

ME Biosystems & Food Engineering

Two Years Full Time (September start)



Introduction

This master's will provide graduates from an engineering background with the opportunity to deepen their engineering, mathematical and science knowledge in the design and application of biological systems, particularly in:

- food process engineering
- agriculture system
- wastewater management
- sustainable bioenergy
- environmental protection
- circular bioeconomy

Biosystems Engineers are at the forefront of the search for practical solutions to global problems and this specialisation will lead graduates to a wide variety of employment opportunities with companies focusing on the production and processing of food and other feedstocks, environmental protection, waste recycling, sustainable energy, and green technologies.

Course Highlight

This programme is delivered by a highly research-intensive School with state-of-the-art infrastructure in 1) thermal and non-thermal food processing system and analysis, 2) microalgae biotechnology and biorefinery, 3) spectroscopy and hyperspectral imaging. This programme also provides 6-8 months' professional work experience as an embedded element of the programme

Course Content and Structure

- 120 total credits
- 60 credits taught modules
- 30 credits Research Project
- 30 credits Professional Work Experience

Modules may include:

- Air Pollution
- Bioprocess Engineering Principles
- Biorefinery Process and Technology
- Food Chain Integrity
- Food Process Engineering
- Food Refrigeration Engineering
- Life Cycle Assessment
- Professional Engineering (Finance)
- Professional Engineering (Management)
- Water and Wastewater Engineering
- Waste to Energy Processes and Technologies

Why study at UCD?



Graduate education

12,800 graduate students; 17% graduate research students; structured PhDs



Global community

9,500 international students and a 300,000 alumni network across 165 countries



Global Profile

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



Global careers

Dedicated careers support; 2-year stayback visa to work in Ireland





Career Opportunities

Our graduates can find employment in:

- Bioprocess, food and beverage companies
- Environmental protection and waste recycling companies
- Sustainable energy and green technology companies
- Consultancy firms operating in the above areas

Some of these include Glanbia, Sanofi, Royal Oak Distillery, Diageo/Guinness, Abbott, PM Group, Rowan Engineering Consultants, Green Generation, Maria Lucia Bakes, and Takeda Ireland.

There are also opportunities to pursue PhD research at UCD and internationally in relevant areas in circular bioeconomy.

Graduate Profile

Yuchen Li
UCD PhD Student



"I chose to pursue the ME Biosystems and Food Engineering in UCD, because the programme places strong emphasis in developing not only specialist knowledge in food technology but also professional and research skills. I was able to deepen my knowledge in agri-food systems and biorefinery, food processing engineering, environmental engineering, and waste management. Moreover, there were a lot of practical sessions integrated in these modules. The professors were very encouraging and prompt in taking care of student needs. I completed an 8-month professional work experience at Teagasc Food Research Centre, where I developed a novel method for agar extraction from seaweed, the results for which were later published in 'Food Hydrocolloids', a top journal in food biotechnology. This experience consolidated my decision to pursue a research career. At the end of the ME degree, I secured a scholarship offer from the prestigious China Scholarship Council to continue with a PhD at UCD."

Applicant Profile

- Applicants must hold a bachelor's degree with a minimum upper second class honours (NFQ level 8) or international equivalent in a relevant Engineering programme.
- Applicants whose first language is not English or have not completed a previous degree through 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 Fees and Scholarships

Tuition fee information is available on www.ucd.ie/fees. Please note that UCD offers a number of graduate scholarships for full-time, self-funding international students, holding an offer of a place on a UCD masters programme. Please see www.ucd.ie/global/scholarships/ for further information.

Related Masters Programmes of Interest

- MEngSc Food Engineering
- MSc Environmental Technology
- MSc Sustainable Energy & Green Technologies

CONTACT US

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