

**Programme Specification for Undergraduate Programme
Leading to:
BSc (Hons) Flood and Coastal Engineering**



Applicable for all undergraduate students starting at FHEQ Level 6 in 2021

<u>Version No.</u>	<u>Date</u>	<u>Notes – Q&S USE ONLY</u>	<u>QSO</u>
2021.22 v1	10 February 2021	Programme updated for new entrants in September 2021. CE3700 Mathematics, Data Handling and Structural Engineering renamed CE3702 Mathematical applications, data handling and structural engineering.	JP

Undergraduate 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	HR Wallingford
5. Programme accredited by	Joint Board of Moderators (JBM).
6. Final award(s) and FHEQ Level of Award	BSc (Hons) Flood and Coastal Engineering – FHEQ Level 6
7. Programme title	BSc (Hons) Flood and Coastal Engineering
8. Programme type (Single honours/joint/major minor)	Single honours
9. Normal length of programme (in months) for each mode of study	FT (12 months) PT (24 months)
10. Maximum period of registration for each mode of study	Normal or standard duration plus 36 months
11. Variation(s) to September start	None
12. Modes of study	Full-time Part-time
13. Modes of delivery	Block
14. Intermediate awards and titles and FHEQ Level of Award	BSc (Ord) Flood and Coastal Engineering
15. UCAS code	F857
16. HECoS/JACS Code	TBC/H220
17. Route Code	H220UFDCTL3

<p>18. Relevant subject benchmark statements and other external and internal reference points used to inform programme design.</p>	<p>UK Quality Code for Higher Education</p> <p>QAA Subject Benchmark Statement (Engineering)</p> <p>Joint Board of Moderators Guidelines for Education Providers</p> <p>Brunel University London 2030</p> <p>Brunel Placement Learning Policy, as published under the 'Placements' section of the 'Managing Higher Education Provision with Others' page.</p>
<p>19. Admission Requirements</p>	<p>Details of entry requirements are provided on the University's website.</p> <p>Levels of English for non-native speakers are outlined on Brunel International's language requirements pages.</p> <p>This is a top up degree for students who have completed a FdSc in Flood and Coastal Engineering, subject to admissions requirements.</p>
<p>20. Other relevant information (e.g. study abroad, additional information on placements)</p>	<p>See Section 23: Learning/teaching strategies and methods</p>
<p>21. Programme regulations not specified in Senate Regulation 2. Any departure from regulations specified in Senate Regulation 2 must be stated here and approved by Senate.</p>	<p>See below.</p>
<p>22. Further information about the programme is available from the College website.</p>	<p>https://www.brunel.ac.uk/study/undergraduate/Flood-and-Coastal-Engineering-BSc</p>

23. EDUCATIONAL AIMS OF THE PROGRAMME

The primary educational aim of this programme is to develop the skills required to plan, design, implement and manage projects and strategies dealing with flood and coastal risk mitigation and management. The specific aims are:

- To provide the fundamental technical knowledge and skills necessary to work as graduate civil engineers in general, and flood and coastal engineering in particular;
- To give a wide set of experiences to the students, building the learning throughout, and challenging students to be creative and innovative engineers of the future, with effective communication skills
- To develop imagination, initiative and creativity to enable graduates to follow a successful engineering career
- To develop a close understanding of the work environment

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:

FHEQ Level	Category (K = knowledge and understanding, C = cognitive (thinking) skills, S = other skills and attributes)	Learning Outcome	Associated Assessment Blocks Code(s)	Associated Study Blocks Code(s)	Associated Modular Blocks Code(s)
6					
	K,S	Demonstrate an in-depth level of knowledge of a river or coastal topic through a substantial individual research report			CE3603_CB
	K	Demonstrate the ability to use mathematical and statistical methods in an engineering context	CE3800_CN CE3802_CN	CE37xx_S B CE3701_S B	CE3607_CB CE3603_CB
	K	Demonstrate clear understanding of theoretical knowledge relevant to flood and coastal engineering practice	CE3801_CN CE3802_CN	CE3701_S B	CE3602_CN CE3603_CB
	K	Demonstrate understanding of the interaction between flood and coastal science, engineering, management and communication with different stakeholders	CE3801_CN CE3802_CN	CE3701_S B	CE3607_CB CE3602_CN
	K, C	Demonstrate and apply understanding of river and coastal natural, engineering and regulatory contexts in developing appropriate judgements and decision making	CE3801_CN CE3802_CN	CE3701_S B	CE3607_CB CE3602_CN CE3603_CB
	K, C	Demonstrate understanding of complex river and coastal situations and apply sound design principles to find reasoned solutions	CE3801_CN CE3802_CN	CE3701_S B	CE3607_CB CE3603_CB
	S	Demonstrate skills in spatial data collection and analysis	CE3800_CN	CE37xx_S B CE3701_S B	CE3607_CB
	S	Communicate effectively to different audiences, using appropriate methods and technologies	CE3801_CN CE3802_CN	CE37xx_S B	CE3607_CB CE3602_CN CE3603_CB
	S	Demonstrate an ability to select and use appropriate software to support analysis and design	CE3800_CN CE3802_CN	CE37xx_S B	CE3603_CB

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

The BSc (top up) programme is led by Brunel University London, in partnership with Hydraulics Research Wallingford Ltd (HRW). All modules, study and assessment blocks are coordinated by Brunel staff.

A formative 'bootcamp' induction experience will be held at the start of the programme to: introduce the programme format and requirements; start to develop cohort identity; and introduce students to major themes in the flood and coastal engineering sector.

This programme incorporates full- and part-time modes of study. The majority of students taking this programme are likely to be in employment and will be registered part time. To support this, delivery will be completed as residential blocks, each typically 5 days. In the time between contact weeks, students will be supported via the University's e-Learning platform with learning and formative assessment materials. Many of the students are expected to be working for organisations involved in flood relief so the programme is designed to be flexible in anticipation of students being required to work during a major flood event.

During the contact weeks, students will be introduced to subject material, such as key concepts, information and approaches, through a mixture of standard lectures, tutorials and seminars, laboratory practicals, field work, self-study skills and individual research reports. Students will be prepared for summative assessment through formative learning activities including mock exams. The aim is to challenge students and inspire them to expand their own knowledge and understanding.

An aim of this programme is to produce graduates who are equipped to work so a substantial element of learning, and associated assessment, will be through application of knowledge and understanding. This will be supported by facilities at Brunel and HRW, together with site visits. Case examples and Design Project topics will be drawn from industry partners, particularly the Environment Agency.

Preparation for work will be achieved within the programme through the development of 'soft' skills such as communication, planning, management and team work. This will be supported by the University's central services, principally the Library, ASK team and Professional Development Centre, as well as personal tutors. In addition, guest speakers from industry, such as senior personnel from the Environment Agency, will provide a valuable insight into the real world of civil engineering. Alongside the curriculum, a formative professional development programme will take place – supported by personal tutor meetings, input from external professionals (e.g. from the Environment Agency) – via talks, workshops and site visits, and central University activities such as the Brunel+ award.

Finally, the summer school involves an intensive 5 days of contact time at HRW (with preparatory and follow up work) which provides students with a refresh experience midway through the summer interval, and the opportunity to experience world class experimental facilities and contact with senior industry figures.

All students will be able to benefit and contribute to the peer-assisted learning (PAL) programme. They are also able to engage with extra-curricular activities e.g. those held by CivSoc, the civil engineering student society and Innovia, and the women in STEM and Design society. Students will be encouraged to join and become involved with activities organised by the professional institutions.

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 Engineers.

- Assignments; – demonstration of depth and breadth of knowledge and written communication skills
- Technical analytical reports; lab 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
- Individual Design Project – ability to plan, execute and communicate a substantial design
- Personal Development Plan – develop ability to reflect on learning and planning development goals
- Presentations and posters – ability to summarise and communicate orally and visually
- Closed book examinations – ability to quickly formulate arguments and solve problems; testing knowledge, understanding and problem solving in the main subject areas in flood & costal engineering

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 D- 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 D- or better, but not necessarily all elements, then the block itself is core.

e.g. AB3000 Project (40)
Core: Block

Where only some elements of assessments are required to be passed at D- 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 D- or better, but must be better than a grade F, in order to progress and to be eligible for the final award.

Level 6	
<p>Compulsory assessment block codes, titles and credits</p> <p>Full-time CE3800_CN – Mathematics and Structural Engineering Theory (20 credits)</p> <p>CE3801_CN – River and Coastal Form, Process & Environmental Assessment (20 credits)</p> <p>CE3802_CN – Design for Rivers and Coasts (20 credits)</p> <p>Part-time Year 1 CE3800_CN – Mathematics and Structural Engineering Theory (20 credits)</p> <p>CE3801_CN – River and Coastal Form, Process & Environmental Assessment (20 credits)</p> <p>CE3802_CN – Design for Rivers and Coasts (20 credits)</p>	<p>Optional assessment block codes, titles and credits</p>
<p>Compulsory study block codes, titles and credit volume</p> <p>Full-time CE37xx_SB - Mathematical applications, data handling and structural engineering (30 credits)</p> <p>CE3701_SB - River and Coastal Form, Process, Design & Environmental Assessment (30 credits)</p> <p>Part-time Year 1 CE3702_SB - Mathematical applications, data handling and structural engineering (30 credits)</p> <p>CE3701_SB - River and Coastal Form, Process, Design & Environmental Assessment (30 credits)</p>	<p>Optional study block codes, titles and credit volume</p>
<p>Compulsory modular block codes, titles and credits</p> <p>Full-time</p> <p>CE3607_CB- Summer School (0 credits) - CORE CE3602_CN – Flood and Coastal Risk Management (20 credits)</p> <p>CE3603_CB- Flood and Coastal Engineering Research Report (40 credits) - CORE</p>	<p>Optional modular block codes, titles and credits</p>

Part-time Year 1
CE3607_CB- Summer School (0 credits) - **CORE**

Part-time Year 2

CE3602_CN – Flood and Coastal Risk Management (20 credits)

CE3603_CB- Flood and Coastal Engineering Research Report (40 credits) - **CORE**

Level 6 Award Requirements

As per [Senate Regulation 2](#) with the following variations:

BSc Classification

In order to be recommended for a classified Honours degree, a student must achieve 120 credits at level 6. Mechanisms for classification shall be as per Senate Regulation 2 Appendix A, paragraph A5 and A6. However, the profile for classification shall be entirely based on Level 6.

Ordinary Degree Classification

In order to be recommended for an ordinary degree, a student must achieve 100 credits at level 6 and have:

- No credit at Grade F;
- No more than 20 credits achieved in Grade Band E (E+, E, E-);
- No core credit below D-.

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.