



Energy and Industrial Sustainability MSc

- A modular course for graduates and professionals
- Preparation for a career in the low carbon economy
- Internationally recognised research expertise
- Full-time, part-time and electronic distance learning options available
- UK and International students welcome

Energy and Industrial Sustainability MSc

Location

The Institute of Energy and Sustainable Development (IESD) occupies the award-winning Queens Building, a groundbreaking low-energy, naturally ventilated building on De Montfort University's City Campus. The Campus is close to Leicester city centre in the historic area of Castle Park. It is a compact Campus with a wide range of facilities for students: library, bookshop, sports facilities and Students' Union, plus a full range of student services such as welfare and accommodation.

Programme

All industries are facing increasing legislative pressure to reduce their impacts on the environment such as greenhouse gas emissions, water pollution and landfill. Also, there is increasing concern over rising prices of key raw materials and energy as well as the risks to supply chains caused by climate change.

This innovative course is uniquely broad. This reflects the range of knowledge and skills required to help industry make more efficient use of energy and to manage the transition to more sustainable forms of production and consumption. It also provides depth in key areas, drawing upon the internationally recognised research and consultancy expertise of the multi-disciplinary IESD research team, plus visiting lecturers from industry.

This course meets the needs of recent graduates seeking a career in the low carbon industries of the future and also enables professionals to extend their knowledge or to change career. For many years IESD graduates have been able to build successful careers in industry, the public sector and academia.

Teaching

Full-time students attend lectures for two days per week for 24 weeks per year, with the remainder of the time being spent on guided seminar work and private study. Part-time students attend for one day per week.

Distance learners are supported by teaching staff via a web-based 'virtual learning environment'.

This provides student-to-student and tutor-to-student interaction, delivery of lessons, and secure submission of coursework. Distance learners can complete all taught modules without visiting the University.

Assessment

Methods of assessment include project work, essays, case studies, technical reports and a dissertation on an individual research project. Monitoring of your progress is continuous and thorough. Past students have commented on the quality and constructive nature of the feedback provided on assessed work.

Entry requirements

You should have a good degree (Second Class and above) or five years' work experience in an appropriate field. Applicants from outside the UK must possess an equivalent qualification from an overseas institution. You will be selected by application form and references initially. The course is taught in English. If English is not your first language you will normally require an IELTS score of 6.5 or a TOEFL score of 600/250.

Course structure

There are eight taught modules and a research project, leading to the following awards:

- MSc – eight taught modules and a research project
- Postgraduate Diploma – eight taught modules or four modules and a research project
- Postgraduate Certificate – four taught modules.

Individual modules can be pursued as part of a continuing professional development programme, resulting in institutional credits.

Course Leader

Dr Rick Greenough

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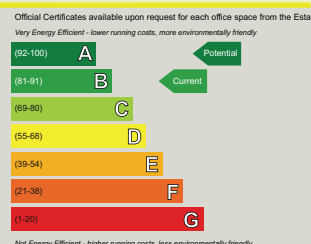
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Admissions Team

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Modules studied

Sustainable Development explains the conceptual, historical and political context and encourages you to develop a critical appreciation of the sustainable development debate and to challenge widely-held views.

Renewable Energy considers the potential for renewable energies within the urban and rural environment, including integration into the design and refurbishment of settlements.

Energy Analysis Techniques considers analysis of the energy performance of buildings and industry, including monitoring and target-setting in multi-site organisations, energy audit and survey techniques.

Low Impact Manufacturing covers analysis of the product life-cycle from extraction to end of life and includes lean manufacturing, re-manufacturing and energy efficient manufacturing technologies.

Green Business explains corporate social responsibility and the opportunities and threats represented by climate change, such as supply chain risk, eco-marketing and green investment.

Resource Efficient Design of products and services is fundamental to industrial sustainability and covers a range of techniques using case studies, exercises and relevant theory.

Energy in Buildings presents an overview of energy use in buildings and how it relates to construction, including low energy approaches to design. Building energy-flows, thermal comfort and daylighting practices are discussed. The role of regulation and assessment of environmental impact is investigated.

Research Methods equips you with the skills necessary to effectively complete a research project of a high standard and also imparts a critical appreciation of the purpose of research and how to assess its quality.

Research project

Projects can be based upon existing specialist IESD research areas or a topic of your choice. You will be guided and supervised by a personal project tutor. Examples of suitable project titles include:

- Conceptual design of low carbon factory
- Energy audit of industrial facility
- Use of industrial waste heat
- Life-cycle analyses of product range
- Study of potential for on-site generation
- Combined heat and power for industry
- Remanufacturing and reverse logistics
- Corporate social responsibility
- Calculation of embodied energy
- Waste and remediation.

Duration

One year full-time

Two years part-time

Three years distance learning

For further information please visit our website

www.iesd.dmu.ac.uk



Institute of Energy and Sustainable Development

Climate change and the impact it will have on our lives, is one of the greatest problems facing mankind. Industry is responsible for a significant proportion of global CO₂ emissions and all industries face severe legislative pressure to reduce their impact on the environment. There is increasing concern over prices of key raw materials and energy as well as the risks to supply chains from climate change. As well as these threats, the necessary transition to a low carbon economy identified by the UK Government also presents great opportunities to industry. **The Institute of Energy and Sustainable Development (IESD)** plays an important role in this by identifying and quantifying opportunities to reduce industrial energy consumption; by developing and applying renewable energy systems; by understanding the social, economic and technical implications of climate change; and by educating current and future generations to enable them to drive industry towards a sustainable future.

The IESD's research is conducted by a team of professors, readers, lecturers and research fellows – supported by higher degree students – who are internationally respected for the quality of their work. Their disciplines range from mathematics and physics, through engineering, to economics, sociology and psychology. This diverse range of skills enables staff to lead multi-disciplinary, multi-university projects and address inter-linked environmental, economic and social research problems.

Staff expertise enables us to:

- Audit industrial facilities to identify opportunities for improved energy efficiency in terms of building and processes
- Monitor and analyse energy consumption of industrial processes, before suggesting cost-effective improvements
- Identify opportunities for more resource efficient approaches to satisfying customer needs
- Offer advice to businesses of different size and industry sector who are seeking to adopt more sustainable business practices
- Act as environmental design consultants to architects and engineers working on architecturally significant and award-winning buildings both in the UK and overseas.

The IESD provides a high quality environment for doctoral study. Its Master's degrees cater for a wide range of graduates and professionals wishing to increase their knowledge of environmental issues in an interdisciplinary context, or to work more effectively as building design professionals.

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