

Postgraduate Programme Specification

MSc Environmental Management

This specification provides a summary of the main features of the programme and learning outcomes that a student might reasonably be expected to achieve and demonstrate where full advantage is taken of all learning opportunities offered. Further details on the learning, teaching and assessment approach for the programme and modules can be accessed on the University website and Virtual Learning Environment, GCU Learn. All programmes of the University are subject to the University's [Quality Assurance](#) processes.

GENERAL INFORMATION			
Programme Title	MSc Environmental Management MSc Environmental Management (Oil and Gas) MSc Environmental Management (Waste) MSc Environmental Management (Water) MSc Environmental Management (Energy)		
Final Award	MSc Environmental Management MSc Environmental Management (Oil and Gas) MSc Environmental Management (Waste) MSc Environmental Management (Water) MSc Environmental Management (Energy)		
Awarding Body	Glasgow Caledonian University		
School	Computing Engineering and Built Environment (EBE)		
Department	Civil Engineering and Environmental Management		
Mode of Study	Full-time Part-time Online Distance Learning		
Location of Delivery	Glasgow Campus London Campus		
UCAS Code			
Accreditations (PSRB)			
Period of Approval	From:	September 2023	To: August 2028

EDUCATIONAL AIMS OF PROGRAMME
<p>The overall aim of the MSc Environmental Management (EM) programme is to enable students to develop an environmental specialisation, within the context of their previous qualifications and experience.</p> <p>The MSc EM (Waste) Pathway is more specific, in that it allows students to develop skills and knowledge in modern waste management practices, for those who intend to pursue a career in that area.</p> <p>The MSc EM (Oil and Gas) Pathway is to enable students to develop an Oil and Gas related specialisation, within the context of Environmental Management and building on their previous qualifications and experience.</p> <p>The MSc EM (Water) Pathway is design to develop the knowledge and skills of students looking to develop a career in the water/wastewater sector.</p>

Finally, the MSc EM (Energy) will place specific emphasis on the environmental consequences of energy use and the opportunities through renewable energy technologies to support a low carbon economy.

The broad scope of the programme is designed to stretch students' educational horizons across traditional subject boundaries, encompassing areas normally associated with engineering, biology, economics, legislation and others. Thus, students will need to understand and develop technical and non-technical arguments at an advanced level.

The educational objectives of the programme are:

- to develop critical intellectual and practical skills of the students in the collection, analysis, interpretation and understanding of data related to environmental pollution;
- to provide the students with up-to-date knowledge and skills to equip them for a career in environmental management, waste management or in the oil and gas sector;
- to develop the students' competence in applying advanced skills to solve environmental problems, using a critical and holistic approach;
- to enhance students' interpersonal, communications and other transferable skills, so that they are competent to operate in senior positions in industry;
- to allow students to acquire educational qualifications which would enable them to gain recognition by professional bodies;
- to provide students with an opportunity to critically explore environmental problems with others from different educational backgrounds, hence enhancing the breadth of their viewpoints on such issues;
- to further develop the students' skills in research methods and practice, so that they can undertake advanced research in environmental, waste or oil and gas topics;
- to enable students to engage with life-long learning, research and creativity tempered with scientific discipline and social awareness.

Patterns of Delivery:

Full-Time – FT

The full-time route will serve the needs of students from a range of undergraduate programmes who wish to further their studies at advanced level, for mature students wishing a career change and for international students who wish to come to the UK to study. Full-time students would normally complete the programme in one year.

Part-Time – PT

The pattern of delivery adopted for part-time students follows that which has been adopted across the School, where students attend for one day or two half-days per week.

Distance Learning – DL

While the programme is principally taught and delivered to students who can attend classes, the programme has now been developed to a point where the students who wish to participate in the programme remotely, can do so and still receive a Learning experience comparable to the in-campus delivery. A blended learning approach with asynchronous online material, combined

with live tutorial/seminar/groupwork events ensure a quality learning environment for all students.

All modules are web-enhanced using the Managed Learning Environment (GCU Learn) which means that FT, PT and DL students have access to the required learning materials and resources.

Student Study Routes (Trimester A and Trimester B entrants)

The mode of study for full time and part time students is given in Table 2-1.

Mode of Attendance	Academic Year 1			Academic Year 2			Academic Year 3		
	Trimester			Trimester			Trimester		
	A	B	C	A	B	C	A	B	C
FT Sept start	4 Modules	4 Modules	Project						
FT Feb start		4 Modules		4 Modules	Project				
PT Sept start	2 Modules	2 Modules		2 Modules	2 Modules	Project			
PT Feb start		2 Modules		2 Modules	2 Modules		2 Modules	Project	

Table 2-1 Mode of study and trimesters

London Delivery

The programme is also delivered from the GCU London campus. Staff based in London and Glasgow will provide module delivery support to both Glasgow and London- based student cohorts.

LEARNING OUTCOMES

The programme provides opportunities for students to develop and demonstrate knowledge and understanding of environmental, waste or oil and gas topics, which they can relate to their previous educational qualifications and experience. The programme also develops cognitive skills, practical skills and other transferable skills.

3A Knowledge and understanding;

- A1 Current issues related to environmental management, integrated waste management, water, energy or oil and gas sector activities relating to the environment, including legislative, social and economic aspects;
- A2 Energy resources, conversion technologies and energy management techniques, particularly in relation to sustainable use of such resources;
- A3 The dynamics of environmental systems and associated pollutants and chemical and biochemical concepts;
- A4 The techniques and tools of waste minimisation as part of the environmental management process and the principal steps in the formation of ISO14001 and EMAS schemes;
- A5 The codes of practice and regulatory frameworks, including European Directives, relating to environmental management, water and waste management and pollution control;
- A6 Concepts of renewable and non-renewable resources, and the exploitation of these resources in the context of sustainable development;
- A7 The complexity of environmental issues, taking into account technological, scientific and social/ political/ economic concerns;

- A8 An in-depth knowledge of technologies related to waste management, and an understanding of the scientific principles underpinning these technologies
- A9 A detailed knowledge of the technologies and processes related to water quality and water pollution.
- A10 The codes of practice and regulatory frameworks, including European Directives, and international laws relating to waste, water, energy and the Oil and Gas industry

3B Practice: Applied knowledge, skills and understanding;

- B1 Planning, developing and recording field and laboratory investigations in a professional manner;
- B2 Producing and presenting detailed critiques and practical projects to a professional standard;
- B3 Selecting and using appropriate laboratory and field equipment competently and safely;
- B4 Critically analysing a range of methods and selecting the most suitable to solve problems;
- B5 Critically analysing risks and impacts in relation to environmental, water and waste management issues;
- B6 Tools and processes used to carry out assessments of environmental problems

3C Generic cognitive skills;

- C1 Being creative in developing solutions to environmental, water, energy and waste management problems;
- C2 Researching, critically evaluating and integrating information and data from a variety of sources;
- C3 Applying a holistic approach in solving problems and designing systems;
- C4 Evaluating and balancing risks, costs, benefits, safety, reliability, aesthetics, environmental impact and moral and ethical issues.

3D Communication, numeracy and ICT skills

- D1 Presenting research findings in a number of formats to a professional standard;
- D2 Applying advanced computer-based tools and packages.
- D3 Communicating effectively in appropriate formats, including among peers and with external agencies;
- D4 Applying appropriate analytical skills (including mathematical methods);
- D5 Using effectively a wide range of IT tools, including general software and specialist packages;

3E Autonomy, accountability and working with others.

- E1 Working effectively as part of a team;
- E2 Demonstrating a professional approach to time-management;
- E3 Showing independence and initiative in research and other work situations.
- E4 Working independently to plan, conduct and report a programme of original research;

LEARNING AND TEACHING METHODS

Methods used to enable the above outcomes to be achieved and demonstrated include:

- Lectures, tutorials and seminars – including asynchronous and “live” sessions across all modules
- Workshops and laboratories
- Industrial / site visits and field trips
- Visiting lecturers from industry and practice
- Self-directed learning facilitated by study resources
- Use of research-based learning materials and methods
- Web-based materials through a managed learning environment (Blackboard)
- Problem-based learning scenarios
- Individual projects
- Computer application activities
- Group work and projects

The programme aspires to educate to the highest level of understanding. Among the general educational aims are to develop skills in:

- Information seeking and retrieval
- Critical assessment of received information
- Data analysis and problem solving

ASSESSMENT METHODS

The totality of approaches to assessment (formal unseen examinations, formal open-book examinations, major and minor coursework activities, class tests, poster displays, student oral presentations, computer-based exercises, dissertation or Masters level project) is based on the appropriateness to the learning outcomes in each module and the Learning Outcomes of the Programme.

Methods of assessment include:

- Exams and class tests
- Coursework
- Student oral presentations
- Computer-based tests and other exercises
- Case study analysis
- Reports
- Dissertation / Masters level Project
- Other discipline-specific assessments

The above assessments may be delivered either in person and online as appropriate and determined at module level by the Module Leader.

ENTRY REQUIREMENTS

Specific entry requirements for this programme can be found on the prospectus and study pages on the GCU website at this location: www.gcu.ac.uk/study

The Course webpage specific to this Programme is: <https://www.gcu.ac.uk/study/courses/msc-environmental-management-waste,-energy,-water,-oil-and-gas-glasgow>

All students entering the programme are required to adhere to the [GCU Code of Student Conduct](#).

PROGRAMME STRUCTURE AND AVAILABLE AND FINAL EXIT AWARDS¹

The following modules are delivered as part of this programme:

Module Code	Module Title	Core or Optional	SCQF Level	Credit Size	Coursework 1 %	Coursework 2 %
MMF724003	Health, Safety and Environmental Management	CORE	11	15	50	50
MMH127078	Investigative Skills and Professional Development	CORE	11	15	40	60
MMH222327	Environmental Planning and Impact Assessment	OPTIONAL	11	15	50	50
MMH227053	Climate Change & Carbon Management	OPTIONAL	11	15	40	60
MMF827058	GIS and Environmental Management	OPTIONAL	11	15	50	50
MMH227055	Climate Justice Theory and Practice	OPTIONAL	11	15	40	60
MMJ921238	Renewable Energy Technologies	CORE (ENERGY)	11	15	40	60
MMH225986	Building and Energy Technology	CORE (ENERGY)	11	15	50	50
MMH225987	Resource Management and the Circular Economy	CORE (WASTE)	11	15	50	50
MMH121607	Advanced Waste Treatment Technologies	CORE (WASTE)	11	15	40	60
MMH127088	Water Quality and Waste Water Treatment	CORE (WATER)	11	15	50	50
MMF727057	Environmental Pollution, Monitoring & Analysis	CORE (WATER)	11	15	50	50
MMH127086	The Oil and Gas Industry	CORE (OIL&GAS)	11	15	50	50

¹ Periodically, programmes and modules may be subject to change or cancellation. Further information on this can be found on the GCU website here:

<https://www.gcu.ac.uk/currentstudents/essentials/policiesandprocedures>

MMH227087	Environmental Regulation and State Control of Oil and Gas	CORE (OIL&GAS)	11	15	50	50
MMH127079	Work Placement Project	CORE	11	60	75	25
MMH106215	Project	CORE	11	60	75	25

The programme follows the standard Glasgow Caledonian University model for postgraduate programmes. There are 4 modules per trimester (total 8 taught modules), each valued at 15 SHEM credit points. The Masters dissertation is a 60-credit module, normally completed during the summer months. Each 15-credit module corresponds to approximately 150 hours of notional student effort (including various forms of class contact, private study and assessment).

The programme is offered on both a full-time and part-time basis. The duration of the full-time mode is one calendar year and part time students are normally expected to complete the taught modules in two years. Part time students normally attend the university one day per week studying two modules. Most of the modules have supplementary web-based material via Blackboard Virtual Learning Environment (GCU Learn) available to provide a flexible learning mean for students.

In each of the two trimesters students will choose four modules (part time students will choose two). All students must choose the Health, Safety and Environmental Management module as part of a professional accreditation requirement. In addition, an Investigative Skills and Professional Development module is also core, because of its relevance to the Dissertation Project Module and for the future employability of students.

Students wishing to achieve a pathway, must choose the two subject-specific modules and undertake their project dissertation relevant to the pathway. Where a student has undertaken enough work relevant to two pathways, the student can choose which named pathway is assigned to their transcript. The proposed programme for Glasgow, London based and distance learning programmes is given in Table 4-1. It is expected that all modules will be available to all students. However, it recognised that some modules will have laboratory components and therefore online material, equivalent to any lab-based experiments, will be made available.

Note that an additional Work Placement Project is being introduced, worth 60 credits, as an alternative to the dissertation project. This is to provide a module more suited to students who have the opportunity to work more closely with an organisation on a particular area of research.

Awards

The following awards can be made:

PgC:

- Postgraduate Certificate (PgC) Environmental Management, for four postgraduate modules (60 SHEM credits), equivalent to 1 trimester of full-time study or 2 trimesters of part-time study;

PgD:

- Postgraduate Diploma (PgD) in Environmental Management for a further four modules (total 120 SHEM credits), equivalent to 2 trimesters of full-time study or 4 trimesters of part-time study;

MSc:

Master of Science (MSc) for the equivalent of a further 1 trimester of student effort (to give a total 180 SHEM credits), being a project dissertation. The MSc degree is awarded as follows:

- MSc Environmental Management for students who have completed the PgD, including four Semester A modules and four Trimester B modules and a dissertation on an environmental theme.
- MSc Environmental Management (Waste) for students who have completed the PgD, including the four Semester A modules and four modules in Semester B, including three compulsory modules for the Waste pathway and a dissertation on an approved topic related to waste management.
- MSc Environmental Management (Oil and Gas) for students who have completed the PgD, including the four Semester A modules and four modules in Semester B, including three compulsory modules for the Oil and Gas pathway and a dissertation on an approved topic related to oil and gas management.
- MSc Environmental Management (Water) for students who have completed the PgD, including the four Semester A modules and four modules in Semester B, including three compulsory modules for the Water pathway and a dissertation on an approved topic related to water management.
- MSc Environmental Management (Energy) for students who have completed the PgD, including the four Semester A modules and four modules in Semester B, including three compulsory modules for the Energy pathway and a dissertation on an approved topic related to waste management.

Selection of Taught Modules

When students first register and attend the University the Programme Leader will provide advice and guidance to help them select modules appropriate to their existing experience, their interests and future career aspirations; the aim is to match, as far as is practicable, the learning requirements specific to the student with the portfolio of modules on offer.

Students admitted to the programme will have every opportunity to complete the requirements of the programme specification. However, modules are subject to minimum and maximum numbers, and therefore it cannot be guaranteed that any specific module will be available for any specific cohort. Should a module not be available for any reason, students will be asked to select an alternative module to study.

Masters Dissertation/Project

All students are required to complete the Masters Dissertation/Project module, which is based on a significant piece of individual research. The subject of the research will be an area of special interest to the student, and will be based on a proposal written by the student and submitted to the Dissertation/Project Co-ordinator. The area of research chosen should be of the required subject and intellectual depth and should provide a suitable match with previous study. This may require increased technical depth or greater breadth of subject matter relating to previous projects, case studies or dissertation undertaken by the student.

ASSESSMENT REGULATIONS

Students should expect to complete their programme of study under the GCU Assessment Regulations that were in place at the commencement of their studies on that programme, unless proposed changes to University Regulations are advantageous to students. These can be found at:

<https://www.gcu.ac.uk/aboutgcu/services-and-facilities/qualityassuranceandenhancement/regulations-and-policies>

VERSION CONTROL (to be completed in line with AQPP processes)**Any changes to the PSP must be recorded below by the programme team to ensure accuracy of the programme of study being offered.**

Version Number	Changes/Updates	Date Changes/ Updates made	Date Effective From																																																																								
1.0	<p>Moved to new template. Reduction in the number of optional modules offered to London cohorts. The programme structure for London is as follows:</p> <table border="1" data-bbox="331 472 1711 1007"> <thead> <tr> <th>S/N</th> <th>Module</th> <th>Module Code</th> <th>Trimester</th> <th>Module Leader</th> <th>London Support</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Health, Safety and Environmental Management</td> <td>MMF724003</td> <td>A</td> <td>Titus Olaniyi</td> <td>Nkechi Nwankwo, Adekunle Oyelusi</td> </tr> <tr> <td>2</td> <td>Investigative Skills and Professional Development</td> <td>MMH127078</td> <td>A</td> <td>Jim Baird</td> <td>Titus Olaniyi Nkechi Nwankwo</td> </tr> <tr> <td>3</td> <td>Environmental Planning and Impact Assessment</td> <td>MMH222327</td> <td>A</td> <td>Charles Russell</td> <td>Nkechi Nwankwo</td> </tr> <tr> <td>4</td> <td>Resource Management and Circular Economy</td> <td>MMH225987</td> <td>A</td> <td>Jim Baird</td> <td>Fatima Bensalah</td> </tr> <tr> <td>5</td> <td>The Oil and Gas Industry</td> <td>MMH127086</td> <td>A</td> <td>Titus Olaniyi</td> <td>Nkechi Nwankwo</td> </tr> <tr> <td>6</td> <td>GIS and Environmental Management</td> <td>MMF827058</td> <td>B</td> <td>Benjamin Fisher</td> <td>Titus Olaniyi</td> </tr> <tr> <td>7</td> <td>Renewable Energy Technologies</td> <td>MMJ921238</td> <td>B</td> <td>George Loumakis</td> <td>Titus Olaniyi</td> </tr> <tr> <td>8</td> <td>Advanced Waste Treatment Technologies</td> <td>MMH121607</td> <td>B</td> <td>Jim Baird</td> <td>Titus Olaniyi</td> </tr> <tr> <td>9</td> <td>Water Quality and Wastewater Treatment</td> <td>MMH124004</td> <td>B</td> <td>JiaQian Jiang</td> <td>Titus Olaniyi</td> </tr> <tr> <td>10</td> <td>Environmental Regulation and State Control of Oil and Gas</td> <td>MMH227087</td> <td>B</td> <td>Titus Olaniyi</td> <td>Adekunle Oyelusi</td> </tr> <tr> <td>11</td> <td>Project (MSc)</td> <td>MMH106215</td> <td>A/B/C</td> <td>Titus Olaniyi</td> <td>Titus Olaniyi, Nkechi Nwankwo, Ryan Holmes</td> </tr> </tbody> </table>	S/N	Module	Module Code	Trimester	Module Leader	London Support	1	Health, Safety and Environmental Management	MMF724003	A	Titus Olaniyi	Nkechi Nwankwo, Adekunle Oyelusi	2	Investigative Skills and Professional Development	MMH127078	A	Jim Baird	Titus Olaniyi Nkechi Nwankwo	3	Environmental Planning and Impact Assessment	MMH222327	A	Charles Russell	Nkechi Nwankwo	4	Resource Management and Circular Economy	MMH225987	A	Jim Baird	Fatima Bensalah	5	The Oil and Gas Industry	MMH127086	A	Titus Olaniyi	Nkechi Nwankwo	6	GIS and Environmental Management	MMF827058	B	Benjamin Fisher	Titus Olaniyi	7	Renewable Energy Technologies	MMJ921238	B	George Loumakis	Titus Olaniyi	8	Advanced Waste Treatment Technologies	MMH121607	B	Jim Baird	Titus Olaniyi	9	Water Quality and Wastewater Treatment	MMH124004	B	JiaQian Jiang	Titus Olaniyi	10	Environmental Regulation and State Control of Oil and Gas	MMH227087	B	Titus Olaniyi	Adekunle Oyelusi	11	Project (MSc)	MMH106215	A/B/C	Titus Olaniyi	Titus Olaniyi, Nkechi Nwankwo, Ryan Holmes	23/6/23	Tri A 23/24
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2.0	Updated to remove reference to Strategy for Learning, tidy up and format document, and update links.	29/06/2026	Jun 26																																																																								