

What is Biosystems, Agriculture and Food Engineering?

With the global population rapidly growing resulting in an ever-increasing demand for food and new energy resources there is a significant demand for biosystems, agriculture and food engineers. The biosystems, agriculture and food engineering team have an extremely rewarding and challenging career delivering drink, foodstuffs and biomaterials to meet these demands within extreme environmental and resource limitations. The team is focused on every aspect of the food chain from environmental protection to food production to distribution, applying technology to turn raw materials into everyday foodstuffs such as pasta, pizza and ice cream.

What do Biosystems, Agriculture and Food Engineers do?

Biosystems, agriculture and food engineering graduates work at the forefront of advancing technology, developing and designing new methods and machinery to solve problems facing our global ecosystem. They combine the principles of engineering and biology to create and design systems that will deliver high quality, economical and safe food to consumers. Their work ranges from developing responsible, environmentally friendly uses for food production by-products and for water, air and soil quality protection to the design of improved methods and equipment to process, handle, package and store food produce.



A biosystems, agriculture & food engineering graduate can specialise in a wide variety of areas including:

- **Agricultural systems & Food production:** developing new farming and industry machinery for the production and harvesting of raw materials for food and drinks, global positioning systems and precision technology.
- **Food Processing:** developing efficient systems and equipment to process, handle and package foodstuffs to ensure quality of taste and health and safety of produce.
- **Biomaterials:** developing biomaterial production for the bio-energy and construction industries such as fuel crops (e.g. rapeseed oil) or timber furniture.
- **Environmental Engineering:** developing renewable energy resources, designing systems for sustainable development and environmental protection and preservation including pollution control and recycling systems.
- **Research & testing:** developing and testing food production methods, testing produce and systems to ensure achievement of quality requirements.





Career opportunities

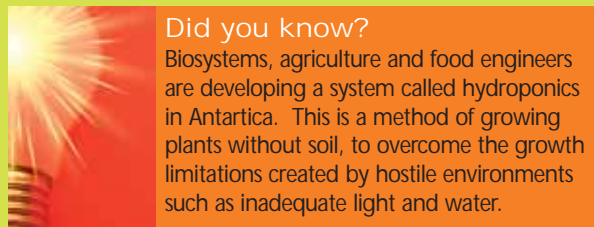
Over the coming decades our global society will require innovative solutions, which are environmentally responsible and socially acceptable, to meet the increasing demands for food production. Biosystems, agriculture and food engineering graduates are needed, now more than ever, to create and develop these solutions. Biosystems, food and agriculture engineering offers excellent opportunities for employment and a challenging and rewarding career.

As a biosystems, agriculture and food engineering graduate you can work for:

- Food and drink industries.
- agriculture equipment manufacturers.
- environmental protection organisations.
- government bodies.
- consulting engineering firms.
- Third world development organisations.

As a biosystems, agriculture and food engineering graduate you can:

- create methods to grow foodstuffs in space.
- design methods to improve water and soil quality.



There are nine universities and thirteen institutes of technology offering a wide range of engineering programmes nationwide.

Engineering provides a host of exciting opportunities for individual enterprise and job flexibility with rapid progress to creative, responsible and financially rewarding careers. For more information check www.steps.ie.



Aeronautical	
Biomedical engineering	
BIOSYSTEMS, AGRICULTURE & FOOD	Agriculture Systems & Food Production
Building Services	Biomaterials
Chemical Engineering	Environmental Engineering
Civil Engineering	Food Processing
Computer & Software Engineering	Research & Testing
Electrical Engineering	
Electronic Engineering	
Industrial & Manufacturing	
Mechanical Engineering	

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- reduce the use of chemicals in food production.
- preserve wetlands by designing more efficient irrigation systems, and,
- develop renewable energy systems from biomass sources.

Employers of biosystems, agriculture and food engineering graduates include:

Cantrell & Cochrane, Coca Cola, Dawn Meats, Glanbia, Guinness, Kerry Group, Local Authorities, W&R Jacob to name but a few.

ENGINEERS IRELAND

Discover Science + Engineering

STEPS to engineering is an Engineers Ireland programme supported by Discover Science & Engineering, the Department of Education & Science, FÁS and industry.