

**PROGRAMME SPECIFICATION**

<b>1</b>	<b>Awarding Institution</b>	Newcastle University
<b>2</b>	<b>Teaching Institution</b>	Newcastle University
<b>3</b>	<b>Final Award</b>	Master of Science
<b>4</b>	<b>Programme Title</b>	Renewable Energy Enterprise and Management
<b>5</b>	<b>UCAS/Programme Code</b>	5160 F/P 5284P (January Start)
<b>6</b>	<b>Programme Accreditation</b>	Accredited by EI for CEM
<b>7</b>	<b>QAA Subject Benchmark(s)</b>	Masters degree in Business and Management (Type 2)
<b>8</b>	<b>FHEQ Level</b>	7
<b>9</b>	<b>Date written/revised</b>	May 2023

**10 Programme Aims**

To give students from a range of backgrounds, including non-scientists and technologists, a common level of knowledge and understanding of renewable energy resources and technology so as to enable these students to gain knowledge and understanding of business principles and practice and the role of enterprise in the renewable energy industry, including knowledge and understanding of the environmental impact of renewable energy exploitation and social, political and economic climate in which renewable energy must work.

To produce high quality graduates who will play a key role in planning and managing the future development and direction of the renewable energy industry through a programme consistent with Level 7 of the FHEQ.

**11 Learning Outcomes**

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

**Knowledge and Understanding**

On completing the programme students should be able to:

- A1** Demonstrate knowledge and understanding of current worldwide energy usage and its impact on climate.
- A2** Demonstrate a comprehensive knowledge and understanding of the storage / conversion and integration of renewable energy sources (solar, wind, hydro, wave, tidal, bioenergy) into existing systems.
- A3** Demonstrate a comprehensive knowledge and understanding of a number of key non technical issues including policy, economics, system modelling, environmental issues and energy management as well as the scientific basis that drives innovation in response to environmental regulation.
- A4** Demonstrate a knowledge of the structure, principles & practice of the EIA process .
- A5** Identify relationships between research, enterprise & entrepreneurship and understand the entrepreneurial business environment.
- A6** Evaluate IPR & other legislation relevant to the management of innovation & technology.
- A7** Identify & research the viability of a business idea.

<p><b>Teaching and Learning Methods</b></p> <p>Knowledge and understanding of A1 – A7 is generally taught via formal lectures, distance learning/self guided material and case studies, supplemented by seminars and tutorials. Students are encouraged to develop their knowledge and understanding by independent reading, for which they are given guidance in the distance learning/self guided material, use of the internet and by discussing the subjects with their industry based colleagues and/or other students as well as teaching staff. The use of exercises during the intensive schools, assessments after the intensive school, and the consultancy project also enable the student to learn and apply their knowledge to their area of personal interest.</p>
<p><b>Assessment Strategy</b></p> <p>Each taught module has its own particular assessment strategy. However, in general, knowledge and understanding of A1-A7 is assessed by coursework and written examination. Coursework includes exercises, essays on relevant subject matter; the presentation and development of business plans. An In-session report tests factual knowledge of EIA process &amp; procedures, and assesses problem-solving, information synthesis and evaluation via review and report forms. A substantial consultancy project allows in-depth assessment of knowledge and understanding in a renewable energy area of the student's choice.</p>
<p style="text-align: center;"><b>Intellectual Skills</b></p> <p>On completing the programme students should be able to:</p> <p><b>B1</b> Formulate or recognise key hypotheses, to test hypotheses using logical and consistent quantitative or qualitative arguments, and to identify key data which allow such tests to be made.</p> <p><b>B2</b> Critically assess the value and limitations of new data in relation to existing information on a given subject, to draw logical conclusions, and to identify appropriate avenues for further study.</p> <p><b>B3</b> Solve problems relevant to commercial needs using a combination of technical and business tests and procedures.</p> <p><b>B4</b> Critically appraise an innovative idea within a business context, discriminating those ideas which justify further development from those less likely to succeed</p> <p><b>B5</b> Critically assess the quality of data relating to business performance and activity.</p> <p><b>B6</b> Recognise the potential value of intellectual property that arises as a consequence of innovation and take appropriate steps to protect it.</p> <p><b>B7</b> Present and summarise such data, and to critically appraise its significance, using appropriate statistical techniques.</p>
<p><b>Teaching and Learning Methods</b></p> <p>Intellectual skills B1-7 are generally taught via formal lectures, distance learning/self guided material and case studies, supplemented by seminars and tutorials. Students are encouraged to develop their skills through exercises, by independent reading, for which they are given guidance in the distance learning/self guided material, use of the internet and discussing the subjects with their industry based colleagues and/or other students as well as teaching staff. Students also practise these abilities while carrying out the consultancy project, learning to apply their skills to their area of personal interest.</p>
<p><b>Assessment Strategy</b></p> <p>Acquisition of intellectual skills B1-B7 is usually assessed through coursework and written examination. Coursework includes exercises, essays on relevant subject matter; the presentation and development of business plans.</p>

<b>Practical Skills</b>
<p>On completing the programme students should be able to:</p> <p><b>C1</b> Analyse the energy capture potential for solar, wind &amp; hydro resources.</p> <p><b>C2</b> Demonstrate the ability to critically assess the quality of scientific &amp; engineering data.</p> <p><b>C3</b> Demonstrate the ability to interpret, present and summarise such data, and to critically appraise its significance, using appropriate statistical techniques within the context of scientific / engineering innovation.</p> <p><b>C4</b> Design, plan and execute an extended project or pilot study involving, where appropriate, a literature review, problem or idea specification, design, implementation and analysis, and the development of a business plan.</p> <p><b>C5</b> Develop links and relations with individuals, businesses and agencies that can provide support and advice in the area of knowledge transfer and new venture creation.</p> <p><b>C6</b> Develop behaviours and actions that are consistent with entrepreneurial activity.</p> <p><b>C7</b> Demonstrate the ability to devise, organise and operate a team-based micro-business over the period of the programme.</p> <p><b>C8</b> Understand the importance of Health and Safety and the roles and responsibilities of a professional in the context of legislation and best practice.</p> <p><b>C9</b> Demonstrate the ability to manage time.</p>
<b>Teaching and Learning Methods</b>
<p>Practical Skills C1-9 are generally taught and practised via group activities, formal lectures, distance learning/self guided material and case studies, supplemented by seminars and tutorials. Students are encouraged to develop their skills by exercises, reflection and review, independent reading, for which they are given guidance in the distance learning/self guided material, use of the internet and discussing the subjects with their industry based colleagues and/or other students as well as teaching staff.</p> <p>In carrying out the consultancy project and post-school assignments, students practise and apply these skills to their area of personal interest.</p>
<b>Assessment Strategy</b>
<p>Each taught module has its particular assessment strategy. However, practical skills are usually assessed via coursework. A variety of approaches are used, including exercises, essays on relevant subject matter; the presentation and development of business plans, and written examination. Skill C9 is not directly assessed, though has to be demonstrated in order for the students to meet their deadlines and manage studying several subjects simultaneously. Skill C4 is assessed in the consultancy project.</p>
<b>Transferable/Key Skills</b>
<p>On completing the programme students will be able to:-</p> <p><b>D1</b> Communicate by means of well prepared, clear and confident business-focussed presentations and concise and grammatical written documents.</p> <p><b>D2</b> Use library and other information sources skilfully and appropriately.</p> <p><b>D3</b> Use IT resources skilfully and appropriately.</p> <p><b>D4</b> Plan, organise and prioritise work activities in order to meet deadlines.</p> <p><b>D5</b> Work independently, with initiative, and also in teams.</p> <p><b>D6</b> Solve problems.</p>
<b>Teaching and Learning Methods</b>
<p>Transferable/Key skills D1-6 are generally demonstrated, taught and practised throughout the programme via formal lectures, distance learning/self guided material and case studies, supplemented by group activities, seminars and tutorials. The structure of REEM, with its</p>

distance learning /intensive school format, requires students to be able to demonstrate D2, 3, 4 & 5.

Students are encouraged to develop their skills by exercises, reflection and review, independent reading, for which they are given guidance in the distance learning/self guided material, use of the internet and discussing the subjects with their industry based colleagues and/or other students as well as teaching staff.

In carrying out the consultancy project and assignments, students demonstrate all these skills.

### **Assessment Strategy**

Skills D2, 3 4 & 5 are not directly assessed, though students need to demonstrate these abilities while carrying out assessed work throughout the programme. D1 and D6 are assessed through coursework assignments and project.

## **12 Programme Curriculum, Structure and Features**

### **Basic structure of the programme**

REEM will be delivered by a combination of distance learning and one-week intensive schools. Students may complete the programme in either full or part time mode.

#### **Master of Science 180 credits**

The maximum duration is 5 years. All modules are compulsory for the MSc, together with a 60 credit project:

SPG8009 Renewable Energy Policy, Politics & Ethics: 10 credits  
SPG8012 Energy Management: 10 credits  
SPG8013 Environmental Impact Assessment: 10 credits  
SPG8014 Introduction to Hydro, Wind, Wave & Tidal Energy: 10 credits  
SPG8015 Enterprise & Entrepreneurship: 20 credits  
SPG8016 Business Enterprise: 20 credits  
SPG8017 Introduction to Bioenergy and Photovoltaics: 10 credits  
SPG8024 Quantifying Energy Decision Making; 10 credits  
SPG8025 Energy from the Earth: 10 credits  
SPG8027 Project Management Appreciation: 10 credits  
SPG8094 Enterprise Project (60 Credits)

10 credits equates to 100 hours study time.

### **Key features of the programme (including what makes the programme distinctive)**

1. It is specifically designed and developed to meet the needs of the renewable energy industry which is supported by the Government and EU policies
2. It has been developed to meet the demand from prospective students who have a less technical background than those on the current Renewable Energy programme. Such students typically have good first degrees in Geography, Environmental Management etc.
3. It is available in both full-time and part time mode thereby offering maximum flexibility to students, including those who are in work.
4. Modules are designed to be delivered by both distance learning and intensive schools.
5. It includes specialist expertise from both Newcastle and Northumbria Universities.

**Programme regulations (link to on-line version)**

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**13 Support for Student Learning**

Generic information regarding University provision is available at the following link.  
[Generic Information](#)

**14 Methods for evaluating and improving the quality and standards of teaching and learning**

Generic information regarding University provision is available at the following link.  
[Generic Information](#)

*Accreditation reports*

Accreditation was given by EI for Chartered Energy Manager providing students pass the following modules:

1. SPG8012 Energy Management
2. SPG8009 Policy, Politics and Ethics
3. SPG8024 Quantifying Energy Decision Making
4. SPG8094 Enterprise Project

and pass at least one from the following three:

1. SPG8014 Introduction to Hydro, Wind, Wave & Tidal Energy
2. SPG8025 Energy from the Earth
3. SPG8017 Introduction to Bioenergy and Photovoltaics

Accreditation was given in 2014 and the next re-accreditation visit is due in 2018.

*Additional mechanisms*

**15 Regulation of assessment**

Generic information regarding University provision is available at the following link.

[Generic Information](#)

In addition, information relating to the programme is provided in:

The University Prospectus: <https://www.ncl.ac.uk/postgraduate/>  
Degree Programme and University Regulations: <http://www.ncl.ac.uk/regulations/docs/>

Please note. This specification provides a concise summary of the main features of the programme and of the learning outcomes that a typical student might reasonably be expected to achieve if she/he takes full advantage of the learning opportunities provided.