

PROGRAMME SPECIFICATION



1	Awarding Institution	Newcastle University
2	Teaching Institution	Newcastle University
3	Final Award	Master of Science
4	Programme Title	Renewable Energy Enterprise and Management
5	UCAS/Programme Code	5160 F
6	Programme Accreditation	
7	QAA Subject Benchmark(s)	Masters degree in Business and Management (Type 2)
8	FHEQ Level	7
9	Date written/revised	September 2025

10 Programme Aims

This multidisciplinary programme has been designed for professionals and graduates from both technical and non-technical backgrounds. You'll explore the science of energy, gain a solid grounding in renewable energy technologies. You'll also get hands-on experience in how business, enterprise and innovation drive the sector forward.

The programme aims to:

- 1) Offer a high-level academic programme (Level 7 of the FHEQ) that equips students to become leaders and innovators in the global energy transition.
- 2) Support students from all backgrounds, including those both with a technical and engineering/scientific education, to become conversant and participate in renewable energy and sustainable development. The course encourages creative thinking, and students will learn how to identify opportunities, create value in the renewable energy sector.
- 3) Develop students' skills in business, innovation and enterprise, showing how renewable energy fits into wider environmental, social, political, and economic contexts. Students will learn how to create value and contribute to net zero goals.
- 4) Prepare graduates to take on important leadership and other roles in shaping the future of the renewable energy industry. Students will benefit from Newcastle University's research strengths in carbon neutrality, energy, data, and electrification, and will work with their peers, experts, industry partners, and local energy networks.

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 sources, usage and its impact on climate.

A2	Explain how energy conversion, storage, and supply systems operate, including subsurface methods, carbon capture, and electricity infrastructure.
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, economic opportunity and community need.
A4	Demonstrate a knowledge of the structure, principles & practice of the Environmental Impact Assessment process . including risk and project management, teamwork, and communication.
A5	Explore the connections between research, innovation, and entrepreneurship, and assess the potential and context for developing new ventures.
A6	Reflect on personal competencies and opportunities within the context of energy systems, sustainability, and net zero

Teaching and Learning Methods

Teaching Strategy

Specialist knowledge and understanding is primarily imparted via lectures classes and seminars. This is supplemented by the use of industrially based case studies and workshops, and lectures from industrialists and sustainability professionals. Group work also plays a vital role, fostering collaboration, critical thinking, and the practical application of concepts in a team-based environment.

Learning Strategy

Students are expected to actively engage with course materials and classroom discussions. Independent study is encouraged throughout the course to deepen and broaden understanding, supported by recommended reading, online resources, and conversations with peers and staff. Feedback on assignments and formative tasks helps students improve their presentation skills and assess their progress. Structured activities and assessments allow students to apply their learning to areas of personal and professional interest, culminating in a self-directed Enterprise Project.

Assessment Strategy

Each taught module applies its own specific assessment approach. However, knowledge and understanding of learning outcomes A1–A6 are generally evaluated through a combination of coursework and written examinations. Coursework may include problem-solving exercises, reports on relevant topics, and presentations, all of which assess students' ability to analyse information, synthesise ideas, evaluate evidence, and communicate effectively. In addition, a substantial Enterprise Project provides an opportunity for students to demonstrate in-depth understanding and apply their learning to a renewable energy topic of personal interest.

Intellectual Skills

On completing the programme students should be able to:

- B1** 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.
- B2** 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.
- B3** Research and report on energy-related topics with critical insight. Communicate findings effectively through discussions and written reports
- B4** Critically appraise an innovative idea within a business context, discriminating those ideas which justify further development from those less likely to succeed
- B5** Critically assess the quality of data relating to business performance and activity.

B6 Assess and analyse energy resources, system behaviour, generation efficiency, and environmental impact and compare the financial viability of energy schemes and understand their sensitivity to assumptions. B7 Identify and address personal skills gaps, and build supportive networks around entrepreneurial goals.
Teaching and Learning Methods <i>Teaching Strategy</i> Subject-specific/professional skills are developed over the programme, In addition, the various approaches taken by industry and commerce in addressing issues of sustainable development in a business context are widely demonstrated by the visiting lecturers. <i>Learning Strategy</i> Students are given the opportunity to apply their acquired skills through class exercises and during their research projects. Reflective thinking is encouraged and practiced throughout the programme. Structured exercises and assessments throughout the programme also help students apply their learning to areas of personal interest and professional relevance, culminating in a self chosen Enterprise Project.
Assessment Strategy Acquisition of intellectual skills B1-B7 is usually assessed through coursework and written examination. Coursework includes exercises, essays on relevant subject matter and the outcomes from the student research methodology and planning, and research dissertation.

Practical Skills
On completing the programme students should be able to: C1 Plan, conduct and report a programme of investigative work. C2 Integrate and evaluate information and data from a variety of sources C3 Select and apply appropriate computational and analytical techniques to model complex problems, discussing the limitations of the techniques employed. C4 Evaluate the environmental and societal impact of solutions to complex problems and minimise adverse impacts C5 Take a holistic approach to solving problems and designing systems, applying professional judgements to balance risks, costs, benefits, safety, reliability, aesthetics and environmental impact C6 Demonstrate the ability to manage time and projects
Teaching and Learning Methods
<i>Teaching Strategy</i> Practical Skills C1-6 are generally taught and practised via group activities, formal lectures, self-guided material and case studies, supplemented by seminars and tutorials. Students are encouraged to develop their skills by exercises, reflection and review, and independent reading. <i>Learning Strategy</i> Problem solving skills are employed across all elements of the course. Students learn to handle and process data through the programme. Their projects give them many instances where they have to collect, collate and handle data from a variety of sources

Assessment Strategy
Each taught module has its particular assessment strategy. However, practical skills are usually assessed via coursework. A variety of approaches are used, including case studies, essays on relevant subject matter; the presentation and development of appropriate reports, and written examination. Skill C6 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.
Transferable/Key Skills
On completing the programme students will be able to:-D1 Communicate effectively (orally and in writing). on complex matters with technical and nontechnical audiences, evaluating the effectiveness of the methods used. D2 Select and critically evaluate technical literature and other sources of information to solve complex problems. D3 Manage resources and time, plan, organise and prioritise work effectively to meet deadlines. D4 Function effectively as an individual, and as a member or leader of a team. Evaluate effectiveness of own and team performance. D5 analyse and understand a problem then develop solutions. D6 Learn independently in familiar and unfamiliar situations with open-mindedness and in the spirit of critical enquiry. D7 Learn effectively for the purpose of continuing professional development and in a wider context throughout their career.
Teaching and Learning Methods
<i>Teaching Strategy</i> Students are given dedicated seminars during induction week and later in the course prior to starting their projects on report writing, use of library facilities and working effectively both alone and as part of a team. Particular attention to the handling of group working and oral presentations is given during the first module. The abilities to solve problems is covered in all case study-based workshops and many coursework. Students are also given a seminars organised specifically for them by the Library Service and also the Careers Service Reflective thinking and skill development is stressed throughout the course. <i>Learning Strategy</i> Plenty of opportunity is provided for the development and practice of Group work, Communication skills and reflective thinking.. Feedback on these is given to the students. Problem solving individually or working as part of team is also required in workshops and case studies.
Assessment Strategy
Transferable and communication skills are assessed throughout the course in coursework reports, presentations and oral examinations.

12 Programme Curriculum, Structure and Features
Basic structure of the programme
The programme of study begins annually in mid-September and the taught element of the course ends in May. Students then carry out a final research project, submitted in mid-August which is usually based in the School and write a Project report credit value of 60. 180 credits to be studied in a year with a mixture of 10 and 20 credit compulsory modules the exception of the final project which is 60 credits.
Key features of the programme (including what makes the programme distinctive)
This programme fosters lifelong learning and empowers students to develop entrepreneurial skills aimed at driving global change through renewable energy initiatives. Sustainability, resource use, and energy are recurring themes throughout the course, explored in depth within specific modules. Students are encouraged to take an active role in their learning journey. The more they engage with the programme and its community, the more they benefit from the rich research and innovation environment. They can choose to develop their own project, collaborate on one proposed by academic staff, or engage with industry-led initiatives — all with dedicated support throughout the process. Group work is a key component of the programme, particularly through workshops embedded in several modules. These sessions help students strengthen their teamwork, communication, and presentation skills while investigating real-world challenges collaboratively. Independent study is also strongly supported. Students are guided to pursue their own interests through self-directed research, networking, and exploration of recommended resources. This culminates in the development of a research project in a preferred field of study, which may be academically or industrially based.
Programme regulations (link to on-line version)
5160FP
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
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: <http://www.ncl.ac.uk/postgraduate/courses/>

Degree Programme and University Regulations: <http://www.ncl.ac.uk/regulations/>

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.