



Programme Specification

Civil Engineering [Frenchay]

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Section 1: Key Programme Details

Part A: Programme Information

Programme title: Civil Engineering [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

Teaching institutions: UWE Bristol

Study abroad: No

Year abroad: No

Sandwich year: Yes

Credit recognition: No

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

Professional, statutory or regulatory bodies:

Joint Board of Moderators

Modes of delivery: Full-time, Part-time, Sandwich

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

For implementation from: 01 September 2021

Programme code: H29E00

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.

Features of the programme:

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.

Assessment strategy: A variety of assessment approaches, linked to professional as well as academic standards (where appropriate).

Student support:

Part B: Programme Structure

Year 1

Part-time students must take 60 credits from the modules in Year 1. The programme is available to Part-time students on a day release basis and block release basis.

Full-time and Sandwich students must take 120 credits from the modules in Year 1. The programme is available to Full-time and Sandwich students on a day 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 (Full-time and Sandwich)

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

Module Code	Module Title	Credit
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UBGMYD-15-1	Civil and Environmental Engineering Field Study 2023-24	15
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
UBGMXQ-30-1	Engineering Principles for Civil Engineering 2023-24	30
UFMFYG-15-1	Mathematics for Civil and Environmental Engineering 2023-24	15
UBGMT9-15-1	Surveying 2023-24	15

Year 1 Compulsory Modules (Part-time)

Part-time students must take 60 credits from the modules in Compulsory Modules (Part-time).

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

Part-time students must take 60 credits from the modules in Year 2.

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

The UWEBIC cohort in Year 2 in 2021/22 who could not complete the level 1 UBGMT9-15-1 Surveying module or equivalent on the UWEBIC programme due to Covid-19 will take UBGM71-15-1 Surveying Practice. This will be an additional 15 credits on their programme.

Students who completed the level 1 UBGMT9-15-1 Surveying module or equivalent on the UWEBIC programme are not required to take UBGM71-15-1 Surveying Practice.

Year 2 Compulsory Modules (Full-time and Sandwich)

Full-time and Sandwich students must take 105 credits from the modules in Compulsory Modules (Full-time and Sandwich).

The UWEBIC cohort in Year 2 in 2021/22 who could not complete the level 1 UBGMT9-15-1 Surveying module or equivalent on the UWEBIC programme due to Covid-19 will take UBGM71-15-1 Surveying Practice. This will be an additional 15 credits on their programme.

Module Code	Module Title	Credit
UFMFF7-15-2	Applications of Mathematics in Civil and Environmental Engineering 2024-25	15
UBGMVQ-15-2	Design of Structural Elements 2024-25	15
UBGMNU-30-2	Hydraulics and Engineering Applications 2024-25	30
UBGMU9-15-2	Project and Risk Management 2024-25	15
UBGMUQ-15-2	Soil Mechanics 2024-25	15
UBGMV9-15-2	Structural Analysis 2024-25	15

Year 2 Compulsory Modules (Full-time and Sandwich) Group B

The UWEBIC cohort in Year 2 in 2021/22 who could not complete the level 1 UBGMT9-15-1 Surveying module or equivalent on the UWEBIC programme due to Covid-19 will take UBGM71-15-1 Surveying Practice. This will be an additional 15 credits on their programme.

Students who completed the level 1 UBGMT9-15-1 Surveying module or equivalent on the UWEBIC programme are not required to take UBGM71-15-1 Surveying Practice.

Module Code	Module Title	Credit
UBGM71-15-1	Surveying Practice 2024-25	15

Year 2 Compulsory Modules (Part-time)

Part-time students must take 60 credits from the modules in Compulsory Modules (Part-time).

Module Code	Module Title	Credit
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

Year 2 Optional Modules (Full-time and Sandwich)

Full-time and Sandwich students must take 15 credits from the modules in Optional Modules (Full-time and Sandwich).

Module Code	Module Title	Credit
UBGMLU-15-2	Engineering Geology Design Project 2024-25	15
UBGMTQ-15-2	Hydrology and Flood Risk Estimation 2024-25	15
UBGLX8-15-2	Transport Engineering Design 2024-25	15

Year 3

Sandwich students must take 15 credits from the modules in Year 3.

Part-time students must take 75 credits from the modules in 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 105 credits from the modules in Compulsory Modules (Full-time).

Module Code	Module Title	Credit
UBGMM3-15-3	Advanced Structural Analysis 2025-26	15
UBGMW9-15-3	Computational Civil Engineering 2025-26	15
UBGMWQ-15-3	Geotechnics 2025-26	15
UBGMQP-30-3	Individual Civil Engineering Project 2025-26	30
UBGLY9-15-3	Infrastructure Design and Implementation Project 2025-26	15
UBGMGR-15-3	Strategic Issues in Engineering 2025-26	15

Year 3 Compulsory Modules (Part-time)

Part-time students must take 75 credits from the modules in Compulsory Modules (Part-time).

Module Code	Module Title	Credit
UFMFF7-15-2	Applications of Mathematics in Civil and Environmental Engineering 2025-26	15
UBGMVQ-15-2	Design of Structural Elements 2025-26	15
UBGMU9-15-2	Project and Risk Management 2025-26	15
UBGMUQ-15-2	Soil Mechanics 2025-26	15
UBGMV9-15-2	Structural Analysis 2025-26	15

Year 3 Compulsory Modules (Sandwich)

Sandwich: Students undertaking the Sandwich programme with a placement year take the following module:

Module Code	Module Title	Credit
UBGLVX-15-3	Placement 2025-26	15

Year 3 Optional Modules (Full-time)

Full-time students must select 15 credits from Optional Modules (Full-time).

Module Code	Module Title	Credit
UBGMPPD-15-3	Environmental Assessment 2025-26	15
UBGMX9-15-3	Hydraulic Modelling for Flood Risk Management 2025-26	15
UBGLXP-15-3	Traffic Management and Safety 2025-26	15

Year 4

Sandwich students must take 105 credits from the modules in Year 4.

Part-time students must take 90 credits from the modules in Year 4.

Year 4 Compulsory Modules (Part-time)

Part-time students must take 75 credits from the modules in Compulsory Modules (Part-time).

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 4 Compulsory Modules (Sandwich)

Sandwich students must take 90 credits from the modules in Compulsory Modules (Sandwich).

Module Code	Module Title	Credit
UBGMM3-15-3	Advanced Structural Analysis 2026-27	15
UBGMW9-15-3	Computational Civil Engineering 2026-27	15
UBGMWQ-15-3	Geotechnics 2026-27	15
UBGMQP-30-3	Individual Civil Engineering Project 2026-27	30
UBGLY9-15-3	Infrastructure Design and Implementation Project 2026-27	15

Year 4 Optional Modules (Part-time)

Part-time students must take 15 credits from the modules in Optional Modules (Part-time).

Module Code	Module Title	Credit
UBGMLU-15-2	Engineering Geology Design Project 2026-27	15
UBGMTQ-15-2	Hydrology and Flood Risk Estimation 2026-27	15
UBGLX8-15-2	Transport Engineering Design 2026-27	15

Year 4 Optional Modules (Sandwich)

Sandwich students must take 15 credits from the modules in Optional Modules (Sandwich).

Module Code	Module Title	Credit
UBGMPPD-15-3	Environmental Assessment 2026-27	15
UBGMX9-15-3	Hydraulic Modelling for Flood Risk Management 2026-27	15

UBGLXP-15-3	Traffic Management and Safety 2026-27	15
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Year 5

Part-time students must take 75 credits from the modules in Year 5.

Year 5 Compulsory Modules (Part-time)

Part-time students must take 60 credits from the modules in Compulsory Modules (Part-time).

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 (Part-time)

Part-time students must take 15 credits from the modules in Optional Modules (Part-time).

Module Code	Module Title	Credit
UBGMPPD-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 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 applied to Level 4 September 2023 intake 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%.

No excused credit.