PROGRAMME SPECIFICATION MSc Green Building

Programme Aim and Title	MSc Green Building
Intermediate Awards Available	PGDip PGCert
Teaching Institution(s)	This programme is offered only at: The Graduate School of the Environment at the Centre of Alternative Technology and is available by Distance Learning
Alternative Teaching Institutions (for local arrangements see final section of this specification)	N/A
UEL Academic School	School of Architecture, Computing and Engineering (ACE)
UCAS Code	N/A
Professional Body Accreditation	N/A
Relevant QAA Benchmark Statements	• *Masters' degrees characteristics (2020)* • *UK Quality Code for Higher Education (2014)* • *UG: Architecture (2020)* • *UG: Earth sciences, environmental sciences and environmental studies(2019)* • *M: Architecture (2010)* • *M: Engineering (2020)*
Additional Versions of this Programme	MSc in Green Building by Distance/Online Learning
Date Specification Last Updated	23 December 2021

Programme Aims and Learning Outcomes

This programme is designed to give students the opportunity to:

- Critically reflect upon the causes, seriousness, and urgency of the current episode of environmental and climatic change with respect to how these factors influence the nature of the built environment and the construction industry and the interaction of professional disciplines in a national and international environment.
- Undertake an extended independent piece of research into sustainable construction management and/or building issues to produce an original design or research upon a topic of their choosing within the field of green building.

- Develop self-confidence and an ability to act on their own initiative, to prepare them for the rigours and demands of employment or further postgraduate study in the sustainable construction or property industries.
- Make informed decisions based upon an appraisal of appropriate ethical research methodologies, combined with practical experience, to develop a deep and holistic understanding of sustainable construction issues. Develop evaluation skills of complex issues to become systematic, iterative, imaginative and creative, in order that they can make sound judgements within the limits of uncertainty and incomplete data; and become a self-reflective practitioner who can realise their potential for self-development, and communicate opinions and conclusions clearly to specialist and non-specialist audiences.

What you will learn:

Knowledge

- Demonstrate a holistic, systematic and sophisticated understanding of the concepts, issues, and theories that are central to Green Building. Green Building (also known as green construction, eco-friendly building or sustainable building) refers to both a structure and the application of processes that are environmentally responsible and resource-efficient throughout a building's life-cycle: from planning to design, construction, operation, maintenance, renovation, deconstruction and reuse. Green Building practice expands and complements classical building design concerns but has environment, comfort, energy/resource use, and passive heating and cooling at its core. More recently Green Building has incorporated adaptation measures for a changing climate.

- Present a sophisticated appreciation of the influence of the wider political, social, cultural and non-cultural perspectives can have on the perspective of the built environment and the role of environmental sustainability in building design;

- Demonstrate through reasoned argument the ability to integrate and rationalize the influences that the multiple environmental concerns facing humanity have on sustainability and green building design decision-making processes.

Thinking skills

- Through critical and ethical evaluation of relevant methodologies, analyses and conclusions develop and sustain arguments in a variety of written formats, formulating appropriate questions and utilising primary and secondary evidence;

- Synthesise a clear understanding of the various legal, institutional and ethical considerations and developments associated with sustainable green building practice;

- Critically analyse the effective sustainable management of the construction process and the environmental, economic and social impacts within a global context.

Subject-Based Practical skills

- Position with clarity, relevance and insight, a variety of environmentally sensitive construction approaches within a wider conceptual and methodological framework drawn from appropriate literature and best industry practice;

- Analyse, evaluate, draw conclusions from and critically reflect upon primary and secondary literature and evidence, including academic writings, advertising materials, arts and visual representations, various legal documentation, regulations and guidelines associated with the sustainable construction industry;

- Utilise the principles of green building design and practice, including choice of materials, energy provision and use, and building techniques to deliver low/zero carbon and construction.

Skills for life and work (general skills)

- Demonstrate an ability to study independently and effectively; and to be able to present and convey complex technical information to other professionals and the public;

- Demonstrate advanced numeracy and quantitative skills;

- Gather and use evidence and data, using IT and computer skills where necessary, to find, retrieve, organise and exchange new information;

- Demonstrate leadership and performance management (including time management) skills including those within a multidisciplinary context;

- Design, investigate, and present an extended and independently-conceived piece of research.

Learning and Teaching

Knowledge is developed through:
- *Guided reading;*
- *An extensive lecture series;*
- *Knowledge-based activities with feedback;*
- *Online discussions and activities;*
- *Peer to peer interaction.*

Thinking skills are developed through:
- *Reflective formative and summative activities with feedback*
- *Participation in online discussions and activities.*

Practical skills are developed through:
- *IT activities with feedback;*
- *Research skills-based activities with feedback;*
- *Experiential, Design and Construction based activities with feedback.*

Skills for life and work (general skills) are developed through:
- *The demands of the study medium (e.g. distance and blended learning);*
- *Planning activities with feedback;*
- *Project work;*
- *Group work activities with feedback.*

Assessment

Knowledge is assessed by coursework including:
- *Essays;*
- *Formative quizzes;*
- *Case studies;*
- *Critical reviews;*
- *Reflective exercises;*
- *Project reports;*
- *Poster presentations;*
- *Debate participation;*
- *Design Dissertation/Design Report.*

Thinking skills are assessed by:
- *Coursework;*
- *Evaluation of literature;*
- *Solutions to practical problems;*
- *Evaluation of experimental data in support of dissertation / design work;*
- *Design and Project work.*

Practical skills are assessed by:

- *Use of design aids;*
- *Practical reports;*
- *Portfolio completion.*

Skills for life and work (general skills) are assessed by:

- *Project work reports;*
- *Group work reports;*
- *Coursework (as outlined in knowledge section above).*

Students with disabilities and/or particular learning needs should discuss assessments with the Programme Leader to ensure they are able to fully engage with all assessment within the programme.

Programme Structure

All courses are credit-rated to help you to understand the amount and level of study that is needed.

One credit is equal to 10 hours of directed study time (this includes everything you do e.g. lecture, seminar and private study).

Credits are assigned to one of 5 levels:

3	Equivalent in standard to GCE 'A' level and is intended to prepare students for year one of an undergraduate degree course.
4	Equivalent in standard to the first year of a full-time undergraduate degree course.
5	Equivalent in standard to the second year of a full-time undergraduate degree course.
6	Equivalent in standard to the third year of a full-time undergraduate degree course.
7	Equivalent in standard to a Masters degree.

Courses are made up of modules that are each credit weighted.

The module structure of this MSc Green Building (GB) programme:

Level	Module Code	Module Title	Credit Weighting	Core/Option	Available by Distance Learning? Y/N
7	EV7132	Introduction to Sustainability and Adaptation	15	Core	Y
7	EV7137	Sustainability and Adaptation Concepts in Practice	15	Core	Y
7	EV7105	Cities and Communities	15	Optional	Y
7	EV7108	Energy Provision	15	Optional	Y
7	EV7110	Sustainable Materials in the Built Environment	15	Core	Y
7	EV7122	Circular Building	15	Optional*	Y
7	EV7127	Ecosystems and Ecosystem Services	15	Optional	Y
7	EV7128	Energy Flows in Buildings	15	Optional*	Y
7	EV7131	Introduction to Politics and Economics of the Environment	15	Optional	Y
7	EV7134	Low and Zero-carbon Buildings	15	Optional*	Y
7	EV7125	Applied Research Design	15	Core	Y
7	EV7101	Dissertation	60	Core	Y

Please note: Optional modules might not run every year, the course team will decide on an annual basis which options will be running, based on student demand and academic factors, in order to create the best learning experience.

Additional detail about the course module structure:

A core module for a programme is a module which a student must have passed (i.e. been awarded credit) in order to achieve the relevant named award. An optional module for a programme is a module selected from a range of modules available on the course.

Additional detail about the programme module structure:

Introductory modules: As introduced above in section 4.1, the MSc GB programme will commence in September with all students undertaking a linked pair of 15-credit core modules, both untaken within the first term of study: EV7132 'Introduction to Sustainability and Adaptation' starting in September, followed by EV7137 'Sustainability and Adaptation Concepts in Practice' that typically starts in November. These modules aim to establish the overarching concepts and theoretical grounding needed for the programme, build scientific literacy and core academic skills, and introduce the specialist 'themes' of their programme.

Subject specific taught modules: Thereafter, students are required to study six further 15-credit taught modules, comprising:

- **Tier 1 core taught modules:** two 15-credit core modules focused on sustainable materials (EV7110) and applied research design (EV7125).
- **Tier 2 Optional* modules required to achieve the GB award:** at least two 15-credit optional* modules from three offered that focus on energy flows in buildings (EV7128), low- and zero-carbon buildings (EV7134) and circular building (EV7122).
- **Tier 3 Optional modules (free choice):**two optional 15-credit modules from those available on the programme – refer to the table above (which may include EV7128, EV7122 or EV7134)

Dissertation: The 60-credit core EV7101 Dissertation module, undertaken after completion of 120-credits of taught modules, completes the Masters programme (MSc GB). Students may present a conventional written dissertation for this module, or an alternative, design focused portfolio approach that allows presentation in a non-standard format and assessment of research artefacts.

The overall credit-rating of this programme is 180 credits. If for some reason students are unable to achieve this credit they may be entitled to an intermediate award, the level of the award will depend on the amount of credit accumulated:

PG Dip.: Students studying the Postgraduate Diploma in Green Building (PG Dip. GB) will need to complete 120 credits, comprising, the core introductory modules EV7132 and EV7137, plus six further 15-credit taught modules, comprising:

- **Tier 1 core taught modules:** two 15-credit core modules focused on sustainable materials (EV7110) and applied research design (EV7125).
- **Tier 2 Optional* modules required to achieve the GB award:** at least two 15-credit optional modules from three offered that focus on energy flows in buildings (EV7128), low- and zero-carbon buildings (EV7134) and circular building (EV7122).
- **Tier 3 Optional modules (free choice):** two optional 15-credit modules from those available on the programme – refer to the table above (which may include EV7122, EV7128, or EV7134).

PG Cert.: Students studying the Postgraduate Certificate in Green Building (PG Cert. GB) will need to complete 60 credits, comprising, EV7110, EV7132 and EV7137 (each 15 credits) and one of EV7122, EV7128, or EV7134 (each 15 credits) – refer to the table above.

Short Course: Students achieving the core introductory modules EV7132 and EV7137 will be eligible for a 'Short Course SA' award.

Guidance regarding modules EV7128 'Energy Flows in Buildings' and EV7134 'Low and Zero-carbon Buildings': students who do not have prior credited or experiential learning in building physics are advised to undertake module EV7128 as a pre-cursor to module EV7134.

You can read the University Student Policies and Regulations on the UEL website.

Programme Specific Regulations

In order to pass a module, a student must both achieve an aggregate mark of 50% and also meet the component threshold marks (when applicable), see below:

- For the purposes of passing a module that is summatively assessed through two or more 'components', each component (e.g. essay, report, presentation etc.) has a threshold mark of 40%;
- For the purposes of passing a module that is summatively assessed through a 'Portfolio' with module weighting of 100%, each portfolio component (e.g. reflective essay, critique review, dissertation etc.) must be submitted in accordance with coursework submission deadlines but has no minimum threshold mark.

Typical Duration

The duration of this programme is:

Period of study full-time: 17 months full-time, comprising 12 months taught modules and the 5-month dissertation module.

Period of study part-time: the normal expected progression will be to complete the programme in 33-months, comprising 2-years taught modules and the 9-month part-time route through the dissertation module. Alternatively, part-time students can complete the programme in 29-months, comprising 2-years taught modules and the full-time 5-month dissertation route. Students will normally have to have previously studied 60 credits in part time mode to undertake the part-time route for the dissertation.

Our provision is designed to be flexible and it is possible to move from full-time to part-time study and vice-versa to accommodate any external factors such as financial constraints or domestic commitments. Many of our students make use of this flexibility and this may impact on the overall duration of their study period.

The time limit for completion of a programme is six years after first enrolment on the programme.

Further Information

More information about this programme is available from:

- The UEL web site (www.uel.ac.uk)
- The CAT web site (http://www.cat.org.uk)
- The GSE web site (http://gse.cat.org.uk)
- The programme handbook (https://gse.cat.org.uk/index.php/about-us/policies-and-information)
- Module study guides (available to enrolled students via the Virtual Learning Environment, Moodle, and Teams)
- UEL Manual of General Regulations (available on the UEL website)
- UEL Quality Manual (available on the UEL website)
- The School of Architecture, Computing and Engineering (ACE) website (https://www.uel.ac.uk/schools/ace)
- Current External Examiners (https://www.uel.ac.uk/Discover/External-Examiner-System)

All UEL programmes are subject to thorough course approval procedures before we allow them to commence. We also constantly monitor, review and enhance our programmes by listening to student and employer views and the views of external examiners and advisors.

Additional costs:

The fees structure, timings and operation for students studying this programme are described within the current GSE MSc Fees Terms and Conditions, which is accessible from: https://gse.cat.org.uk/index.php/about-us/policies-and-information These are available to students at the point of or before application.

Please note that any updated version will be that which is applied.

Dissertation:

Where students elect the non-standard format, portfolio approach for the Dissertation, the nature of the artefact/s required will depend on the study and will be negotiated with the student.

Typical examples of artefacts could include: design drawings, videos, photographs, images or 3-D renders, diagrams, infographics or illustrations; scale model/s or full-scale mock-ups; prototype building system, element or product/s; monitoring, data logging, putting data through predictive software and/or measurements from field studies.

CAT will support students with the facilities and equipment available onsite at the centre and/or as available from their collaborative partners, subject to agreement.

Additional costs to the student for the artefact/s will be in the region of £500, although this will largely be governed by the nature of the work

CAT will work with students to minimise their costs and to develop low/no cost options wherever possible.

The fees structure, timings and operation for students studying this programme are described within the current GSE MSc Fees Terms and Conditions, which

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Alternative Locations of Delivery

N/A