

Energy Systems Engineering

BSc [Engineering Science] [NFQ Level 8] leading to ME [NFQ Level 9]; or BE [Hons] [NFQ Level 8]



Engineering NUS1

Length of Course 3 Years [BSc Hons] + 2 Years [ME] or 4 Years [BE]

Guideline Entry Requirements

(may vary depending on subjects presented)

IB – International Baccalaureate Diploma
IB Total 32
Subject Requirements:
Maths: 5 at Higher Level
Lab Science: 4 at Higher Level

Cambridge A Level [+ GCSE O Level]
CCCB/ BBB + A AS Level
Subject Requirements:
Maths: A Level Grade C
Lab Science: A Level Grade D

Other Examinations For country specific information see page 157

UCD International Foundation Year Yes, see www.dublinisc.com/university-college-dublin

Why is this course for me?

If you want to work on solutions to the world's energy problems, Energy Systems Engineering at UCD is for you. This degree prepares you to meet the engineering, economic and environmental challenges of the future. It focuses on the interdependence between electricity systems, building energy systems, the industrial production system, the food supply chain and the transport system.

Maintenance of current living standards in the developed world will demand new ways to use energy more efficiently, as well as requiring much bigger contributions from solar, wind, biomass, nuclear and advanced fossil fuel technologies. This degree provides students with a strong understanding of the complex multi-disciplinary and often conflicting issues that arise in the search for effective solutions to the energy challenges of the future.

What will I study?

First Year

All NUS1 students follow a common first year which includes modules in:

Physics • Chemistry • Mathematics • Energy Engineering • Mechanics • Electrical/Electronic Engineering • Creativity in Design

Second to Fifth Year

Sample modules for Energy Systems Engineering students include: Mechanics of Fluids • Electrical & Electronic Circuits • Engineering Thermodynamics • Electrical Energy Systems • Power System Engineering • Air Pollution • Measurement & Instrumentation • Energy Systems & Climate Change • Wind Energy • Energy Economics • Power System Operation • Energy Systems in Buildings

Students spend an average of 40 hours a week attending lectures and tutorials, as well as participating in laboratory-based workshops and undertaking independent study.

A combination of end-of-semester written examinations and continuous assessment is used. In your final year, you'll also submit a report of your research project.



Wind energy generation

Career & Graduate Study Opportunities

Graduates will be equipped with the skills and knowledge that are vital for crucial roles in research design and development in the energy sector. You can also pursue graduate study internationally or through the UCD Master of Engineering [Energy Systems] taught programme.

International Study Opportunities

Opportunities to date have included:

- University of British Columbia, Canada
- University of California, Berkeley, USA
- EPFL, Lausanne, Switzerland

Professional Work Experience

Professional Work Experience [PWE] is incorporated in the ME Energy Systems Engineering course. Six- to eight-month paid placements have included the following companies: Glen Dimplex, Arup and RPS Group.



Anne-Marie McCague
GRADUATE

The Energy Systems course is a diverse and stimulating degree that will interest anyone seeking a career in energy. The course curriculum not only focuses on the engineering of energy but also on the bigger picture of how energy fits into society. The knowledge I gained equipped me to work on the largest electricity transmission project in the country after graduation. I now work for the Commission for Energy Regulation.

Find out more

www.ucd.ie/international

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UCD Engineering & Architecture Programme Office

Engineering and Materials Science Centre, Belfield, Dublin 4

Other courses of interest

Engineering →127

Electrical/
Electronic Engineering →132

Mechanical Engineering →134