



Why is this course for me?

This programme is aimed at engineering graduates who wish to specialise in the application of engineering science and design to biological materials and systems, especially in food production, sustainable energy and environmental protection.

The aim of the ME Biosystems Engineering is to provide advanced engineering education in subject areas related to applied biological, environmental, food and agricultural sciences thus allowing graduates to develop and apply engineering solutions to problems in biological systems. Biosystems Engineers are at the forefront of the search for practical solutions to global problems related to clean air and water, sustainable agricultural production, processing of safe foods, safe and healthy environments, climate change impacts and adaptations, minimization of waste, and many other issues at the interface between human desires and environmental resources.

Professional Work Experience:

The Professional Work Experience (PWE) module is incorporated into the 2-year Masters of Engineering Programme and is designed to integrate a student's academic and career interests with paid practical work experience for a 6-8 month period. The module will provide students with the perfect opportunity to gain increased experience and understanding of their chosen field, assess where their strengths and weaknesses lie and maximise their knowledge of the available career possibilities. The practical skills acquired during this placement will give graduates a competitive advantage when applying for positions upon graduation.

Why study at University College Dublin?

Some of the reasons to study at UCD:

- Top 1% world university
- Ireland's largest provider of graduate education
- Ireland's largest and most international university
- Emphasis on research and innovation
- Safe, modern campus in Dublin, capital city of Ireland
- Extensive range of on-campus accommodation

UCD College of Engineering and Architecture

The UCD College of Engineering and Architecture's research and taught programmes are centred around a wide variety of activities spanning basic, strategic and applied research from the diverse range of disciplines covered by the Schools of Architecture, Biosystems Engineering; Chemical and Bioprocess Engineering; Civil, Structural and Environmental Engineering; Electrical, Electronic and Communications Engineering and Mechanical and Materials Engineering.

We have a proud history in research going back 100 years. Today, there are exciting opportunities for those wishing to pursue a higher research degree to doctoral or masters level. Within the broad disciplines listed above there are many research centres, clusters and institutes lead by highly experienced world renowned researchers.

The College has an excellent track record in attracting significant

Science Foundation Ireland (SFI), European and industrial funding to support its many research activities. Through research, the UCD College of Engineering and Architecture will continue to promote excellence in Graduate training. The range of interdisciplinary taught Master's programmes now available within the college and initiatives including the Structured and Thematic PhD programmes, mean that the Graduate School is ideally placed to offer innovative graduate level training programmes.

UCD School of Biosystems Engineering

Biosystems Engineering is the application of engineering principles to agriculture, food and renewable resources while at the same time protecting the environment. Our interests are diverse and include food processing, agricultural production systems, renewable resources, biofuels, environmental protection. The common theme is to apply engineering principles in all of these areas.

We offer a range of postgraduate programmes, details of which are accessible from this website. We have an active research community of postgraduate and postdoctoral researchers and this website provides updated information on the research opportunities available at postgraduate and postdoctoral level.

What will I study?

The ME (Biosystems Engineering) programme involves lectures, tutorials, assignments, laboratory work and professional work experience over a 2-year period. A critical component of the programme is a significant research project carried out during the second year. A wide range of core and optional modules are included in this programme.

The indicative module list includes:

- Food Chain Integrity
- Food Process Engineering
- Advanced Environmental Engineering
- Quantitative Risk Assessment
- Air Pollution
- Waste Management
- Life Cycle Assessment
- Buildings and Environment
- Biofuels and Renewable Energies
- Professional Work Experience

What are the career opportunities?

Our graduates can find employment in:

- Bioprocess and food companies
- Environmental protection and waste recycling companies
- Sustainable energy and green technology companies

There are also opportunities to pursue PhD research in UCD and worldwide.



Academic Profile

Dr Frances Butler, Programme Director

Professor Francis Butler has been a lecturer in Biosystems Engineering at UCD since 1990. He is Head of School of the UCD School of Biosystems Engineering. He heads up the Food Quantitative Risk Assessment Group. He has extensive experience in risk assessment, food refrigeration and modelling of food systems. Prof Butler's current area of research is in food engineering with particular interest in quantitative risk assessment of hazards in food; traceability of foods; rheological characterisation of foods; refrigeration, novel processing and packaging of foods. Since joining UCD, he has secured ~ 5 million in competitively won research funding for over 30 research projects. He has attracted this funding from a variety of funding agencies including EU 6th Framework, FIRM, STIMULUS, SAFEFOOD, Walsh Fellowship, Forbairt, Enterprise Ireland.



Entry Qualifications

Entry Requirements: Candidates must hold an Honours Bachelor Degree in Engineering or a mathematically-based science subject

If English is not your native language, the minimum acceptable score on the TOEFL Internet Based Test is 100 and on IELTS it is 6.5

Duration

This ME is 2 years in duration but can be completed in 12 months with the requisite prior learning

Contact

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Applying Online

To apply online, please go to www.ucd.ie/apply, create a user account, select 'Graduate Taught Courses' as your application type from the drop down list and then select 'ME Biosystems Engineering (T268)'

Useful Links

www.ucd.ie/programmes/t268
www.ucd.ie/graduatestudies/coursefinder/