



Advanced Digital Energy Systems MSc

www.cranfield.ac.uk/ades



The digital transformation of energy management is calling for the leaders of our decarbonised future

The future energy supply must adapt to new technologies, global policies and events, while accounting for emerging consumption patterns. Our Advanced Digital Energy Systems MSc will allow you to apply techniques and technologies such as Artificial Intelligence and Blockchain in the energy field, supporting the transition to a more sustainable future. The need for an affordable, sustainable and secure energy supply makes managing energy systems a complex problem. Digital energy systems are an emerging discipline that uses powerful digital tools and models to analyse data from our power systems and optimise the control and operational strategies and business models.

You will acquire a comprehensive knowledge of data analytics and machine learning techniques applied to the integration of renewable energy, smart and microgrids, forecasting energy production and consumption, whilst supporting key objectives such as reaching net zero emissions.

Who is it for?

This course is suitable for Electrical and Electronic Engineering, Computer Science, Mathematics, Engineering and Information Technology and Energy graduates and practicing IT or Energy engineers wishing to pursue a technical management career in the rapidly-growing digital energy sector. It develops professional engineers and scientists with the multidisciplinary skills and ability to analyse current and future energy engineering challenges.

Your career

The international nature of this growing field allows Cranfield graduates to develop diverse and rewarding global careers in industry, government or research.

Example careers:

- Energy Analyst – data science,
- Offshore Energy Analyst,
- Energy and Sustainability Analyst,
- Research Analyst - Energy.

Overview

Start date

Full-time: October. Part-time: October

Duration

One year full-time, two-three years part-time

Qualification

MSc, PgDip, PgCert

Study type

Full-time / Part-time

Structure

Taught modules 40%, group project 20% (or dissertation for part-time students), and individual project 40%.

Campus

Cranfield campus

Entry requirements

A first or second class UK Honours degree (or equivalent) in a related science or engineering discipline. Other recognised professional qualifications or several years relevant industrial experience may be accepted as equivalent; subject to approval by the Course Director.

Applicants who do not fulfil the standard entry requirements can apply for the Pre-master's course, successful completion of which will qualify them for entry to this course for a second year of study.

Fees

Please see www.cranfield.ac.uk/fees for detailed information about fee status, full-time and part-time fees as well as deposit requirements and bursary and scholarship information.

Course details

The taught programme for the Advanced Digital Energy Systems master's is generally delivered from October to February and is comprised of eight modules. Each of the first five modules are delivered over two weeks. Generally, the first week involves intensive teaching, while the second week has fewer teaching hours to allow time for more independent learning and completion of the assessment.

Students on the part-time programme will complete all of the modules based on a flexible schedule that will be agreed with the course director.

Modules

Keeping our courses up-to-date and current requires constant innovation and change. The modules we offer reflect the needs of business and industry and the research interests of our staff. As a result, they may change or be withdrawn due to research developments, legislation changes or for a variety of other reasons. Changes may also be designed to improve the student learning experience or to respond to feedback from students, external examiners, accreditation bodies and industrial advisory panels.

To give you a taster, we have listed below the compulsory and elective (where applicable) modules which are currently affiliated with this course. All modules are indicative only, and may be subject to change for your year of entry

Compulsory modules

All the modules in the following list need to be taken as part of this course.

Renewable Energy Technologies 1

Renewable Energy Technologies 2

Cybersecurity for Energy Systems

Data Analytics for Energy Systems

Artificial Intelligence for Energy Systems

Energy Systems Case Studies

Applications of Blockchain Technology

Energy Entrepreneurship

"My group project was actually with industry, one of the leading industries in the renewable energy investment sector. We worked with them as a consultant – it was like working in industry, not just purely academic."

Toba Awe

Advanced Digital Energy Systems, 2022

Class profile 2022/23

Gender:

Male 71% - Female 29%

Age range:

20 - 59 years

Class size:

7

Nationality:

UK: 14% - International: 86%

For more information contact our Admissions Team:

T: +44 (0)1234 758082

Visit campus for yourself and meet current students and our academics at our next Open Day:

www.cranfield.ac.uk/oparday

February 2024

Every effort is made to ensure that the information provided here is correct at the time it is published. Please check our website for the latest information.