

Programme Aim and Title	MSc in Sustainability in Energy Provision and Demand Management (MSc SEPDM)
Intermediate Awards Available	<i>PGDip</i> <i>PGCert</i> <i>Short Course SEPDM</i>
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	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	<ul style="list-style-type: none"> <li>• <i>Masters' degrees characteristics (2010)</i></li> <li>• <i>The Framework for Higher Education Qualifications in England, Wales and Northern Ireland (2008)</i></li> <li>• <i>UG: Architecture (2010)</i></li> <li>• <i>UG: Earth sciences, environmental sciences and environmental studies (2014)</i></li> <li>• <i>M: Architecture (2010)</i></li> <li>• <i>M: Engineering (2015)</i></li> </ul>
Additional Versions of this Programme	MSc in Sustainability in Energy Provision and Demand Management by Distance/Online Learning
Date Specification Last Updated	August 2017

## Programme Aims and Learning Outcomes

### **This programme is designed to give you the opportunity to:**

1. Critically reflect upon the causes, seriousness, and urgency of environmental and climatic change with respect to how these factors influence sustainability thinking and adaptation.
2. Hone the ability to identify and appraise the complex influences that technical, political, legal, social, cultural and non-cultural factors have on the provision, supply, demand and use of energy.
3. Develop technical evaluation skills to become systematic, logically iterative and imaginative, in order to make sound judgements within the limits of uncertainty and incomplete data, and communicate evidence and conclusions clearly to specialist and non-specialist audiences.
4. Undertake an extended independent piece of original research and writing on a topic of your choosing within the field of sustainable energy, renewable energy, energy supply, energy use and demand.
5. Develop the self-confidence and ability to act on initiative, to prepare for the rigours and demands of employment or further postgraduate study in areas related to sustainability and energy.
6. Make informed decisions based on an appraisal of academic evidence combined with practical experience and directed research, in order that the ability to synergise theory and practice knowledge into a deep understanding may be developed.
7. Understand and analyse individual strengths and competencies and fulfil your potential for self-development into an independent self-reflective learner and practitioner in the chosen area of interest.

### **What you will learn:**

#### **Knowledge**

- Demonstrate a holistic, systematic and sophisticated understanding of the concepts, issues, and theories of sustainable energy provision, supply, use and demand within the context of environmental, social and economic sustainability (e.g. urgency of environmental change, reliability of energy, vulnerability, adaptation capacity and resilience building);
- Present a sophisticated appreciation of the influence that technical, engineering, legal, political, social and cultural perspectives can have on sustainability and energy issues;
- Gain specialist knowledge of energy management, attitudinal and behavioural issues surrounding energy use, renewable energy technologies, renewable energy resources, energy conservation and storage technologies;

- Gain experience in techniques to measure, monitor and model energy production, supply, use and demand in a range of environments;

### **Thinking skills**

- Develop and sustain arguments in a variety of written and numerical forms, formulating appropriate questions and utilising primary and secondary evidence;
- Critically evaluate the methodologies, analysis, conclusions and relevance, and where appropriate, propose new hypotheses from congruent argument, of current research and advanced scholarship;
- Synthesise a clear understanding of the various attitudinal, legal, institutional and ethical considerations and developments associated with sustainability and adaptation in an area of practice;
- Display a holistic and sophisticated understanding of how knowledge is advanced through research, and produce clear, logically argued and original written work.

### **Subject-based practical skills**

- Analyse energy resources, energy production, management and use, attitudes and demand in a variety of environments;
- Collate and handle data, carry out statistical analyses and modelling where appropriate.

### **Skills for life and work (general skills)**

- Communicate effectively (in written and oral forms) to a wider audience;
- Use IT to gather and use evidence and data to find, retrieve, organise and exchange new information;
- Demonstrate clarity, fluency, and coherence in a variety of written forms and expression;
- Organise tasks and manage time effectively;
- Design, investigate, and present an extended and independently-conceived piece of research;
- Work in a team, identifying individual and collective goals and responsibilities and performing in a manner appropriate to these roles.

*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:*

- *Successful completion of the course work;*
- *Problem solving by examining real-world scenarios;*
- *Online discussions and activities.*

*Practical skills are developed through:*

- *Real data collection with feedback;*
- *IT activities with feedback;*
- *Research skills-based activities with feedback;*
- *Experiential based activities with feedback.*

*Skills for life and work (general skills) are developed through:*

- *Time management and organisation of study time around timetabled and self-led sessions;*
- *Planning activities with feedback;*
- *Project work with feedback;*
- *Group work activities with feedback.*

## Assessment

*Knowledge is assessed by coursework including:*

- *Essays;*
- *Case studies;*
- *Critical reviews;*
- *Numerical exercises;*
- *Project reports;*
- *Blogs;*
- *Poster presentations.*

*Thinking skills are assessed by:*

- *Coursework (above);*
- *Research and project work.*

*Practical skills are assessed by:*

- *Practical reports;*
- *Numerical tasks.*

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

- *Project work reports;*
- *Group work reports;*
- *All coursework (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.

## Work or Study Placements

The optional 15-credit EV7112 'Work-based Project' module, offered in Term 3 (typically starting in June), offers the opportunity to deepen knowledge and understanding within a chosen specialist area of the field. Based around experiences gained from professional practice or a work placement, the module seeks to emulate for students the various demands and pressures of a real work setting.

The module will enable students to apply various insights, knowledge and theoretical perspectives encountered during one or more of the pre-cursor modules to a particular Work-based Project of their own choosing. The project should be undertaken within a work-based setting within the academic year of delivery, should be relevant to the programme learning outcomes and will generate defined evidence and outputs. The project could, for example, be in a student's own workplace, on secondment, during a short-term work placement or volunteer position.

The experiences of participating in the project also forms part of the learning outcomes for the module, so a project involving group-working and/or a clear structure of mentoring, oversight, stakeholder engagement and/or organisational communication will be necessary.

The suitability of a student's proposed context and focus for the Work-based Project (eg work-place, work-placement, project, design, enterprise, research, task, programme, scheme etc.) will be confirmed if mutually agreed between all parties, and approved by the module leader in advance. Students will need to devise their own project and submit a formative 'Project proposal form' to facilitate a structured but formative review of the acceptability of the proposed Work-based Project in advance of the module. This module will therefore require students to be proactive, to find an appropriate setting (company/organisation) and develop a suitable project to undertake in the time available.

## Programme Structure

All programmes 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 programme.
- 4 Equivalent in standard to the first year of a full-time undergraduate degree programme.
- 5 Equivalent in standard to the second year of a full-time undergraduate degree programme.
- 6 Equivalent in standard to the third year of a full-time undergraduate degree programme.
- 7 Equivalent in standard to a Masters degree.

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

The module structure of this programme:

Level	Module Code	Module Title	Credit Weighting	Core/Option	Available by Distance Learning? Y/N
7	EV7115	<b>Introduction to Sustainability in Energy Provision and Demand Management</b>	30	Core	Y
7	EV7104	Environmental Politics and Economics	15	Optional	Y
7	EV7106	Energy Flows in Buildings: Part A	15	Optional	Y
7	EV7107	<b>Energy Flows in Buildings: Part B</b>	15	Core	Y

7	EV7109	Building Performance Assessment and Evaluation	15	Optional	Y
7	EV7116	Energy generation, supply and demand in Cities	15	Optional	Y
7	EV7117	<b>Energy generation from wind</b>	<b>15</b>	<b>Core</b>	<b>Y</b>
7	EV7118	<b>Energy generation from solar</b>	<b>15</b>	<b>Core</b>	<b>Y</b>
7	EV7119	Marine energy generation (start 2018-19)	15	Optional	Y
7	EV7111	Applied Project	15	Optional	Y
7	EV7112	Work-based Project	15	Optional	Y (DL only)
7	EV7101	<b>Dissertation</b>	<b>60</b>	<b>Core</b>	<b>Y</b>

*Please note: Optional modules might not run every year, the programme 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.*

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 programme.

**Additional detail about the programme module structure:**

The programme commences in September with all students undertaking the 30-credit core *'Introduction to Sustainability in Energy Provision and Demand Management'* module that establishes the overarching concepts and theoretical grounding needed for the programme, and provides an introduction to the specialist 'themes' of the programme. The *'Introduction to Sustainability in Energy Provision and Demand Management'* module is typically delivered through two eight-week phases, Part 1 starting in September and Part 2 typically starting in November, both undertaken within the same academic year. Thereafter, students study three further core 15-credit modules, and three optional 15-credit modules from seven offered.

Eight 15-credit modules are offered following the *'Introduction to Sustainability in Energy Provision and Demand Management'* module, with content structured into seven clearly defined

specialist ‘themes’, which are typically delivered from October until May. In addition, the 15-credit ‘Applied Project’ and ‘Work-based Project’ modules are delivered concurrently in Term 3 (typically starting in June). All modules after the core ‘*Introduction to Sustainability in Energy Provision and Demand Management*’ module are core or optional, depending upon the chosen award – refer to the table above.

The 60-credit core Dissertation module, undertaken after completion of 120-credits of taught modules, completes the Masters programme (MSc SEPDM).

Students studying the Postgraduate Diploma in Sustainability in Energy Provision and Demand Management (PG Dip. SEPDM) will need to complete 120 credits, comprising the 30-credit core ‘*Introduction to Sustainability in Energy Provision and Demand Management*’ module, three further core 15-credit modules, and three optional 15-credit modules from seven offered – refer to the table above.

Students studying the Postgraduate Certificate in Sustainability in Energy Provision and Demand Management (PG Cert. SEPDM) will need to complete 60 credits from the modules offered on the programme – refer to the table above.

Students studying the Short Course in Sustainability in Energy Provision and Demand Management (Short Course in SEPDM) will need to complete the 30-credit core ‘*Introduction to Sustainability in Energy Provision and Demand Management*’ module.

**Guidance regarding modules EV7106 ‘*Energy Flows in Building – Part A*’ and EV7107 ‘*Energy Flows in Building – Part B*’:**

All students who do not have prior credited or experiential learning in building physics are advised to undertake module EV7106 ‘*Energy Flows in Building – Part A*’ as a pre-cursor to module EV7107 ‘*Energy Flows in Building – Part B*’.

**Guidance regarding modules EV7111 ‘Applied Project’ and EV7112 ‘Work-based Project’:**

- 1) Students will not be permitted to undertake *both* EV7111 and EV7112, due to the overlap in their learning outcomes, i.e. significantly similar learning and assessment should not be repeated within the same programme;
- 2) Students will gain the most benefit from the learning experiences offered if they have undertaken at least three pre-cursor modules in advance of the ‘project’ modules, EV7111 and EV7112.
- 3) All MSc students are recommended to undertake one of the ‘project’ modules, *either* EV7111 or EV7112, as the final taught module before progressing to the Dissertation.

The overall credit-rating of this programme is 180 credits. If for some reason you are unable to achieve this credit you may be entitled to an intermediate award, the level of the award will depend on the amount of credit you have accumulated. You can read the University Student Policies and Regulations on the UEL website.



## Programme Specific Regulations

N/A

## Typical Duration

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 duration of this programme is:

18 months full-time, comprising 12 months taught modules and the 6-month dissertation module;

30 months part-time, comprising 2 years taught modules and the 6-month dissertation module.

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](http://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)
- 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) web site (<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 programme 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:

Students will be required to purchase a set of technical equipment ('CAT-in-a-Box') for £500 which will allow students to record energy resources, energy generation and use. The use of the equipment will be introduced in the November part of the core module and will form the basis of practical exercises in the other modules, thus giving distance learners the opportunity for hands-on learning in their environment. The 'CAT-in-a-Box' will need to be purchased on or before the last working day in September within the same academic year as commencement of the course.



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>

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

#### Alternative Locations of Delivery

N/A