



NUI Galway
OÉ Gaillimh

College of Science

Biotechnology

Biotechnology is about using our knowledge of biology to solve real-world problems. It is about using molecules, cells and organisms to provide medicines and foods, or for tasks such as forensics and detecting harmful substances.

Biotechnology has a long history in food and agriculture, using yeast to make beer and selective breeding of better crops. Technologies such as genetic engineering and genomics allow today's biotechnologists to harness our rapidly growing knowledge of biology to innovate in areas such as biopharmaceuticals, the food industry and the environment.

Did you know?

Ireland has a globally significant life sciences industry, with over 170 companies employing 50,000 people and generating \$45 billion in exports each year. This represents almost a third of Ireland's exports. 24 of the top 25 bio/pharmaceutical companies have bases in Ireland.

Course Facts

Bachelor of Science (Biotechnology)

CAO Code: GY304

Course level: 8

Duration: 4 years

Average intake: 30

Entry requirements: Minimum Grade H5 in two subjects and passes in four other subjects at O6/H7 level in the Leaving Certificate, including Irish, English and another language, Mathematics, a laboratory science subject (i.e. Chemistry, Physics, Biology, Physics with Chemistry (joint) Computer Science or Agricultural Science), and any other subject recognised for entry purposes.

www.nuigalway.ie/biotechnology

Course outline

The BSc in Biotechnology provides a strong foundation in science combined with applied perspectives and real career skills.

Strong Scientific Foundations

Our degree is built around a core of Molecular Cell Biology and Microbiology in years 2-4 for the in-depth understanding of molecules and cells that biotechnologists need. Underpinning these are Biology, Chemistry, and Mathematics in years 1-2, and expanding from them are Genetics and Pharmacology in year 3.

Science Applied

Biotechnology modules across years 1-4 focus on how molecules and cells can be used. The course also strongly emphasises career skills through posters, giving oral presentations and written work. A Business module in year 4 encourages entrepreneurship, with students pitching business plans for products/inventions that they develop.

Career Skills

Lectures are complemented by practical skills in the core Biotechnology modules, beginning with an Employability module in 1st year. The opportunity for placement experience in industry or a research lab during a 3rd year placement, and a final year research project, means Biotechnology graduates have a high level of career-relevant experience.

International Perspective

Our international perspective is unique; it includes biotech-oriented language training, and the opportunity for a placement hosted in Europe and sometimes further afield.

NOTE: This programme schedule may change from year to year.

Why study Biotechnology?

The BSc in Biotechnology is unique in mixing knowledge with know-how. It gives graduates a combination of core science understanding, insights into how this is applied by the biotechnology industry, international perspective, and real career skills both inside and outside the laboratory.

Career opportunities

The BSc Biotechnology programme has been running for over 25 years and has provided a career foundation for over 400 graduates.

Biotechnologists find employment and rewarding jobs in the Smart Economy, including in biopharmaceuticals, diagnostics, health care and the environment. Graduates also pursue higher degrees in universities at home and abroad across topics ranging from biochemistry to environmental science.

Biotechnology graduates are equipped with a strong range of skills to complement their biology knowledge. This allows them to move into areas such as management and marketing where the biotech revolution continues to open doors.

Graduate profiles



Eimear Rutherford (BSc 2019)
PhD student in Medical Science,
University of Cambridge.

"The BSc in Biotechnology in NUI Galway is highly interdisciplinary, allowing students to gain a strong foundation in core science

as well as sampling other subjects including programming, statistics, business and languages. In my opinion, the placement module in third year is a highlight of the course. With the option to stay in Ireland or travel abroad, you gain invaluable experience and build on both personal and professional skills, preparing you for a career in the field. Overall, the program helped me to gain an insight into how the whole biotech industry runs, which allows me to continue in academia or easily transition into industry."



Dr Gráinne Gannon (BSc 1998)
Clinical Project Manager,
Novartis Ireland Ltd.

"When I did my PhD at the University of Vienna, the group leaders there felt that I and fellow students from NUI Galway

Biotech had obtained a university degree that had prepared us very well for research laboratory work. The lab placement and the languages classes are a real advantage. I now work in Clinical Trial management and find that the skills and knowledge from the Biotech degree still stand to me."



Dr Barry Heavey (BSc 1997)
Life Science Practice Lead –
Director, Accenture Ireland.

"NUI Galway was one of the only universities in Ireland offering a specific Biotechnology degree course at the time.

Small class size and high entrance requirements made it an attractive course. I found that there was great supervision from the course coordinator and small class size led to great camaraderie. I got the chance to go on an excellent work placement with a drug company in London. The Science faculty at NUI Galway is progressive and improving all the time but it is not too big to be impersonal. The course coordinators are approachable and helpful. Lots of new research groups established recently will help the students to learn about how to be a scientist."

Find out more:

College of Science, NUI Galway.

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Clár Chisti Struchtúrachá AE
na hÉireann 2007-2013

Cómhaointhe ag Rialtas na hÉireann
agus ag an Aontas Eorpach