



University College Dublin  
Ireland's Global University



## ME ELECTRICAL POWER ENGINEERING (TWO YEARS FULL TIME)

The Energy Institute (EI) at University College Dublin is a global research leader in energy systems integration. The ME Electrical Power Engineering programme is taught by world-renowned academics from the Institute. The professionally accredited programme addresses the challenge of transitioning towards sustainable power systems, and integrating diverse generation and demand-side technologies, while maintaining stable and economic operation. It provides strong training in various aspects of electrical engineering



and enhances this through a major research project and professional work experience.

If you are a mathematically strong engineering student who is interested in power systems analysis and renewables integration, and you are seeking a professional career in the power system and smart grid sectors, then this programme is ideal for you.

The ME programme is professionally accredited by Engineers Ireland and recognised by the Washington Accord for Chartered Engineer status.

### 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 8,000 international students from over 139 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

### TOP INTERNATIONAL RANKING

Delivered by a highly research-active School composed of many internationally high-profile academics including five IEEE Fellows. This programme is also taught by academics from the world-leading Energy Institute for the integration of renewables into power systems and energy systems.

## COURSE CONTENT AND STRUCTURE

Six-month professional work experience opportunities are offered with national and international partners involving electrical utilities, manufacturers and research institutions.

**120 credits**  
taught master's

**65 credits**  
taught modules

**25 credits**  
research project

**30 credits**  
professional work experience

#### Core modules include:

- Applications of Power Electronics
- Control Theory
- Electrical Power Thesis
- Electrical Machines
- Power Electronics and Drives
- Power System Design
- Power System Dynamics and Control
- Power System Engineering
- Power System Operation
- Professional Engineering (Management)

- Professional Work Experience (short/long)
- Renewable Energy Systems

#### Optional modules include:

- Advanced Signal Processing
- Applied Dynamics II
- Data Science in Python
- Energy Economics and Policy
- Energy Systems & Climate Change
- Engineering Thermodynamics II
- Entrepreneurship in Engineering

- Fossil Fuels, Carbon Capture and Storage
- Networks and Internet Systems
- Numerical Algorithms
- Optimisation Techniques for Engineers
- Power Electronics Technology
- Power System Stability Analysis
- Signal Processing





## CAREER OPPORTUNITIES

By completing the ME Electrical Power Engineering programme, you will become a graduate with power systems and power electronics expertise, whose rare skills will be attractive to a wide variety of technical and managerial roles in the electrical utility and smart grid sectors on an international scale, e.g. ABB, Alstom, EDF, EirGrid, EPRI, ESB, GE, NREL, Siemens. The ME programme also provides an excellent starting point for those aiming for a PhD programme and a research career within a university or specialised research institution.



## FACILITIES AND RESOURCES

A wide range of modern industry standard software tools for power system analysis and laboratory facilities are integrated into the taught and project-based modules. A real-time digital simulator and smart grid consumer laboratory (supported by EPRI) are also available for hardware in the loop testing and development of prototypes.

## APPLY NOW

This programme receives significant interest so please apply early online at [www.ucd.ie/apply](http://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 electrical engineering, electronic engineering, power systems, power electronics, and energy-related subjects.
- 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/>

## INTERNATIONAL STUDENTS

- Option to stay in Ireland to seek employment and/or work for 2 years after graduating
- Approved by US Dept of Education for federally supported loans
- Apply for University non-EU Scholarships: [www.ucd.ie/global/study-at-ucd/scholarshipsfinances/scholarships/](http://www.ucd.ie/global/study-at-ucd/scholarshipsfinances/scholarships/)
- Apply for College of Engineering & Architecture non-EU scholarship: [www.ucd.ie/eacollege/study/noneus/scholarships](http://www.ucd.ie/eacollege/study/noneus/scholarships)

## RELATED MASTER'S PROGRAMMES OF INTEREST

- ME Energy Systems
- MSc Sustainable Energy & Green Technologies

## FEES

Fee information is available at [www.ucd.ie/fees](http://www.ucd.ie/fees)



## GRADUATE PROFILE

### Daniel Levie

US National Renewable Energy Laboratory

I was originally attracted to UCD due to its national and international standing. UCD is also the only university in Ireland that offers this degree, which specialises in power systems engineering, including design and operations. The master's programme offers a long work placement of six to eight months, which enabled me to gain professional work experience and discover what working in an engineering company in the power and energy sector really entails. I worked for EirGrid, the Irish transmission system operator, in the operations section of the company, and the experience really boosted my technical skills and expanded my professional network.

My master's at UCD has been an amazing journey, in which I have learned about exciting technologies that will shape the electrical grid and energy industry, and cutting-edge research that will drive future power systems. The programme also gave me the opportunity to conduct exciting research as part of my thesis, which has led to a job as an electrical markets engineer with the National Renewable Energy Laboratory in the United States.

## CONTACT US

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