of research in developing professional knowledge bases.

Programme Learning Outcomes:
On successful completion of this programme graduates will achieve the following learning outcomes.

Programme Learning Outcomes

PO1. Develop innovative, sustainable design propositions that address and integrate social, cultural, and environmental challenges across diverse contexts. (Keyword: Design)

PO2. Analyse contemporary designs within their social, historical, and theoretical contexts, demonstrating the application of critical thinking. (Keyword: Analysis)

PO3. Examine the complexity of interdisciplinary practice by evaluating the arguments, assumptions, and behaviours that underpin productive collaboration. (Keyword: Collaboration)

PO4. Explore ethical practices and assess the designer's role in advancing justice, social equity, and sustainable approaches in the context of the climate emergency. (Keyword: Ethics)

PO5. Analyse statutory frameworks and evolving industry standards for stages of development, planning, procurement, health and safety, and wellbeing, demonstrating application through reflective and simulated practice. (Keyword: Professional)

PO6. Exhibit a curiosity-driven and critical approach to academic research, with the ability to plan, execute, and evaluate a science-based investigation, developing further insight into a technical design problem. (Keyword: Research)

PO7. Develop diverse visual, written, and spoken communication skills suitable for dynamic professional contexts, while continuously reflecting on and improving their effectiveness through lifelong learning. (Keyword: Communication)

PO8. Exhibit professional-level knowledge, skills and behaviours in utilising digital tools, including CAD, BIM, image rendering, and engineering analysis software, as required by modern building design professionals.(Keyword: Digital)

PO9. Demonstrate the ability to integrate engineering skills with architectural design to develop and implement innovative building design strategies, demonstrating awareness of the latest complex considerations facing aspects such as material selection, structural arrangements, fire and life safety, fabric performance and service solutions, supported by strong engineering and mathematical skills. (Keyword: Technical)

PO10. Evaluate the environmental performance of a complex building in terms of energy, carbon, air quality, light, sound, water-use and ecology, and compare how these relate to target benchmarks for high-performance buildings, considering climate change and other environmental factors. (Keyword: Environmental)

Assessment strategy: This programme employs a robust and interdisciplinary assessment strategy designed to integrate architectural creativity with engineering precision. The strategy emphasises real-world application, critical thinking, and the development of both professional and transferable skills, ensuring graduates are equipped to tackle the complexities of modern design and engineering challenges.

Integrated Assessment Components

1. Design Portfolios and Software Outputs
- Portfolios capture students' creative, technical, and analytical work across all levels, showcasing the integration of architectural and engineering solutions.
- Assessments emphasise the use of industry-standard software (e.g., CAD, BIM, energy modelling tools) to produce high-quality visual and technical documentation.

2. Interdisciplinary Projects
- Design and development projects simulate professional scenarios, requiring students to propose integrated solutions that address sustainability, functionality, and aesthetics.
- Deliverables include detailed plans, system designs, and reflective analyses of decision-making processes.

3. Technical and Laboratory Reports
- Students document experiments and system evaluations related to building services (e.g., HVAC, renewable energy systems, structural analysis).
- Reports assess students’ ability to interpret data, solve engineering problems, and communicate technical findings effectively.

4. Oral Presentations, Vivas, and Poster Papers

- Regular presentations and poster sessions assess students' ability to articulate their ideas clearly and respond to feedback from peers, academics, and industry professionals.
- Vivas provide opportunities for in-depth exploration of individual contributions to projects, testing understanding and reasoning.

5. Examinations and Computer-Based Tests
- There are two written exams (seen and unseen) assess foundational knowledge of architectural theory, engineering principles, and mathematical skills.
- Computer-based tests evaluate proficiency in problem-solving and application of engineering principles, particularly at Level 1.

6. Live Projects and Case Studies
- Real-world case studies and live projects allow students to engage directly with community or industry stakeholders.
- Assessments focus on applying interdisciplinary knowledge to solve practical problems, with deliverables including design proposals, feasibility studies, and stakeholder presentations.

7. Group Work and Collaboration Assessments
- Group projects simulate collaborative environments, fostering teamwork, project management, and interdisciplinary integration skills.
- Assessments evaluate both individual contributions and overall group outcomes.

8. Capstone Design Studio
- A final-year design studio synthesises learning across the program, requiring students to deliver a comprehensive architectural and engineering solution.
- Deliverables include a design portfolio, technical documentation, and a oral reviews.

Transferable Skills and Professional Attributes

The assessment strategy emphasizes the development of transferable skills such as:

- Communication: Through written reports, visual presentations, and oral defences.
- Collaboration: By assessing group projects and peer review activities.
- Critical Thinking: Through reflective components in portfolios and case studies.
- Digital Literacy: Via tasks requiring the use of CAD, BIM, and simulation tools.
- Time Management: Supported by a structured assessment timeline to avoid clustering.

Inclusivity and Feedback Literacy

1. Formative Feedback Opportunities
   - Feedback is embedded through tutorials, interim reviews, and draft submissions, encouraging iterative improvement.

2. Diverse Assessment Formats
   - A mix of design work, technical reports, exams, and presentations caters to different learning styles and ensures accessibility.

3. Guidance on Feedback Integration
   - Students are supported in using feedback to improve future work, with explicit connections between formative and summative assessments.

Alignment with Professional Standards

This assessment strategy aligns with ARB/RIBA competencies and CIBSE standards, ensuring graduates meet the expectations of both architectural and engineering professions. By emphasising interdisciplinary skills, sustainability, and technological proficiency, the program prepares students for roles that demand expertise across the design and engineering spectrum.

Student support: The BEng (Hons) Architecture and Environmental Engineering programme at UWE Bristol is committed to providing a comprehensive student support system that promotes academic success, professional development, and personal well-being. Key support elements include:

Academic Personal Tutors (APTs): In line with the National Union of Students (NUS) Charter on Personal Tutors, every student is assigned an Academic Personal Tutor (APT). APTs provide individualised academic guidance, monitor student progress, and act as a first point of contact for any concerns or challenges. Regular meetings with APTs help students reflect on their learning and set goals for their academic and professional growth.

Student Wellbeing and Inclusivity: The programme emphasises a supportive and inclusive learning environment. Students have access to mental health resources, including counselling services, success coaches and stress management support. Peer mentoring schemes encourage students to share experiences and foster a sense of community within the programme.
Students from diverse backgrounds are supported through accessible materials, activities, and assessments designed to accommodate varying abilities, geographic locations, and levels of digital access. The strategy integrates diverse cultural perspectives, ensuring all students feel represented and can explore their identities. Scaffolding helps students from different educational pathways build skills progressively, with explicit training for unfamiliar tasks like group work and presentations. Inclusive teaching fosters mutual respect, addressing microaggressions and biases, while varied assessment options allow students to play to their strengths. Continuous feedback, co-creation opportunities, and tailored support sessions empower students to succeed academically and professionally in a respectful and equitable environment.

Skills Workshops and Digital Training: Regular skills workshops are integrated into the curriculum, ensuring students stay up-to-date with the latest design software, including CAD, BIM, and visualisation tools.

Feedback and Reflective Learning: UWE places a strong emphasis on feedback

literacy, ensuring students understand how to interpret and apply feedback effectively. Feedback is provided through portfolio reviews, critiques, and progress tutorials. Students are encouraged to document their growth and development, fostering reflective learning habits.

Technology-Enhanced Learning: UWE leverages digital platforms such as Blackboard and MS Teams to provide students with access to lecture recordings, assignment submissions, and collaborative workspaces. This ensures students can engage with course materials flexibly, catering to diverse learning preferences.

Part B: Programme Structure

Year 1

Full-time students must take 120 credits from the modules in Year 1.

Year 1 Compulsory Modules (Full-time)

Full-time students must take 120 credits from the modules in Compulsory Modules (Full-time).

Module Code	Module Title	Credit
UBLL58-15-1	Contexts of Architecture 1 - Cities and Society 2025-26	15
UBLL4Y-30-1	Studio 1.2 - People and Environment 2025-26	30
UBLL4S-30-1	Studio 1.1 - Form and Context 2025-26	30
UBLL5S-15-1	Professional Principles and Digital Practice 2025-26	15
UBLL6V-30-1	Materials and Environmental Physics 2025-26	30

Year 2

Full-time students must take 120 credits from the modules in Year 2.

Year 2 Compulsory Modules (Full-time)
Full-time students must take 120 credits from the modules in Compulsory Modules (Full-time).

Module Code	Module Title	Credit
UBLL78-15-2	Passive Design Studio 2026-27	15
UBLL74-30-2	Studio 2.1 - Living 2026-27	30
UBLL79-15-2	Architectural Acoustics 2026-27	15
UBLL7E-30-2	Building Services Applications 2026-27	30
UBLL7C-15-2	Collaboration and Coordination 2026-27	15
UBLL7D-15-2	Contexts of Architecture 2 - Histories and Theories 2026-27	15

Year 3
Full-time students must take 120 credits from the modules in Year 3.

Year 3 Compulsory Modules (Full-time)
Full-time students must take 120 credits from the modules in Compulsory Modules (Full-time).

Module Code	Module Title	Credit
UBLL7M-30-3	AEE Studio 3.2 2027-28	30
UBLL7L-30-3	AEE Studio 3.1 2027-28	30
UBLL7U-15-3	Energy Performance and Retrofit 2027-28	15
UBLL7T-15-3	Critical Contexts 2027-28	15
UBLL7N-30-3	Zero Carbon Buildings 2027-28	30

Year 4
Full-time students must take 120 credits from the modules in Year 4.

Year 4 Compulsory Modules (Full-time)
Full-time students must take 120 credits from the modules in Compulsory Modules (Full-time).

Module Code	Module Title	Credit
UBLL7V-60-3	AEE Studio 4 2028-29	60
UBLL7X-30-3	Building Services Innovations 2028-29	30
UBLL7P-15-3	Interactive Systems and Comfort Controls 2028-29	15
UBLL7K-15-3	Employability, Ethics, and Enterprise 2028-29	15

Part C: Higher Education Achievement Record (HEAR) Synopsis

This four-year undergraduate programme meets the dual professional requirements of the Royal Institute of British Architects (RIBA) and the Chartered Institute of Building Services Engineers (CIBSE). It prepares students to approach the built environment's design and development ethically and responsibly, addressing societal, client, user, and environmental needs.

Rooted in the inter-professional ethos of UWE's School of Architecture and Environment, the course emphasises people, context, and sustainability. Its design-led curriculum integrates research in architecture, urban design, health, and engineering. The programme also aligns with entry requirements for ARB-validated master's courses and supports achieving Incorporated Engineer status.

Part D: External Reference Points and Benchmarks

The programme incorporates RIBA's Education and Professional Development Framework known as The Way Ahead, which introduces a unified standard for education from pre-registration to professional practice. This framework mandates key competencies that address pressing global issues, including climate literacy, ethical practice, and social responsibility.

The programme is also designed in alignment with the Architects Registration Board (ARB) document Tomorrow's Architects: Competency Outcomes for Architects which outlines the threshold competencies required for registration as an architect irrespective of the route taken to registration.

The curriculum reflects QAA's Subject Benchmark Statement for Architecture (2020), which outlines core competencies and the interdisciplinary nature of architecture as a discipline encompassing technical, environmental, historical, and social dimensions. These benchmarks emphasise the importance of aesthetic, technical, and cultural knowledge, while supporting an understanding of architectural design's evolving role in addressing issues like climate change, globalisation, and social diversity.

The programme also aligns with EU Directive 2005/36/EC, Article 46, ensuring the qualification meets EU-recognised standards for professional training in architecture, particularly regarding skill sets such as design proficiency, sustainability, and ethical practice. UWE Bristol's adherence to these standards facilitates graduate readiness for the international architectural profession, providing recognition that supports career mobility.

The programme aligns with the CIBSE Guidance Notes to the Academic Content Requirements for Degree in Building Services Engineering. Stated requirements regarding academic content and skills development have been rigorously implemented. Maintaining the accreditation of the programme is seen as a critical requirement.

Engineering Council UK standard for The Accreditation of Higher Education Programmes, 4th edition (AHEP 4). The output statements, as interpreted by the professional body, the Chartered Institution of Building Services Engineers, have been the critical driver for both generic and programme specific learning outcomes. Skills matrices have been compiled to demonstrate comprehensive inclusion of the broad range of outcomes over the modular structure are based on these statements.

The curriculum reflects QAA's Subject Benchmark Statement for Engineering (2023).

The Royal Academy of Engineering and Engineering Council jointly created statement of ethical principles to guide engineering practice and behaviour, as reflected in AHEP4.

IfATE Occupational standards for architecture and building services degree apprenticeship. Reference to the IfATE standards have been made to confirm that no significant omissions or contradictions have been made in compiling the programme specific learning outcomes, or in the strategies adopted for teaching, learning and assessment across programmes.

Enterprise Educators UK guidance for embedding enterprise in the curriculum for degrees in the build environment.

The programme has been mapped to the UNSDGs and AdvanceHE's Education for Sustainable Development competencies, ensuring sustainability is embedded throughout the course.

Together, these reference points guide the programme's structure, emphasising progression from foundational to specialised knowledge and embedding sustainability, ethics, and social responsibility at every level. This framework ensures that students meet rigorous educational standards and prepares them to address the complex, multidisciplinary challenges in contemporary architecture.

Part E: Regulations

Approved variant to University Academic Regulations and Procedures.

Engineering Council UK.

The following variant regulation for compensation applies to students on this award which has been accredited by a PSRB that comes under the auspices of Engineering Council UK.

The variant applies from 2024-25 Award Boards onwards (Note - Compensation

applied to all levels not just new students).
- The permitted maximum compensated credit is 30 credits for a Bachelors or Integrated Masters degree and a maximum of 20 credits in a Masters degree.
- The awarding of compensated credit may be considered for an overall module mark in the range 30% to 39% for Levels 4-6 and 40%-49% for Level 7.
- No excused credit.

Degree Classification calculation: The degree classification is based upon the best marks achieved across 300 credits at levels 5 and 6. In calculating the classification marks for the best 200 credits at level 6 are weighted at three times the next best 100 credits at level 5 and above. The mark for the final year design module must be included within the 200 level 3 credit pool of marks.