

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.

1. GENERAL INFORMATION			
Programme Title	BSc (Hons) Environmental Civil Engineering		
Final Award	BSc (Hons) Environmental Civil Engineering		
Awarding Body	Glasgow Caledonian University		
School	School of Science and Engineering		
Department	Department of Construction and Built Environment		
Mode of Study	Full-time		
Location of Delivery	Glasgow Campus		
UCAS Code	H220		
Accreditations (PSRB)	Joint Board of Moderators (JBM) – ICE, ISE, IHE, CIHT, RailE		
Period of Approval	From:	September 2026	To: September 2029

2. EDUCATIONAL AIMS OF PROGRAMME
General Aims: - to provide the construction industry with well educated, competent civil engineers capable of responding to current and emerging industry needs, particularly in relation to sustainability, environmental changes, and climate resilience; - to prepare students for their careers, further personal study, and for lifelong personal and professional development, including the development of critical thinking, problem-solving, and digital competencies. Aims of the Programme at BSc (Hons) in Environmental Civil Engineering level exit point:

- a) to provide students with a high-quality undergraduate degree programme comprising a sound knowledge base encompassing engineering design and management principles, their application in addition to related health, safety and sustainability issues;
- b) to deliver a demanding programme which equips students with key knowledge, comprehension and skills competency essential for incorporated engineers in environmental civil engineering;
- c) to provide an education base and degree programme which is accredited by the Joint Board of Moderators (JBM);
- d) to provide students with the necessary academic knowledge and professional ability to be applied in a challenging career in the civil engineering profession;
- e) to enable students to develop intellectual strengths and creative powers which are flexible and adaptable to the rapidly changing demands of industry and society;
- f) to enable students to develop and maintain personal transferable skills;
- g) to enable students to develop good judgement and innovative thinking processes by the development and application of logical analysis, evaluation and synthesis techniques; and
- h) to introduce students to research methods and a learning experience which promotes and encourages a culture of lifelong learning throughout their career.

Student Journey through the Programme:

Level 1

Foundation for study of the discipline, establishment of “ground rules”. An outline knowledge of the scope and main areas of the discipline; an understanding of the main theories, principles and concepts. Students will be able to:

- Use their knowledge of the subject and its techniques to evaluate a range of arguments and solutions to problems and issues of a routine nature;
- Apply their discipline-related and transferable skills in contexts which have well-defined criteria;
- Undertake further learning in a structured and managed environment.

Level 2

Engagement with the core areas of the discipline in preparation for professional placement. Developing knowledge and understanding of the scope and main areas of the discipline and its interaction with related areas/disciplines; familiarity and understanding of the essential theories, concepts and awareness of major issues within the discipline.

Students will be able to use their knowledge, understanding and skills to:

- Critically evaluate evidence-based arguments and identify solutions to clearly defined problems of a routine nature;
- Apply their discipline-related and transferable skills to contexts where the task and criteria for decisions are generally well defined but where responsibility and initiative is required.

Level 3

Focusing on the key specialist areas of the discipline. Developing a broad and comparative knowledge of the general scope of the different areas and applications, and interactions with related areas/disciplines. Critical understanding of the essential theories, principles and concepts of the discipline, and the ways in which these are developed.

Students will be able to use their knowledge, understanding and skills to:

- Both identify problems and issues and formulate, evaluate and apply evidence and arguments;
- Apply their discipline-related and transferable skills to contexts where criteria and the scope of the task may be well defined but where personal responsibility and decision making is also required.

Level 4

Further extend knowledge of the specialist areas of the discipline. A systematic, extensive and comparative knowledge and understanding of the discipline, and its links to related areas/disciplines. A

critical understanding of the established theories, principles and concepts of a number of advanced and emerging issues at the forefront of the discipline.

Students will be able to use their knowledge, understanding and skills:

- In the systematic assessment of a wide range of concepts, ideas and data;
- In identifying and analysing complex problems and issues, demonstrating originality and creativity in formulating, evaluation and applying evidence-based solutions and arguments;
- To apply their discipline-related and transferable skills in contexts where there is a requirement for:
 - a) The exercise of personal responsibility and initiative;
 - b) Decision-making in complex and unpredictable contexts;
 - c) The ability to undertake further developments of a professional nature.

3. LEARNING OUTCOMES

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills, qualities and other attributes in the following areas:

A: Knowledge and understanding;

- A1 Basic mathematics and scientific principles as deemed relevant for Incorporated Engineers;
- A2 Fundamental concepts, principles and theories of structural engineering, water engineering and ground engineering and the environmental and sustainability issues associated with these core subjects;
- A3 Principles of IT and communications relevant to an Incorporated Engineer;
- A4 Principles of design & design techniques specific to construction design utilising appropriate codes of practice;
- A5 Sustainable development issues associated with civil engineering materials, components and practices and methods for mitigating impacts;
- A6 Construction, management, business and operational practices and responsibilities;
- A7 Professional, ethical and contractual responsibilities as well as the legal framework associated with civil engineering in a variety of environments.

B: Practice: Applied knowledge, skills and understanding;

- B1 Skill in the use of appropriate mathematical methods for modelling and analysing discipline specific engineering problems and related environmental problems;
- B2 Use of relevant test and measurement equipment and experimental lab work;
- B3 Use of engineering IT tools;
- B4 Design of a system, component or process and awareness of quality issues and their application to continuous improvement;
- B5 Practical testing of design ideas in lab or through simulation or design & build with technical analysis/appraisal and critical review/evaluation of the results – specification, etc.;
- B6 Project management and ability to operate in commerce/industry in a range of environmental situations.

C: Generic cognitive skills;

- C1 Ability to select and apply appropriate mathematical methods for modelling and analysing problems;
- C2 Ability to utilise scientific principles in the development of engineering solutions to practical problems;
- C3 Application of scientific principles in the modelling and analysis of engineering systems, processes and products within the framework of sustainable development;
- C4 Ability to select and apply appropriate computer-based methods for modelling and analysing engineering problems in different environmental contexts;
- C5 Analysis of systems, processes and components requiring sustainable solutions;
- C6 Creation of solutions via idea synthesis from a range of sources within in a multidisciplinary environment;

C7	Ability to apply solutions to problems through the application of engineering knowledge and understanding within a sustainable development context.
D: Communication, numeracy and ICT skills	
D1	Project management and ability to operate in commerce/industry in a range of environmental situations;
D2	Ability to reflect on own learning, including awareness of strengths and areas for improvement;
D3	Ability to work in a group and independently;
D4	Develop presentation skills, both independently and as part of a group;
D5	Develop effective interpersonal skills, including oral, written and listening;
D6	Ability to prioritise tasks and manage their time appropriately.
E: Autonomy, accountability and working with others.	
E1	Critical thinking and problem solving;
E2	Cognitive/intellectual skills;
E3	Independent working;
E4	Adopting a flexible learning style and orientation to learning;
E5	Time management (organising and planning work) and an ability to prioritise tasks;
E6	Planning, monitoring, reviewing and evaluating own learning and development;
E7	Group working and development of leadership skills.
The Curriculum Map in Appendix A shows how these Programme Learning Outcomes relate to the modules which make up the programme of study.	
4. LEARNING AND TEACHING METHODS	
The programme provides a variety of learning and teaching methods. Programme and Module specific guidance will provide detail of the learning and teaching methods specific to each module.	
Across the programme the learning and teaching methods and approaches may include the following:	
• Lectures • Seminars • Practical classes • Placements • Simulation experiences • Groupwork • Flipped classroom approaches • Online learning	
The above approaches may be delivered either in person or online as appropriate and determined at module level by the Module Leader.	

5. ASSESSMENT METHODS	
The programme provides a variety of formative and summative assessment methods. Programme and Module specific guidance will provide detail of the assessment methods specific to each module.	
Across the programme the assessment methods may include the following:	
• Written coursework (essays, reports, case studies, dissertation, literature review) • Oral coursework (presentations, structured conversations) • Practical Assessment (Placement, VIVA, Laboratory work, authentic assessments) • Group work • Portfolio Presentations • Formal Examinations and Class Tests	

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

6. 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: [BSc \(Hons\) Environmental Civil Engineering | Glasgow Caledonian University | Scotland, UK](#)

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

7.	8. 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	Coursework1 %	Coursework2 %	Class Test %	Examination %
Level 1								
M1G127072	Applied Mathematics	Core	7	20			40	60
M1K203077	Professional Orientation & Practice (POP)	Core	7	20	50	50		
M1K221884	Construction Materials	Core	7	20	50	50		
M1H223148	Land Surveying	Core	7	20	50		50	
M1H120822	Structural Mechanics Statics and Dynamics	Core	7	20	30		70	
M1H131002	Fluid Mechanics and Urban Thermodynamics	Core	7	20	50		50	
Level 2								
M2K230685	Digital Construction	Core	8	20	75	25		
M2H220818	Structural Design and Analysis	Core	8	20	30	70		
M2H320742	Hydraulics	Core	8	20	50		50	
M2F626857	Geotechnics	Core	8	20	40		60	
M2K221315	Construction Contracts 2	Core	8	20	50		50	
M2K102838	Design of Structures	Core	8	20	30	70		
M2K226936	C&S Preparation for Placement	Core	8	20	50	50		
Level 3								
M3H227073	Transportation*	Core	9	20	40			60
M3K226935	Intermediate Measurement and Contract*	Core	9	20	50	50		
M3K220211	Managed Project Learning*	Core	9	20	100			
M3K221535	Structural Engineering	Core	9	20	30	70		
M3F620811	Geotechnical Design	Core	9	20	40			60
M3H121899	Public Health, Water and Wastewater Treatment	Core	9	20	40			60
	* Full Time Students will not undertake these modules if they go on Placement or Exchange abroad (subject to approval) as below:							
M3K226918	Professional Placement Learning	Optional	9	60	20	80		
or								
M3K226155	Exchange Module 1	Optional	9	20				Dependant on host institution
M3K226156	Exchange Module 2	Optional	9	20				Dependant on host institution

¹ Periodically, programmes and modules may be subject to change or cancellation. Further information on this can be found on the GCU website here:
www.gcu.ac.uk/currentstudents/essentials/policiesandprocedures/changesandcancellationtoprogrammes

M3K226157	Exchange Module 3	Optional	9	20			Dependant on host institution
Level 4							
MHK226974	Dissertation	Core	10	40	100		
MHH126811	Water Resource Management	Core	10	20	50		50
MHH223204	Advanced Structural Engineering	Core	10	20	60		40
MHF720126	Waste Management and Contaminated Land (FT only)	Core	10	20	50		50
MHH123180	The Engineer in Business	Optional	10	20	50	50	
	or						
MHH230650	Sustainable Materials and Practices (Core for PT)	Optional	10	20	50	50	
	Students undertaking the programme on a full-time basis commencing in September of each year will undertake the modules in the order presented above.						
	The following final and early Exit Awards are available from this programme²: Certificate of Higher Education in Environmental Civil Engineering - <i>achieved upon successful completion of 120 credits</i> Diploma of Higher Education in Environmental Civil Engineering - <i>achieved upon successful completion of 240 credits</i> Bachelor of Science in Environmental Civil Engineering - <i>achieved upon successful completion of 360 credits</i> Bachelor of Science with Honours in Environmental Civil Engineering - <i>achieved upon successful completion of 480 credits</i>						

9. 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/supportservices/qualityassuranceandenhancement/regulations-and-policies>

In addition to the GCU Assessment Regulations noted above, this programme is subject to Programme Specific Regulations in line with the following approved Exceptions:

² Please refer to the [GCU Qualifications Framework](#) for the minimum credits required for each level of award and the Programme Handbook for requirements on any specified or prohibited module combinations for each award.

Case No: 156

Details: Honours Classification will be calculated on the average mark from 180 credits as follows:

- All 120 Level 4/SCQF 10 credits plus:
- 60 credits from Level 3/SCQF 9 from the following core modules:
 - Geotechnical Design
 - Public Health, Water and Wastewater Treatment
 - Structural Engineering

Case No: 215

Details: A maximum of 30 credits in a Bachelors or integrated Master's degree programme can be compensated, and a maximum of 20 credits in a Masters degree other than the integrated Master's degree.

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.			
<i>Version Number</i>	<i>Changes/Updates</i>	<i>Date Changes/Updates made</i>	<i>Date Effective From</i>
1.0	Detail moved from old template to new template	11.07.2025	11.07.2025
2.0	General aims edited; Assessments weights updated according to Module Harmonisation process	16.06.2026	