



## **Programme Specification**

### **Civil Engineering {Apprenticeship-UWE} [Frenchay]**

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## Section 1: Key Programme Details

### Part A: Programme Information

**Programme title:** Civil Engineering {Apprenticeship-UWE} [Frenchay]

**Highest award:** BEng (Hons) Civil Engineering

**Interim award:** BEng Civil Engineering

**Interim award:** DipHE Civil Engineering

**Interim award:** CertHE Civil 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 Geography &  
Environmental Mgmt, Faculty of Environment & Technology

**Contributing departments:** Not applicable

**Professional, statutory or regulatory bodies:**

Joint Board of Moderators

**Apprenticeship:** ST0417

**Mode of delivery:** Full-time

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

**For implementation from:** 01 September 2023

**Programme code:** H29D43

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

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

**Overview:** The award sets out to provide an accredited, intellectually demanding, engaging and outstanding learning experience enabling an outcome of ready and able graduates.

**Educational Aims:** The fundamental aims of the programme are to develop the students':

Knowledge and understanding of engineering science necessary to develop engineering solutions and processes for an effective career in Civil and Environmental Engineering.

Knowledge and understanding of the engineering contribution to sustainable development.

Creative and innovative ability in the synthesis of solutions to complex problems with a holistic systems approach.

Ability to reflect critically upon their learning, as the foundation for continuing professional development and progression to Chartered Engineer.

Skills in communicating effectively with other professionals from a variety of disciplines, clients and the public, with understanding and respect for the objectives and values of other stakeholders.

#### **Programme Learning Outcomes:**

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

**Knowledge and Understanding**

- A1. Demonstrate knowledge and understanding of scientific principles and methodology to underpin their education in Civil and Environmental Engineering.
- A2. Appreciate the scientific and engineering context of Civil and Environmental Engineering.
- A3. Understand historical, current and future developments and technologies in Civil and Environmental Engineering.
- A4. Demonstrate knowledge and understanding of mathematical principles underpinning Civil and Environmental Engineering.
- A5. Knowledge of characteristics of particular Civil and Environmental Engineering materials, equipment and construction processes.
- A6. Understand the engineering principles appropriate to analyse key engineering processes in structures, fluid mechanics, hydrology, materials and geotechnics.
- A7. Understand systems approaches to the solution of Civil and Environmental Engineering problems.
- A8. Demonstrate an appreciation of project management, through design, construction, operation and maintenance.
- A9. Understand the role of the Chartered Engineer within the broader requirements of sustainable development, to deliver aesthetic and ethical projects.
- A10. Demonstrate a knowledge of health and safety risk management.
- A11. Demonstrate a technical and commercial awareness of client and user requirements of the civil engineering profession.

**Intellectual Skills**

- B1. Apply an understanding of engineering principles to analyse key engineering processes in structures, geotechnics and specialisms within Civil and Environmental Engineering.
- B2. Identify, classify and describe the performance of civil engineering and natural systems and components through the use of analytical methods and modelling techniques.

- B3. Source and use technical literature, codes of practice, industry standards and other information sources showing an appropriate awareness of intellectual property and contractual issues.
- B4. Analyse and evaluate information from a range of sources and communicate quantitative information effectively and objectively.
- B5. Investigate and define a problem and identify constraints including environmental and sustainability limitations, health and safety and risk assessment issues.
- B6. Understand the application of engineering knowledge to technology development, design, operations and management.

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

- C1. Apply mathematical methods, tools and notations proficiently in the analysis and solution of engineering problems.
- C2. Apply and integrate knowledge and understanding of other engineering disciplines to support the practice of Civil and Environmental Engineering.
- C3. Use technical equipment (including surveying and laboratory equipment) competently in practical engineering activities.
- C4. Employ observation, measurement and experimental methods, in the field and the laboratory to enhance and demonstrate understanding of engineering principles.
- C5. Apply a range of ICT tools and numerical analyses to the solution of engineering problems.
- C6. Communicate effectively using engineering sketches, drawings, papers and oral presentations.
- C7. Develop creative and innovative design solutions with regard to cost drivers and functionality throughout the whole life cycle.
- C8. Manage the design process and evaluate outcomes with awareness of quality management and technical uncertainty.
- C9. Practice health and safety risk management in both practical activities and the design process.

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

- D1. Communicate information and ideas clearly and coherently to influence the views of others using written, graphical and oral means.
- D2. Practice negotiation, team working and the motivation of others.
- D3. Undertake self-appraisal and reflection and formulate plans for continuing professional development.
- D4. Identify, access, research and interpret data and information required to undertake critical analysis and draw conclusions.
- D5. Apply a range of ICT tools to problem solving and communication.
- D6. Apply principles of sustainable development and ethical practice.

## Part B: Programme Structure

### Year 1

The following structure demonstrates the student journey from Entry through to Graduation for a typical full time student. The programme is available to part-time students on a day release basis and block release basis.

The programme is designed as a BEng Honours degree allowing students to progress to study at Masters level and hence complete the Educational requirements for Chartered Engineer status.

### Year 1 Compulsory Modules

The student must take 60 credits from the modules in Compulsory Modules.

Module Code	Module Title	Credit
UBGMKD-15-1	Civil Engineering Technology and Design 2023-24	15
UBGMY9-15-1	Construction and Environmental Materials 2023-24	15
UBGMSQ-15-1	Engineering Graphics and Communication 2023-24	15
UBGMT9-15-1	Surveying 2023-24	15

### Year 2

The student must take 75 credits from the modules in Year 2.

**Year 2 Compulsory Modules**

The student must take 75 credits from the modules in Compulsory Modules.

<b>Module Code</b>	<b>Module Title</b>	<b>Credit</b>
UBGMYD-15-1	Civil and Environmental Engineering Field Study 2024-25	15
UBGMXQ-30-1	Engineering Principles for Civil Engineering 2024-25	30
UFMFYG-15-1	Mathematics for Civil and Environmental Engineering 2024-25	15
UBGMU9-15-2	Project and Risk Management 2024-25	15

**Year 3**

The student must take 75 credits from the modules in Year 3.

**Year 3 Compulsory Modules**

The student must take 60 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 2025-26	15
UBGMVQ-15-2	Design of Structural Elements 2025-26	15
UBGMUQ-15-2	Soil Mechanics 2025-26	15
UBGMV9-15-2	Structural Analysis 2025-26	15

**Year 3 Optional Modules**

The student must take 15 credits from the modules in Optional Modules.

<b>Module Code</b>	<b>Module Title</b>	<b>Credit</b>
UBGMLU-15-2	Engineering Geology Design Project 2025-26	15

UBGMTQ-15-2	Hydrology and Flood Risk Estimation 2025-26	15
UBGLX8-15-2	Transport Engineering Design 2025-26	15

#### Year 4

The student must take 75 credits from the modules in Year 4.

#### Year 4 Compulsory Modules

The student must take 75 credits from the modules in Compulsory Modules.

Module Code	Module Title	Credit
UBGMM3-15-3	Advanced Structural Analysis 2026-27	15
UBGMNU-30-2	Hydraulics and Engineering Applications 2026-27	30
UBGLY9-15-3	Infrastructure Design and Implementation Project 2026-27	15
UBGMGR-15-3	Strategic Issues in Engineering 2026-27	15

#### Year 5

The student must take 75 credits from the modules in Year 5.

#### Year 5 Compulsory Modules

The student must take 60 credits from the modules in Compulsory Modules.

Module Code	Module Title	Credit
UBGMW9-15-3	Computational Civil Engineering 2027-28	15
UBGMWQ-15-3	Geotechnics 2027-28	15
UBGMQP-30-3	Individual Civil Engineering Project 2027-28	30

#### Year 5 Optional Modules

The student must take 15 credits from the modules in Optional Modules.

Module Code	Module Title	Credit
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UBGMPD-15-3	Environmental Assessment 2027-28	15
UBGMX9-15-3	Hydraulic Modelling for Flood Risk Management 2027-28	15
UBGLXP-15-3	Traffic Management and Safety 2027-28	15

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

This programme of study requires students to develop a sound intellectual knowledge and understanding of civil and environmental engineering science, design and application; enabling creative and innovative synthesis of holistic solutions to complex problems. Alongside these skills students are required to develop effective communication across multiple formats, to technical and non-technical audiences.

**Part D: External Reference Points and Benchmarks**

Set out which reference points and benchmarks have been used in the design of the programme:

QAA UK Quality Code for HE

- Framework for higher education qualifications (FHEQ)
- Subject benchmark statements
- Qualification characteristics for Foundation degrees and Master's degrees.

Strategy 2020

University policies

Staff research projects

The programme draws on the benchmark statements in Engineering as shown in the Learning Outcomes.

Faculty and University policies on teaching, learning and assessment including a strong emphasis on formative work, skills development and innovative approaches to teaching and learning.

The programme is underpinned by staff consultancy, professional practice and research.

The course team have excellent links with local employers who advise the course team on the content and structure of the programme through an Industrial Advisory Board that meets three times a year.

Professional body requirements: The programme (all modes of study) is to be assessed for accreditation by the Joint Board of Moderators.

### **Part E: Regulations**

Approved to variant University Academic Regulations and Procedures.

The following variant regulation for condoned credit (E4) applies to students on this award which has been accredited by a PSRB that comes under the auspices of Engineering Council UK.

The variant applied to Level 4 September 2020 intake onwards.

- The permitted maximum condoned credit is 30 credits for a Bachelors or Integrated Masters degree and a maximum of 20 credits in a Masters degree.
- The awarding of condoned credit may be considered for an overall module mark in the range 30% to 39%.

As a consequence Engineering Council UK regulations about the offer of excused credit for modules critical to the awarding of accreditation, excused credit will not be available on this award.