

## Programme Specification for Postgraduate Programme Leading to: MSc Water Engineering

Applicable for all postgraduate students starting in [2021-22]

Version No.	Date	Notes – QUALITY ASSURANCE USE ONLY	QA
2021-22 v1	July 2021	Programme specification document updated for postgraduate entrants in 2021.	JP
2021-22 v2	26 July 2021	Programme specification updated to show that the duration of a January start is 14 months rather than 12 months. .	JP

Postgraduate Taught Programme	
1. Awarding institution	Brunel University London
2. Teaching institution(s)	Brunel University London
3. Home College/Department/Division	College of Engineering, Design and Physical Sciences/ Department of Civil and Environmental Engineering
4. Contributing College/Department/Division/ Associated Institution	None
5. Programme accredited by	The programme has been accredited by the JBM. CIWEM accreditation has been applied for.
6. Final award(s) and FHEQ Level of Award	MSc Water Engineering - FHEQ Level 7
7. Programme title	MSc Water Engineering
8. Programme type (single honours/joint)	N/A
9. Normal length of programme (in months) for each mode of study	September Starters – 12 months January Starters – 14 months
10. Maximum period of registration for each mode of study	Normal or standard duration plus 2 years up to a maximum of 5 years.
11. Variation(s) to September start	January from 2022 (of length stated in row 9 above)
12. Modes of study	FT
13. Modes of delivery	Standard
14. Intermediate awards and titles and FHEQ Level of Award	PG Certificate, Civil Engineering - FHEQ Level 7 PG Diploma, Water Engineering - FHEQ Level 7
15. UCAS Code	N/A
16. HECoS Code	100180
17. Route Code	H200PWATEREN
18. Relevant subject benchmark statements and other external and internal reference points used to inform programme design	<a href="#">UK Quality Code for Higher Education</a> <a href="#">QAA Subject Benchmark Statement (Engineering)</a> <a href="#">Brunel 2030</a> Brunel Placement Learning Policy, as published under the 'Placements' section of the ' <a href="#">Managing Higher Education Provision with Others</a> ' page.

19. Admission Requirements	Details of <a href="#">PGT entry requirements</a> are provided on the University's and College website. Levels of English for non-native speakers are outlined on Brunel International's <a href="#">language requirements</a> pages.
20. Other relevant information (e.g. study abroad, additional information on placements)	N/A
21. Programme regulations not specified in Senate Regulation 3. Any departure from regulations specified in Senate Regulation 3 must be stated here and approved by Senate.	NA
22. Further information about the programme is available from the College website.	Link to programme information on the College website Course <a href="#">webpage</a>

### 23. EDUCATIONAL AIMS OF THE PROGRAMME

The primary aim of this programme is to create master's degree graduates with qualities and transferable skills for demanding and rewarding employment in the Water Engineering sector. The graduates will have the independent learning ability required for continuing professional development and acquiring new skills at the highest level.

Specific aims are as follows:

- To provide education at postgraduate level in Civil Engineering.
- To develop the versatility and depth to deal with new, complex and unusual challenges across a range of Water Engineering issues, drawing on an understanding of all aspects of water engineering principles.
- To develop imagination, initiative and creativity to enable graduates to follow a successful engineering career with national and international companies and organisations.

To provide a pathway that will prepare graduates for successful careers including, where appropriate, progression to Chartered Engineer status.

### 24. PROGRAMME AND INTERMEDIATE LEARNING OUTCOMES

The programme provides opportunities for students to develop and demonstrate knowledge and understanding (K) cognitive (thinking) skills (C) and other skills and attributes (S) in the following areas:

Masters FHEQ Level 7	Category (K = knowledge and understanding, C = cognitive (thinking) skills, S = other skills and attributes)	Learning Outcome	Masters Award Only	Associated Assessment Blocks Code(s)	Associated Study Blocks Code(s)	Associated Modular Blocks Code(s)
<b>Masters and FHEQ level 7</b>						
	K	Ability to demonstrate and explain the principles of Civil Engineering practice.				CE5518 CE5514
	K	Critically assess aspects of Water Engineering, including fluid mechanics and hydrology, and sustainable design.				CE5515 CE5509 CE5616 CE5512 CE5508

	K	Evaluate the impact of theoretical and actual water engineering projects.	Y			CE5509 CE5616 CE5512 CE5516 CE5508
	K	Demonstrate knowledge and understanding of a specialist area of Water Engineering.	Y			CE5516
	C	Select, use and evaluate appropriate investigative techniques.				CE5515 CE5513
	C	Assemble and critically analyse relevant primary and secondary data				CE5515 CE5516
	C	Recognise and critically assess the problems and solutions associated with managing Water Engineering projects.				CE5518 CE5508
	C	Evaluate the environmental, social and financial sustainability of current and potential Civil Engineering activities.				CE5518 CE5509 CE5514
	S	Define and successfully execute a substantial advanced investigation.	Y			CE5513 CE5516
	S	Select and employ appropriate advanced research methods.				CE5513 CE5516 CE5508
	S	Organise technical information into a concise, coherent document.				CE5509 CE5515 CE5616 CE5512 CE5508
	S	Effectively employ a variety of styles communication aimed at different audiences				All taught modules
	S	Plan, manage, evaluate and orally-present personal projects.	Y			CE5516
	S	Work as part of, and lead, a team.				CE5515 CE5513
	S	Critically reflect on personal learning and development needs.				CE5518 CE5513

**Learning/teaching strategies and methods** to enable learning outcomes to be achieved, including formative assessments

- **Study**  
Students will be introduced to subject material, including key concepts, information and approaches, through a mixture of standard lectures and seminars, laboratory practicals, field work, self study and individual research reports. Supporting material will be provided via Blackboard Learn. The aim is to challenge students and inspire them to expand their own knowledge and understanding.
- **Work**  
Preparation for work will be achieved through the development of 'soft' skills such as communication, planning, management and team work. In addition, guest speakers from industry will provide a valuable insight into the real world of civil engineering.
- **Play**  
Many of the practical activities in which the students engage develop into enjoyable experiences, for example working in teams for laboratory work and field work. A Civil Engineering Society, CivSoc, run by the students (with limited staff support) forms the focus for many extra-curricular, and fun, activities.
- **Grow**

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Location: <https://intra.brunel.ac.uk/s/QSO/Team/Programmes/Templates and Proformas/Programme Specification Templates>

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We encourage students to develop personal responsibility throughout the course. Many elements of coursework involve, and reward, the use of initiative and imagination. Students are guided into this through the use of an assessed Personal Development Log which is linked to one-to-one tutorials. This aids them in developing reflective skills.

**Summative assessment strategies and methods** to enable learning outcomes to be demonstrated.

Assessment will allow students to demonstrate their abilities in a range of styles relevant to professional Water Engineers. These will include:

- Essays – demonstration of depth and breadth of knowledge and written communication skills
- Presentations and posters – ability to summarise and communicate orally and visually
- Technical analytical reports – ability to collect, analyse and interpret a range of evidence, including in the field and laboratory
- Design reports – ability to use imagination, creativity, innovation and judgement to address a specification
- Group report – contribution as a team member to a collaborative challenge
- Project proposal – ability to identify a research/design focus and produce a realistic plan for its execution
- Personal Development Log – develop ability to reflect on learning and planning development goals
- Formal examinations – ability to quickly formulate arguments and solve problems
- Dissertation (MSc) – ability to plan, execute and communicate an advanced piece of research – CE5xxx, the Civil Engineering Dissertation specification, requires students to undertake research relevant to their specific programme.

Deadlines will be distributed through the year, allowing time for constructive feedback.

## 25. Programme Structure, progression and award requirements

Programme structures and features: levels, assessment blocks, credit and progression and award requirements

- **Compulsory block:** one which all students registered for the award are required to take as part of their programme of study. These will be listed in the left hand column;
- **Optional block:** one which students choose from an 'option range'. These will be listed in the right hand column;
- A **core assessment** is an assessment identified within an assessment block or modular block (either compulsory or optional) which must be passed (at grade C- or better) in order to be eligible to progress and to be eligible for the final award. All core assessments must be specified on the programme specification next to the appropriate assessment or modular block:

Where students are expected to pass the block at C- or better, but not necessarily all elements, then the block itself is core.

e.g. AB5500 Project (40)  
Core: Block

Where only some elements of assessments are required to be passed at C- or better, these will be identified by listing each element that is core

e.g. ABXXX1 Title (XX credits)  
Core: 1 & 4

Where students are expected to pass all assessments in a block then this will be identified. By setting the assessment this way, students are also required to pass the block by default. This will be identified thus:

e.g. ABXXXX Title (XX credits)  
Core: All, Block

- A **non-core assessment** does not have to be passed at grade C- or better, but must D- or better in order to be eligible for the final award.

**Full-Time Masters and FHEQ Level 7 – FOR FULL-TIME ROUTES ONLY****Compulsory modular block codes, titles and credit****September Start****Autumn Term**

CE5512 Water Process Engineering 15 credits  
CE5509 Water Infrastructure Engineering 15 credits  
CE5514 Risk and Financial Management 15 credits  
CE5508 Geo-Environmental Management for Civil Engineers 15 credits  
CE5513 Research Methods 15 credits

CE5516 Civil Engineering Dissertation 60 credits – **Core block**

**Spring Term**

CE5616 Water and Wastewater Treatment Engineering 15 credits  
CE5513 Research Methods 15 credits  
CE5518 Project Management 15 credits  
CE5515 Hydrology & Hydraulics 15 credits

CE5516 Civil Engineering Dissertation 60 credits – **Core block**

**January Start****Spring Term**

CE5616 Water and Wastewater Treatment Engineering 15 credits  
CE5513 Research Methods 15 credits  
CE5518 Project Management 15 credits  
CE5515 Hydrology & Hydraulics 15 credits

CE5516 Civil Engineering Dissertation 60 credits – **Core block**

**Autumn Term**

CE5512 Water Process Engineering 15 credits  
CE5509 Water Infrastructure Engineering 15 credits  
CE5514 Risk and Financial Management 15 credits  
CE5508 Geo-Environmental Management for Civil Engineers 15 credits  
CE5513 Research Methods 15 credits

CE5516 Civil Engineering Dissertation 60 credits – **Core block**

**Optional modular block codes, titles and credits****Masters and FHEQ Level 7 Progression and Award Requirements**

As per [Senate Regulation 3](#)

PGDip may be awarded with the substitution of the dissertation (CE5516) for up to 30 credits of modular/assessment blocks in the taught part of the programme, provided the learning outcomes have been met.

Please note: this specification provides a concise summary of the main features of the programme and the learning outcomes that a student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning and assessment methods can be found in the modular block, assessment and study block outlines and other programme and block information. The accuracy of the information contained in this document is reviewed by the University from time to time and whenever a modification occurs.