

Programme Specification for Postgraduate Programme Leading to: MSc in Environmental Management MSc in Environmental Management (with Placement)

Applicable for all postgraduate students starting on or after 1st September 2020

Version No.	Date	Notes – QA USE ONLY	QA
1	March-20	Programme specification created for 20120/21 with ES5601 withdrawn and placement title changed from 'with Professional Development' to 'with Placement'	RJC

Postgraduate Taught Programme	
1. Awarding institution	Brunel University London
2. Teaching institution(s)	Brunel University London
3. Home college/department/division	College of Health, Medicine and Life Sciences/Dept. of Life Sciences/Biosciences
4. Contributing college/department/division/associated institution	LBIC for Alternative Pre-Masters (see section 25)
5. Programme accredited by	Chartered Institution of Water and Environmental Management (CIWEM) Institution of Environmental Sciences (IES)
6. Final award(s) and FHEQ Level of Award	MSc Environmental Management FHEQ Level 7 MSc Environmental Management (with Placement) FHEQ Level 7
7. Programme title	MSc Environmental Management MSc Environmental Management (with Placement)
8. Programme type (single honours/joint)	N/A
9. Normal length of programme (in months) for each mode of study	MSc Environmental Management <ul style="list-style-type: none"> • Full Time: 12 months • Part Time: 36 Months MSc Environmental Management (with Placement) <ul style="list-style-type: none"> • Full Time: 18 months Where students commence their programme at the pre-Masters level in LBIC, the normal length stated above will vary as follows: Pre-Masters level January commencement (with LBIC placement): + 6 months Pre-Masters level May commencement (without LBIC placement): + 4 months
10. Maximum period of registration for each mode of study	Normal or standard duration plus 2 years
11. Variation(s) to September start	None
12. Modes of study	Full-Time and Part-Time See document "Validated Programme Element Specification for LBIC Generic Pre-Masters (with and without LBIC work placement)" for Alternative pre-Master's entry points
13. Modes of delivery	Standard
14. Intermediate awards and titles and FHEQ Level of Award	Postgraduate Certificate in Environmental Management FHEQ Level 7 Postgraduate Diploma in Environmental Management FHEQ Level 7

15. UCAS Code	N/A
16. HECoS Code	100381 Environmental Sciences 34% 101072 Pollution Control 33% 101070 Climate Change 33%
17. Route Code	F750PENVMGT
18. Relevant subject benchmark statements and other external and internal reference points used to inform programme design	QAA UK Quality Code for Higher Education Most Recent QAA Subject Benchmark Statement : there are currently no relevant subject benchmark statements. Brunel 2030
19. Admission Requirements	Details of PGT entry requirements are provided on the University's and College website. Levels of English for non-native speakers are outlined on Brunel International's language requirements pages.
20. Other relevant information (e.g. study abroad, additional information on placements)	N/A Brunel Placement Learning Policy, as published under the 'Placements' section of the 'Managing Higher Education Provision with Others' page.
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.	N/A
22. Further information about the programme is available from the College website.	http://www.brunel.ac.uk/environmental-sciences

23. EDUCATIONAL AIMS OF THE PROGRAMME

The aims of this programme are to provide a rigorous academic education in scientific principles and environmental practices that deal with: i) management and legal aspects of the environment; ii) measurement methods and techniques normally used to quantitatively analyse the levels of pollutants in different environmental compartments; and iii) knowledge-based products, services or industrial processes that improve operational performance, productivity or efficiency, while reducing costs, inputs, energy consumption, waste, or pollution. The main aim is to develop a critical understanding of the importance of sustainable development to reduce the emissions to air, water and land. To achieve these aims, the programme is divided into two themes:

Theme 1: Environmental Pollution & Monitoring (EPM)

The aim of this theme is to provide a practical approach to measurement methods and techniques normally used to quantitatively analyse the levels of pollutants present in different environmental samples. The theme is designed to allow those whose career choice lie in the field of environmental pollution and environmental monitoring processes to acquire a broad-based knowledge of the concepts involved. Training is given to students who wish to have a career as environmental analysts, with an emphasis on analytical methods and techniques used for analysing environmental samples.

Specifically students will:

- Understand the processes that cause environmental pollution, how both organic and inorganic pollutants interact with each other and other environmental components to produce secondary pollutants and their impacts on ecosystems and human health.
- Study the environmental and technological issues in the management and control of water, air and land pollution.
- Learn the key aspects of sampling techniques in acquiring representative samples of air, soil and water for environmental monitoring.
- Learn the key analytical techniques and develop the practical skills in monitoring of environmental pollution.
- Learn the use of different statistical test for Data Quality Assessment (DQA).
- Undertake a laboratory- or library-based dissertation related to the theme.

Theme 2: Clean Technology & the Environment (CTE)

The main focus of this theme is to introduce the process-related innovation strategies that can be used to minimise the level of pollutants being emitted/produced by different processes. The process-related innovations are commonly divided into end-of-pipe technologies and clean technologies. The end-of-pipe technologies are basically designed for installation at the end of the production process, without altering the chemical reactions manufacturing the main product. The clean technology, on the other hand, is a type of technology with which pollution is eliminated from within the production process, meaning that pollutants do not form in the first place.

Clean technology jobs include science, engineering, management, law, policy and business careers centered on sustainability issues like water quality and conservation, pollution prevention, recycling, transportation and environmental remediation. This pathway is designed to allow those who wish to take up roles such as environmental remediator, compliance officer, energy and carbon manager, environmental manager, clean water manager and recycling manager.

The aims of this modular blocks are:

- To provide knowledge and understanding to learners on how to develop clean technologies with an emphasis on those industrial and utility processes that enhance sustainable resource use and minimise pollution during resource extraction, processing and manufacture.
- To understand the basic concepts, challenges and opportunities for development of clean technologies relevant to various businesses, industries and other utility sectors.
- To critically examine the current practices in various industrial and utility sectors and the potential for clean technology applications to solve real-world problems and the exploitation of entrepreneurial and socially beneficial opportunities.
- To evaluate how the introduction and commercialisation of clean technologies in various sectors can reduce the threats to energy supply, global warming, environmental pollution and resource depletion.
- To understand how to modify the existing processes and develop new processes based on clean technology concepts with smaller environmental footprint and minimise pollution.
- Undertake a laboratory- or library-based dissertation related to the theme.

The MSc in Environmental Management (with Placement), incorporates both a 1-year taught and project components (180 credits) as well as a 6-month Placement period (60 credits) in Year 2. The Placement period (through working with Environmental Agency or other organisations) provides a unique environment and opportunity for our students to develop transferable and employability skills for their various career paths.

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	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)
Masters and FHEQ Level 7						
7	K	Demonstrate a critical and considerable knowledge of environmental challenges and their linkage to anthropogenic activity.		ES5805 ES5802 ES5800	ES5701 ES5702 ES5700	ES5600
7	K	Demonstrate a critical and detailed knowledge of sound environmental management practice, and of sustainable solutions for environmental challenges.		ES5805 ES5802 ES5800	ES5701 ES5702 ES5700	ES5600
7	K	Demonstrate a critical and detailed knowledge of a range of techniques and approaches for data collection, analysis and dissemination.		ES5805 ES5802 ES5800	ES5701 ES5702 ES5700	ES5600
7	K	Demonstrate a critical and considerable knowledge of how human and wildlife		ES5805 ES5802 ES5800	ES5701 ES5702 ES5700	ES5600

		health are affected by environmental factors including chemical substances.				
7	K	Demonstrate critical and detailed knowledge of the main sources of pollution in the environment and the techniques and procedures used for monitoring and evaluation of pollution data (Theme 1 – EPM only).		ES5805 ES5802 ES5800	ES5701 ES5702 ES5700	ES5600 ES5602
7	K	Demonstrate a critical and detailed knowledge of clean technology processes that are used in industrial and utility sectors (Theme 2 – CTE only).		ES5805 ES5802 ES5800	ES5701 ES5702 ES5700	ES5600 ES5603
7	C	Critically evaluate the effectiveness of current environmental management approaches, and propose novel sustainable solutions.		ES5805 ES5802 ES5800	ES5701 ES5702 ES5700	ES5600
7	C	Critically analyse theories, models, datasets and methodologies in terms of their quality and relevance to address specific problems related to environmental management.		ES5805 ES5802 ES5800	ES5701 ES5702 ES5700	ES5600 ES5602 ES5603
7	K, C, S	Plan, develop and deliver a dissertation relevant to the aims of the programme.	MSc only			ES5500
7	S	Show an acceptable standard, clarity, focus and cogency in how to communicate effectively both orally and in writing to a range of stakeholders.		ES5805 ES5802 ES5800	ES5701 ES5702 ES5700	ES5600 ES5602 ES5603
7	S	Demonstrate an ability to work as an effective member of a team to use appropriate methodologies for analysis and communicate results clearly and concisely.		ES5805 ES5802 ES5800	ES5701 ES5702 ES5700	ES5600 ES5602 ES5603
7	K, C, S	Demonstrate an ability and competence in using academic knowledge relevant to environmental management in a professional setting.	MSc (with Placement)			ES5604

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

- Knowledge and understanding in the areas indicated are achieved through a range of teaching methods, including lectures (that contain the essential key elements of the subject matter), seminars, problem-based learning, flip learning, group discussion, data presentation, formal computer-based practical sessions, practical classes, and guided independent study. The emphasis will be to develop in-depth, advanced knowledge in relevant subject areas as well as the ability to use the appropriate techniques to acquire and further that body of knowledge.

- Cognitive skills are developed alongside the acquisition of subject-specific knowledge mainly within lectures and tutorials (via problem-based learning strategies) and the coursework activities undertaken. Students will be encouraged to critically appraise research articles and the usefulness of software tools within the context of the material presented in the taught modules and through independent study. Students will also be required to participate in tutor-led computer-based practical exercises.
- Students will be encouraged to engage fully/actively with the key concepts within the subject materials to help them learn facts in the context of meaning. Practical Skills (including safety) are developed through laboratory classes. Tutor-led debates will allow students to develop their ability to debate societal issues from a scientific and ethical standpoint. Student-led oral (and possibly poster) presentations will allow them to develop transferable communication and interpersonal skills. Tutor-led computer-based practical exercises will allow students to develop competence in data handling and modelling.

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 Environmental Managers and Environmental Analysts. These will include:

- Assessment of the candidate's knowledge and understanding is assessed through a combination of formal written (closed book) examination and coursework. The proportion of examination and coursework will vary from module to module.
- Formal examinations and coursework assignments will assess knowledge, understanding, analysis and problem-solving skills, as well as competence in data analysis and interpretation.

Transferable and research skills are assessed through case studies, reports, assessment of oral presentations and assessed teamwork. Research skills are assessed in the dissertation and the assessment block that links to the shared study block.

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. AB5605 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.

Pre-Masters	
<p>The Pre-Masters structure available to international students is specified in document “Validated Programme Element Specification for LBIC Generic Pre-Masters (with and without LBIC work placement)”. This document also specifies the admission and progression requirements.</p>	
Masters and FHEQ Level 7	
<p>Compulsory assessment block codes, titles and credits</p> <p>All assessment blocks are 15 credits unless otherwise specified</p> <p>ES5805: Strategic Sustainable Development</p> <p>ES5802: Climate Change and Planetary Health</p> <p>ES5800: Analytical Skills for Environmental Managers (30 credits)</p>	<p>Optional assessment block codes, titles and credits</p>
<p>Compulsory study block codes, titles and credit volume</p> <p>All study blocks are 15 credits unless otherwise specified</p> <p>ES5701: Strategic Sustainable Development ES5702: Climate Change and Planetary Health ES5700: Research and Analytical Skills (30 credits)</p> <p><u>Part time (September intake only):</u> Year 1: ES5700 Year 2: ES5701; ES5702</p>	<p>Optional Study block codes, titles and credit volume</p>
<p>Compulsory modular block codes, titles and credits</p> <p>All modular blocks are 30 credits unless otherwise specified</p> <p>ES5600: Environmental Management and Legislation</p> <p>Core modular block for all three pathways: ES5500 Dissertation (60 credits) Core: Block</p> <p>For students on MSc in Environmental Management (with Placement): ES5604 Portfolio – Environmental Management</p> <p><u>Part time (September intake only):</u> Year 1: ES5600 Year 3: ES5500</p>	<p>Optional modular block codes, titles and credits</p> <p>All modular blocks are 30 credits unless otherwise specified.</p> <p>Choose 1 modular block:</p> <p>Theme 1: ES5602: Environmental Pollution & Monitoring</p> <p>Theme 2: ES5603: Clean Technology & the Environment</p> <p><u>Part time (September intake only):</u> Year 2: ES5602; ES5603</p>

Masters and FHEQ Level 7 Progression and Award Requirements**As per [Senate Regulation 3](#)**

PGDip may not be awarded by substitution of the dissertation (ES5500) for modular/assessment blocks in the taught part of the programme.

Continuation to Placement phase

In order to continue to the Placement phase of the MSc programme (ES5604), students will be required to have met the standards for the MSc award with a minimum dissertation grade of C- at their first attempt.

For the MSc (with Placement) award (see section 6), the classification of award shall be determined as follows:

- Requirement for a pass – same as MSc plus a minimum grade C- in portfolio (ES5604)
- Requirement for merit – same as MSc plus a minimum grade B- in portfolio (ES5604)
- Requirement for distinction – same as MSc plus a minimum grade A- in portfolio (ES5604)

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 module outlines and other programme and module information. The accuracy of the information contained in this document is reviewed by the University from time to time and whenever a major modification occurs, and may be checked by the Quality Assurance Agency for Higher Education.