University College Dublin
Ireland's Global University

ME ENERGY SYSTEMS ENGINEERING (TWO YEARS FULL TIME)

The ME in Energy Systems Engineering prepares graduates to meet the engineering, economic and environmental challenges facing the energy systems of developed and developing countries. Graduates of this programme gain a comprehensive understanding of the complex multi-disciplinary and often conflicting issues that arise in the search for effective solutions. Graduates will also be capable of working anywhere in the world at an advanced technical level or as a professional engineering manager. Candidates who have already completed a 4-year professional engineering bachelor's degree may be eligible for recognition of prior learning, enabling them to complete this programme over 12 months. The ME programme is professionally accredited by Engineers Ireland and recognised by the Washington Accord for Chartered Engineer status.

ENGINEERS IRELAND
ACCREDITED PROGRAMME

PROFESSIONAL WORK PLACEMENTS PROVIDED

This Masters is a professionally accredited qualification delivered by a school with a long history of innovation. The programme provides the opportunity for a 6-8 month industrial placement as well as an extensive research project.

COURSE CONTENT AND STRUCTURE

120 credits taught master's	60 credits taught modules	30 credits professional work experience	30 credits research project

Core modules:

- Chemical Processes of Sustainable and Renewable Energy
- Electrical & Electronic Circuits
- Electrical Energy Systems II
- Energy Systems & Climate Change
- Energy Systems in Buildings II
- Engineering Thermodynamics II
- Fossil Fuels, Carbon Capture & Storage
- Power System Operation
- Professional Engineering Management
- Research Project/Thesis
- Research Skills and Techniques
- Wind Energy

Optional modules include:

- Advanced Composites and Polymer Engineering
- Air Pollution
- Applications of Power Electronics
- Computational Continuum
- Control Theory/Process
- Electrical Machines
- Energy Economics and Policy
- Energy in Transport
- Engineering Thermodynamics III
- Entrepreneurial Management
- Environmental Engineering Fundamentals
- Heat Transfer
- Instrumentation & Control
- Kinetics & Thermodynamics of Materials
- Measurement & Instrumentation
- Mechanics I & II
- Mechanics of Fluids II & III
- Nanomaterials
- Nuclear Physics
- Power Electronics and Drives
- Power Electronics Technology
- Power System Control
- Power System Design
- Power System Engineering
- Power System Stability Analysis
- Professional Work Placement (2-year programme only)
- Technical Communication

WHY STUDY AT UCD?

Professional Work Experience
6-8 month Professional Work Experience internship opportunity

Tradition
Established 1854, with 160 years of teaching and research excellence

Global profile
UCD is ranked in the top 1% of higher education institutions worldwide

Global community
Over 8,400 international students from over 140 countries study at UCD

Global careers
Degrees with high employability; dedicated careers support; two-year stay-back visa (for non-EU students)

Safety
Modern parkland campus with 24-hour security, minutes from Dublin city centre

Course code: T164

CAREER OPPORTUNITIES

Graduates of this ME Energy Systems programme will be equipped with the skill set and knowledge vital for crucial roles in research, design and development in companies in the energy sector. Alumni from this programme have obtained jobs in a wide variety of organisations in Ireland and further afield, the majority in the energy sector. Previous employers of ME in Energy Systems graduates include: Accenture (Dublin), Arup (Ireland), Berkeley Lab, Berkeley (California), Commission for Energy Regulation (Dublin), Dublin Airport Authority, Intel Ireland Limited, Dalkia Ltd (Dublin), Dimplex Renewables (Irl), Dynapower LLC (USA), Eclareon (Spain), EirGrid (Dublin), ESB International (Dublin), Exergyn (Dublin), Enercon GmbH (Ireland and Germany), Imtech (UK), Independent Market Operator (Perth, Australia), Intel (Ireland), Irish Cement Limited, Phillips 66 Whitegate Refinery Ltd (Ireland), KBR (Australia), KBR (UK), MCS Kenny (UK), National Grid (UK), Northstar Drillstem Testers, Edmonton, (Canada), PM Group (Ireland), PwC (Ireland), RPS Group (Ireland), Saudi Aramco (Saudi Arabia), Schletter UK Ltd, Schwenk Zement (Germany), Sea Breeze Power Corp (Canada), Sellafield Ltd (UK), Trelleborg Marine Systems, and Melbourne (Australia). Significant numbers of graduates have also decided to pursue further study to PhD level, at UCD and elsewhere.

APPLY NOW

This programme receives significant interest so please apply early online at www.ucd.ie/apply

ENTRY REQUIREMENTS

- A 4-year bachelor's degree with a minimum upper second class honours (NFQ level 8) or international equivalent in Mechanical, Electrical or Electronic Engineering.
- Applicants whose first language is not English must also demonstrate English language proficiency of IELTS 6.5 (no band less than 6.0 in each element), or equivalent.
- Students who do not meet the IELTS requirement may wish to consider taking the Pre-Sessional or Pre-Masters Pathway. Full details https://www.ucd.ie/alc/programmes/pathways/

SCHOLARSHIPS

- Dedicated scholarships for non-EU students
  - Apply for University Scholarship www.ucd.ie/global/study-at-ucdscholarshipsfinances/scholarships/
  - Apply for College scholarship www.ucd.ie/eacollege/study/noneuscholarships
- Approved by US Dept of Education for federally supported loans

WORK IN IRELAND

Option to stay in Ireland to seek employment and/or work for 2 years after graduating.

FEES

Fee information is available at www.ucd.ie/fees

RELATED MASTER'S PROGRAMMES OF INTEREST

- ME Electrical Power Engineering
- MSc Sustainable Energy & Green Technologies

GRADUATE PROFILE

Siúin O'Riordan
Wesgroup Properties

I chose to do the Master's in Energy Systems Engineering in UCD to broaden my skills and career opportunities and to be trained to work in the energy systems industry. This master's course allowed me to specialise in energy systems while also gaining important engineering skills. The course included an 8-month professional work placement which was another important factor in choosing the master's. This work experience has given me confidence in approaching interviews, working as part of a professional team and developing my future career in the renewable energy sector. The high-quality material provided and the wide variety of modules offered have provided me with a deeper understanding of the current and future technical and economic challenges faced by the world's energy systems. The master's has prepared me to work as an engineer and be involved in future energy solutions.

CONTACT US

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