



**Feeding and caring for a growing population, energy provision and the protection of the environment are among the greatest global challenges facing society today. These are areas where UCD Agriculture, Food & Nutrition graduates play a central role. If you are passionate about land, the animals and plants living on it and the food produced from it, you will thrive in any of our degrees.**

### **Why UCD Agriculture, Food & Nutrition?**

Globally, Ireland “The Food Island” has an excellent tradition and reputation in Agriculture and Food Sciences and the agri-food, fisheries and forestry sector represent Ireland’s largest indigenous industry.

The UCD School of Agriculture and Food Science is the first destination of choice in Ireland for students interested in developing their careers in this space. We have an exciting range of globally relevant undergraduate programmes and expertise across the entire food chain. Our programmes are informed by research undertaken by lecturers and professors who are at the cutting edge of their disciplines internationally.

Our degrees are constantly changing to reflect and create new opportunities for graduates, to respond to global demands and employer requirements and to continue to remain at the forefront of innovation and developments in agriculture and food education.

Professional Work Experience takes place on all our programmes and, combined with study abroad opportunities and a modular academic system, contributes to the development of highly sought-after graduates with innovation, entrepreneurship, critical thinking and problem-solving skills. There are excellent career opportunities available to our graduates and the projections for this discipline are extremely positive – it is an exciting time to study Agriculture, Food Science or Human Nutrition.

### **Your First Year Experience**

In your first year, we provide a range of supports to ensure your transition to university life is as smooth as possible. A comprehensive induction and orientation programme, Peer Mentoring, dedicated Student Advisers, committed programme co-ordinators and programme office staff underpin our reputation for being the most friendly and close-knit community in UCD. Supports and initiatives such as the Maths Support Centre tutorials, laboratories and continuous assessment are designed to assist you along the way.

Each of our 12 entry routes has a similar first year, designed to give you a strong foundation in the core sciences, maths and economics needed for the rest of your studies. You will also have an opportunity to take one or more introductory modules from any of our courses in first year, providing you with an insight into the subsequent stages of each degree available within UCD Agriculture, Food & Nutrition. This is particularly beneficial for Agricultural Science students, who choose their preferred degree towards the end of first year.

# Agriculture, Food & Nutrition

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# Agricultural Science

BAgrSc (Hons) [NFQ Level 8]



## Agricultural Science **UAS1**

### Length of Course

4 Years

### Guideline Entry Requirements

**IB - International Baccalaureate Diploma**

IB Total 28

Subject Requirements:

Maths: 4 at Standard Level

Lab Science: 4 at Standard Level

**Cambridge A Level [+ GCSE O Level]**

BCCC / BBC + D AS Level / ABC

Subject Requirements:

Maths: GCSE Grade C

Lab Science: GCSE Grade C

### Other Examinations

See [www.ucd.ie/international](http://www.ucd.ie/international)

**UCD International Foundation Year**

Yes, see [www.dublinisc.com/university-college-dublin](http://www.dublinisc.com/university-college-dublin)

### Other courses of interest

Food Science	→155
Dairy Business	→153
Agri-Environmental Sciences	→154
Horticulture, Landscape & Sportsturf Management	→158
Forestry	→157

### Why is this course for me?

If you're interested in Agricultural Science but are not yet certain of which area to specialise in, you don't have to decide in advance. During your first year at UCD, you can choose your area of specialisation. If, on the other hand, you know which of the following areas you'd like to specialise in, you can select to apply for one of these areas:

**UAS1 ACP** Animal & Crop Production

**UAS1 ASC** Animal Science

**EQS1** Animal Science -Equine

**UAS1 ENT** Engineering Technology

**UAS1 FAM** Food & Agribusiness Management

### What will I study?

All our degrees have a similar first year, designed to give you a strong foundation in the core sciences, maths and economics needed for the rest of your studies. Science modules are taught on the basis that you have not studied the subject before.

### First Year

Core subjects include: Animal Biology & Evolution • Cell & Plant Biology • Physics • Discrete Mathematics • Calculus • Chemistry • Information Skills & Computer Applications • Agricultural Economics & Business

### Second, Third & Fourth Year

You specialise in one of the programme areas listed above and detailed on the following pages.

Students spend an average of 40 hours a week attending lectures, tutorials and laboratory-based practicals, and undertake independent study.

A combination of continuous assessment and end-of-semester written examinations is used. Certain modules also require project work.

### Career & Graduate Study Opportunities

BAgrSc graduates have an excellent record in obtaining challenging and fulfilling roles. Careers in sectors such as food, agriculture, business and services include:

- Enterprise management
- Technical service and consultancy
- Research
- Education
- Marketing and communications
- Primary production of quality food and fibre products

You can also pursue a wide range of graduate studies by research or examination [master's and PhD] in areas such as:

- Engineering technology
- Environmental resource management
- Humanitarian action
- Rural development
- Business
- Information Technology
- Education

Higher and graduate diplomas are also available.

### Professional Work Experience (PWE) & International Study Opportunities

PWE is an integral part of the degree and takes place in third year. Part, or all, of PWE can be taken abroad. PWE provides an opportunity for you to network, experience many different roles and, in some instances, even secure a job prior to graduation.

There are opportunities to study abroad for one semester during third year, in universities in Australia, New Zealand, Europe and the USA, among others.



[www.ucd.ie/international/ug/agricultural-science](http://www.ucd.ie/international/ug/agricultural-science)



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# Studying UCD Agricultural Science

Year 1

Explore your options

Biology	Maths	Chemistry	
Physics	Information Skills & Computer Applications	Agricultural Economics & Business	Elective modules

Years 2, 3 & 4

Choose your pathway\*

Animal & Crop Production	Animal Science	Animal Science - Equine	Engineering Technology	Food & Agribusiness Management
Professional Work Experience		Optional Study Abroad		
Subject Specific modules				

BAgrSc (Honours)

Specialise through UCD graduate study

Taught & Research Masters

- Animal Science
- Applied Equine Science
- Food Business Strategy
- Food, Nutrition and Health
- Sustainable Agriculture and Rural Development
- Wildlife Conservation and Management
- Environmental Resource Management
- Rural Environmental Conservation & Management
- Humanitarian Action

Doctor of Philosophy [PhD]

Research and Academia

Shape your career with UCD Agricultural Science

Nutritionist	Marketing Manager
Teacher	Journalist
Accountant	Business Manager
Farm Manager	Technical Sales Manager
Horticulturist	Communications Manager
	Banker, Stockbroker
Food Safety Inspector	Technical Engineer
Quality Assurance Officer	Policy Analyst
Agricultural Consultant	Production Manager
Agricultural Inspector	Food Technologist
	Microbiologist
Scientist	Government Official
Researcher	Development Officer
Principal Investigator	Project Manager
Lecturer	County Heritage Officer
Professor	

Conversion/ Complementary Courses

- PME Professional Masters in Education (Teaching)
- Graduate Veterinary Medicine
- MSc Business Studies
- Master of Business Administration
- Graduate Medicine
- HDip Computer Science
- Master of Accounting

Continue to develop your professional career with UCD...

\*Pathway models are available for each course at [www.ucd.ie/agfood](http://www.ucd.ie/agfood)

# Animal & Crop Production

BAgrSc (Hons) [NFQ Level 8]



“My job, as first secretary for agriculture, is about gathering and disseminating information in both directions and trying to open up the US market for Irish companies looking to export. I work in the Embassy on secondment to the Department of Foreign Affairs. Topical items such as Trade [particularly beef], GMOs, and Farm Bill discussions are all very relevant to what happens both sides of the Atlantic.

I loved the degree, I loved UCD and I loved the camaraderie of Agriculture. I don't think there is another degree out there that covers such a multitude of not only technical course work, but business, communications and even personal development.”

**John Dardis Graduate**

## Animal & Crop Production UAS1 ACP

**Length of Course**  
4 Years

### Guideline Entry Requirements

**IB - International Baccalaureate Diploma**  
IB Total 28

Subject Requirements:  
**Maths: 4 at Standard Level**  
**Lab Science: 4 at Standard Level**

**Cambridge A Level (+ GCSE O Level)**  
BCCC / BBC + D AS Level / ABC

Subject Requirements:  
**Maths: GCSE Grade C**  
**Lab Science: GCSE Grade C**

**Other Examinations**  
See [www.ucd.ie/international](http://www.ucd.ie/international)

**UCD International Foundation Year**  
Yes, see [www.dublinisc.com/university-college-dublin](http://www.dublinisc.com/university-college-dublin)

### Other courses of interest

Agricultural Science	→146
Dairy Business	→153
Food Science	→155
Horticulture, Landscape & Sportsturf Management	→158

### Why is this course for me?

This degree gives you a broad knowledge of the science and business of both animal and crop production and their interactions in a constantly changing environment. You'll develop:

- Knowledge of the growth, development and improvement of farm animals and crops
- Knowledge of the agribusiness industry
- The capacity to formulate economical and sustainable animal and crop production systems
- The capacity for lifelong learning so you remain informed of evolving technical, economic and regulatory frameworks
- Communication and IT skills

### What will I study?

First year concentrates on developing the basic sciences, before the focus moves to more applied sciences. You can also choose elective modules, while the facilities at the UCD Research Farm are widely used as teaching aids. Modules include:

#### First Year

Chemistry • Physics • Mathematics • Biology • Introduction to Animal & Crop Science

#### Second Year

Soil Science • Microbiology • Applied Plant Biology • Animal Nutrition • Plant Diseases

#### Third Year

Animal Breeding & Reproduction • Agricultural Environmental Issues & Policy • Professional Work Experience

#### Fourth Year

Ruminant & Non-ruminant Animal Production • Grass & Cereal Production • Farm Business Management • Professional Communications • Animal Nutrition

Students spend an average of 40 hours a week attending lectures, tutorials and laboratory-based practicals, and undertake independent study. In the final year, students make regular visits to UCD's Lyons Research Farm to get hands-on practical experience.

A combination of continuous assessment and end-of-semester written examinations is used. Certain modules also require project work.

### Career & Graduate Study Opportunities

Graduates are employed in a wide variety of areas, such as:

- Agribusiness
- Animal and crop industries
- Consultancy
- Semi-state or government agencies
- Financial services
- Print, radio and television media

This is also a very suitable degree if you intend to pursue full-time farming or combine part-time farming with a professional career. Research opportunities to master's and PhD level are available.

### Professional Work Experience (PWE) & International Study Opportunities

Between January and August in third year you undertake a period of PWE in Ireland or abroad. You can also study abroad in semester one of third year, at universities including:

- University of California, USA
- Kansas State University, USA
- University of Queensland, Australia
- Purdue University, USA
- Michigan State University, USA



[www.ucd.ie/international/ug/animal-and-crop-production](http://www.ucd.ie/international/ug/animal-and-crop-production)

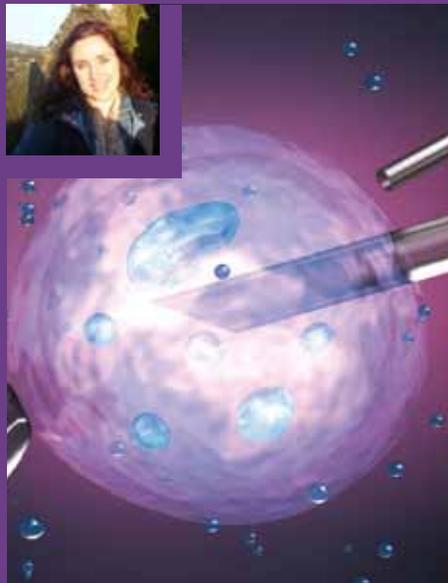


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“Before I even started college, I knew I wanted to study abroad. When looking at different programs, UCD really stuck out as being a perfect fit. I loved that I could take classes to earn credit towards my major, while also having the flexibility to take unique electives that I wouldn’t be able to find at my home university. My classes were interesting and a refreshing change of pace, while still giving me the freedom to travel and participate in campus life. My time at UCD was a fun way to experience life at a large university and all the opportunities that go along with it. Through the study abroad program and the international students’ groups, I felt like there was always places to go and things to do. I would whole-heartedly recommend studying abroad at UCD to anyone considering it.”

**Mollie Enright Student**



### Why is this course for me?

At the core of Animal Science is the study of the applied sciences that are fundamental to understanding how animals function and that underpin the principles of livestock production. The degree will give you an appreciation of:

- The growth and development of domestic farm animals, and animal behaviour and welfare
- Animal production systems and how the components are integrated and managed in an environmentally friendly and sustainable manner
- The livestock industry in Ireland, the context in which it operates and its relationship to animal industries in Europe and worldwide

### What will I study?

Modules include:

#### First Year

Introduction to Animal Science • Animal & Plant Biology • Chemistry • Mathematics • Physics • Computer Science • Agricultural Economics • Elective modules

#### Second Year

Genetics & Biotechnology • Animal Nutrition • Biostatistics • Business Management • Agricultural Microbiology • Elective modules

#### Third Year

Animal Reproduction • Animal Breeding • Animal Physiology • Animal Genomics • Professional Work Experience

#### Fourth Year

Ruminant Animal Production [Dairy, Beef, Sheep] • Non-ruminant Animal Production [Swine, Poultry] • Animal Health, Behaviour & Welfare • Grass & Forage Production

Students spend an average of 40 hours a

week attending lectures and tutorials and participating in laboratory-based practicals, and undertake independent study. In the final two years, students make regular visits to UCD’s Lyons Research Farm to get hands-on practical experience.

A combination of continuous assessment and end-of-semester written examinations is used. Certain modules also require project work.

### Career & Graduate Study Opportunities

A range of opportunities exists, including:

- Animal feed industry
- Procurement, processing and marketing of animal products
- Education
- Consultancy
- Farming and enterprise management
- Journalism

Graduate research opportunities exist at master’s and PhD levels.

### Professional Work Experience (PWE) & International Study Opportunities

A five-month PWE placement takes place in third year and may be taken as a combination of on-farm, agribusiness and research centre placements. Some of this may be taken abroad [e.g. USA and New Zealand]. In addition, an opportunity exists to take a semester abroad. Possibilities include:

- University of California, USA
- Kansas State University, USA
- University of Queensland, Australia
- Michigan State University, USA

# Animal Science

BAgrSc (Hons) [NFQ Level 8]

## Animal Science UAS1 ASC

**Length of Course**  
4 Years

### Guideline Entry Requirements

**IB - International Baccalaureate Diploma**  
IB Total 28

Subject Requirements:

**Maths: 4 at Standard Level**

**Lab Science: 4 at Standard Level**

**Cambridge A Level [+ GCSE O Level]**  
BCCC / BBC + D AS Level / ABC

Subject Requirements:

**Maths: GCSE Grade C**

**Lab Science: GCSE Grade C**

### Other Examinations

See [www.ucd.ie/international](http://www.ucd.ie/international)

### UCD International Foundation Year

Yes, see [www.dublinisc.com/university-college-dublin](http://www.dublinisc.com/university-college-dublin)

### Other courses of interest

Agricultural Science	→146
Food Science	→155
Dairy Business	→153
Veterinary Medicine	→160

# Animal Science — Equine

BAgrSc (Hons) [NFQ Level 8]



Dr Emmeline Hill, a leading genomics researcher in the UCD School of Agriculture & Food Science, was presented with the NovaUCD Innovation Award in recognition of the global success and impact which Equinome has achieved in the international, multi-billion euro Thoroughbred horse racing and breeding industry.

Equinome, a UCD spin-out company, was co-founded in 2009 by Dr Hill in partnership with Jim Bolger the renowned Irish trainer and breeder.

## Animal Science — Equine EQS1

**Length of Course**  
4 Years

### Guideline Entry Requirements

**IB - International Baccalaureate Diploma**  
IB Total 28

Subject Requirements:

**Maths: 4 at Standard Level**  
**Lab Science: 4 at Standard Level**

**Cambridge A Level (+ GCSE O Level)**  
BCCC / BBC + D AS Level / ABC

Subject Requirements:

**Maths: GCSE Grade C**  
**Lab Science: GCSE Grade C**

### Other Examinations

See [www.ucd.ie/international](http://www.ucd.ie/international)

**UCD International Foundation Year**  
Yes, see [www.dublinisc.com/university-college-dublin](http://www.dublinisc.com/university-college-dublin)

### Other courses of interest

Agricultural Science	→146
Dairy Business	→153
Veterinary Medicine	→160

### Why is this course for me?

Animal Science – Equine focuses on the applied sciences that underpin animal and veterinary biosciences, with emphasis on the horse. The degree provides the scientific knowledge and transferable skills necessary for professional leadership roles within many aspects of the animal and equine science industries. You'll learn about:

- The growth and development of farm animals, how they function and their behaviour and welfare
- The equine industry in Ireland, its global context and entrepreneurial opportunities
- Equine health, reproduction, genetics, breeding, nutrition and exercise physiology
- Advances and future directions in research with emphasis on equine genetics and reproduction

### What will I study?

You'll study the basic sciences at the start, which are complemented by specialist modules in:

#### First & Second Year

Principles of Animal Science • Animal Biology & Evolution • Genetics & Biotechnology • Animal Nutrition and Equine Industries

#### Third & Fourth Year

Equine Anatomy & Physiology of Exercise • Equine Genetics • Equine Reproduction and Equine Nutrition • Farm Business Management • Equine Health & Husbandry  
Animal practicals are delivered at UCD's Lyons Research Farm, where excellent new equine teaching and research facilities exist. Anatomy classes are conducted at UCD's Veterinary Hospital, while exciting research programmes in equine and animal science support the taught elements.

Students' time is spent primarily attending lectures and undertaking independent study. In most modules this also involves attending practical sessions, laboratory workshops and/or tutorials.

A combination of continuous assessment (class quizzes, MCQ tests), research projects and end-of-semester examinations is used.

### Career & Graduate Study Opportunities

In addition to the career opportunities available to Animal Science graduates (see page 147), Animal Science – Equine graduates are equipped to pursue careers in:

Equine enterprise management • Equine leisure, recreation and tourism activities • Equestrian marketing and sales enterprises • Sports journalism • Academic teaching

You can pursue equine science research and development careers, and master's and PhD opportunities in Europe and the US.

### Professional Work Experience (PWE) & International Study Opportunities

A five-month PWE placement is integral to your degree and is an invaluable learning and networking opportunity. Exciting options include placements on stud farms in the Kentucky Bluegrass region and Japan, top show-jumping and eventing yards in Ireland, and with Tattersalls Ireland and Horse Sport Ireland.

There are also opportunities to participate in the Study Abroad Programme in third year.

### KEY FACT

Ireland produces more thoroughbred foals than any other EU state. We are the third-largest producer worldwide and marketed globally as The Land of the Horse.

[www.ucd.ie/international/ug/animal-science-equine](http://www.ucd.ie/international/ug/animal-science-equine)



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"I chose to study at UCD because I had heard about their well-renowned faculty, in particular Professor Da Wen Sun, who is an international expert in Food research and technology at UCD – he is highly regarded around the world and particularly in China.

UCD is a fantastic university and I love studying and living on the UCD campus here in Dublin. The official language in Ireland is English and the Irish are very friendly, which is important when studying abroad. UCD is in the top 1% of Universities in the world, so it has an excellent academic reputation.

When I graduate, I would like to develop a career as a researcher/lecturer in Food Science or to start up my own Food business as it is an exciting time to be studying food science given the increased demand for food."

**Hong-Ju He Student**



### Why is this course for me?

Engineering Technology covers broad areas of mechanisation, environmental technology and processing technology for agri-food and related industries. This degree will give you a global perspective and understanding of:

- How engineering science helps to develop these technologies
- How to produce, harvest, process, preserve and distribute biological products (plant and animal) in a sustainable and environmentally friendly way

### What will I study?

The degree is based on a core of scientific modules including Principles of Engineering, Crop/Animal Husbandry and Food Physics. Progressive specialisation introduces an exciting range of subjects.

Modules include:

#### First Year

Biosystems Engineering Design Challenge • Agricultural Economics • Biology • Chemistry • Physics • Mathematics

#### Second Year

Management • Food Physics • Engineering & Surveying • Biosystems Engineering Research Trends

#### Third Year

Financial Planning & Control • Experimental Project • Power & Machinery Systems I • Waste Management • Biofuels & Bioenergy Resources • Quantitative risk assessment for human and animal health

#### Fourth Year

Food Process Technology • Food Chain Integrity • Power & Machinery Systems II • Capstone Design Project • Life Cycle Assessment

Students spend an average of 40 hours a week attending lectures, tutorials and laboratory-based practicals, and undertake independent study.

A combination of continuous assessment and end-of-semester written examinations is used. Certain modules also require project work.

### Career & Graduate Study Opportunities

Graduates will find rewarding and challenging employment in agri-food industries, including:

Green energy • Environmental protection • Food processing • Consulting • Equipment manufacturing

Typical roles include technical engineers and managers in:

- Production
- Energy utilisation
- Food processing
- Environmental protection
- Information technology
- Manufacturing
- Process and product design

There are also excellent graduate study opportunities.

### International Study Opportunities

There are opportunities to study abroad for one semester in third year. Possibilities include:

- University of California, USA
- University of Queensland, Australia
- Michigan State University, USA
- Kansas State University, USA
- Purdue University, USA

# Engineering Technology

BAgrSc (Hons) [NFQ Level 8]

## Engineering Technology UAS1 ENT

Length of Course  
4 Years

### Guideline Entry Requirements

IB - International Baccalaureate Diploma  
IB Total 28

Subject Requirements:

Maths: 4 at Standard Level

Lab Science: 4 at Standard Level

Cambridge A Level [+ GCSE O Level]

BCCC / BBC + D AS Level / ABC

Subject Requirements:

Maths: GCSE Grade C

Lab Science: GCSE Grade C

### Other Examinations

See [www.ucd.ie/international](http://www.ucd.ie/international)

### UCD International Foundation Year

Yes, see [www.dublinisc.com/university-college-dublin](http://www.dublinisc.com/university-college-dublin)

### Other courses of interest

Agricultural Science	→146
Science	→101
Dairy Business	→153
Agri-Environmental Sciences	→154
Forestry	→157

# Food & Agribusiness Management

BAgrSc (Hons) [NFQ Level 8]



"I chose the Food & Agribusiness programme because it offered me knowledge about the business and marketing side of the agri-food industry, while strengthening my scientific foundation. I chose UCD because of its international reputation of having the best food science programmes in English speaking Europe. I would definitely advise students from South Asia to take advantage of the technology and business network of an internationally recognised university like UCD."

Ashutosh Bagla Student

## Food & Agribusiness Management UAS1 FAM

**Length of Course**  
4 Years

### Guideline Entry Requirements

IB - International Baccalaureate Diploma  
IB Total 28

Subject Requirements:  
Maths: 4 at Standard Level  
Lab Science: 4 at Standard Level

Cambridge A Level (+ GCSE O Level)  
BCCC / BBC + D AS Level / ABC

Subject Requirements:  
Maths: GCSE Grade C  
Lab Science: GCSE Grade C

**Other Examinations**  
See [www.ucd.ie/international](http://www.ucd.ie/international)

UCD International Foundation Year  
Yes, see [www.dublinisc.com/university-college-dublin](http://www.dublinisc.com/university-college-dublin)

### Other courses of interest

Agricultural Science	→146
Horticulture, Landscape & Sportsturf Management	→158
Dairy Business	→153
Food Science	→155

### Why is this course for me?

During the Food & Agribusiness Management degree, you'll learn how the principles of economics and business management apply to farming, food production and marketing. You'll gain an understanding of how the Irish and international food systems deliver food products and services that people want, and how farmers and food manufacturers can produce profitably, while also taking care of the natural environment. The four-year degree provides a unique opportunity to understand both business and science, focusing on the agri-food sector – Ireland's largest indigenous industry. You'll learn skills that can be used across a wide range of jobs both within and outside the agri-food sector.

### What will I study?

You'll study core science subjects in first year, and then develop your agribusiness knowledge with specialist modules.

#### First Year

Agribusiness • Agricultural Economics • Biology • Chemistry • Physics • Mathematics

#### Second Year

Management • Business Law • Marketing • Economics • Animal & Crop Sciences

#### Third Year

Finance • Food Quality & Safety • Food Science • Data Analysis • Professional Work Experience

#### Fourth Year

International Food Marketing • Enterprise Development & Strategy • Agri-Environmental Economics & Policy • Farm Business Management • Communications • Research project

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

A combination of end-of-semester written examinations and continuous assessment is used. In your final year, you'll also prepare a dissertation on an agribusiness research topic.

### Career & Graduate Study Opportunities

Our graduates have an excellent record of finding employment in various sectors, including:

- Food processing
- Food distribution and marketing
- Financial services
- Consultancy services
- Agri-food media
- Farm management

Popular graduate study programmes include: MSc and PhD by research, in economic or business issues in agriculture and food; MSc in Marketing; MSc in Sustainable Agriculture & Rural Development; and MSc Food Business Strategy.

### Professional Work Experience (PWE) & International Study Opportunities

You will spend the second semester of your third year working in the food and agribusiness industry in Ireland or abroad. This helps you apply the knowledge you have gained, and can lead directly to employment following graduation.

There are also opportunities to take a semester abroad in third year. Possibilities include:

- University of California, USA
- Kansas State University, USA
- University of Queensland, Australia
- Michigan State University, USA
- Purdue University, USA

### KEY FACT

Graduates of this degree have reached senior positions as chief executives, business owners, plant managers, marketing managers and media editors.



[www.ucd.ie/international/ug/food-and-agribusiness-management](http://www.ucd.ie/international/ug/food-and-agribusiness-management)



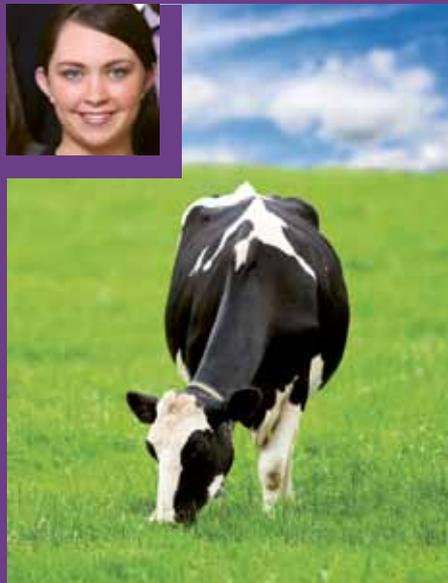
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“The past four years undertaking the Dairy Business course have exceeded all expectations of mine. In third year, myself and my classmates were fortunate enough to travel to New Zealand to work for 6 months on large scale dairy farms during the calving and breeding season, which was both enjoyable and extremely valuable. The second half of third year was spent in Moorepark Dairy Research Centre where we were lectured by leading Dairy Researchers and met a number of successful Dairy Farmers.

I would recommend for anyone whose interest lies within the agricultural and dairy sector to apply for Dairy Business. In this post quota era I believe the opportunities will go from strength to strength for graduates from this course.”

Ann Marie Murphy Student



### Why is this course for me?

The global dairy industry is in a time of significant change following the abolition of EU milk quotas on March 31, 2015. This change brings significant challenges and opportunities for young, highly skilled graduates from the Dairy Business programme. This degree is designed to equip future leaders of the dairy industry with the scientific, technical and business skills needed to cope with this business and enterprise expansion.

### What will I study?

#### First & Second Year

You start with a range of business, science, mathematics and technology-related modules. You then build on this scientific base by taking a range of modules in relevant applied sciences, as well as business and communications-related modules.

#### Third & Fourth Year

In June of second year you'll undertake technical management of a dairy farm at Teagasc, Kildalton Agricultural College. This is followed by Professional Work Experience (PWE) placement in the dairy industry from July to December.

For semester two of third year you study at Teagasc Moorepark in areas including:

Grassland Management & Nutrition • Dairy Systems • Applied Breeding & Fertility • Herd Health • Dairy Business project

In fourth year you'll consolidate your understanding of earlier modules and pursue a range of business and science modules.

Students spend an average of 40 hours a week including: lectures and tutorials; laboratory and practical workshops; and independent study.

Assessment varies but involves a combination of projects, continuous assessment and end-of-semester examinations.

Assessment of PWE involves monthly reports, a final report and an interview upon completion.

### Career & Graduate Study Opportunities

In addition to the highly skilled role of dairy farm management, opportunities exist in a wide variety of areas including:

- Research
- Animal feed industry
- Banking
- Teaching
- Consultancy

Research opportunities to master's and PhD level are available.

### Professional Work Experience (PWE)

PWE takes place between July and December (first semester, third year) and offers you the opportunity to visit New Zealand at the busiest time of the dairy farming calendar.

# Dairy Business

BAgrSc (Hons) [NFQ Level 8]

## Dairy Business DBS1

Length of Course  
4 Years

### Guideline Entry Requirements

IB - International Baccalaureate  
Diploma  
IB Total 28

Subject Requirements:

Maths: 4 at Standard Level

Lab Science: 4 at Standard Level

Cambridge A Level [+ GCSE O Level]  
BCCC / BBC + D AS Level / ABC

Subject Requirements:

Maths: GCSE Grade C

Lab Science: GCSE Grade C

### Other Examinations

See [www.ucd.ie/international](http://www.ucd.ie/international)

### UCD International Foundation Year

Yes, see [www.dublinisc.com/university-college-dublin](http://www.dublinisc.com/university-college-dublin)

### Other courses of interest

Agricultural Science	→146
Animal & Crop Production	→148
Animal Science	→149
Animal Science — Equine	→150
Food and Agribusiness Management	→152

# Agri- Environmental Sciences

BAgrSc (Hons) [NFQ Level 8]



"I am enrolled on a 2+2 programme between University College Dublin and South China Agricultural University. This means, I study the first two years in China and the last two years of my programme at UCD in Ireland.

I chose the programme because I really enjoy Biology and I understand the crucial importance of Agricultural Science globally. I will study subjects that will provide me with a better understanding of climate change, water quality and sustainable food production to name but a few.

UCD and Ireland has an excellent reputation with regard to Agriculture and Food Sciences and UCD staff are patient, enthusiastic and I have really enjoyed the courses I have taken to date."

**Long Teng Student**

## Agri-Environmental Sciences ESS1

**Length of Course**  
4 Years

### Guideline Entry Requirements

**IB - International Baccalaureate  
Diploma**  
IB Total 28

Subject Requirements:

**Maths: 4 at Standard Level**  
**Lab Science: 4 at Standard Level**

**Cambridge A Level (+ GCSE O Level)**  
BCCC / BBC + D AS Level / ABC

Subject Requirements:

**Maths: GCSE Grade C**  
**Lab Science: GCSE Grade C**

### Other Examinations

See [www.ucd.ie/international](http://www.ucd.ie/international)

**UCD International Foundation Year**  
No

### Other courses of interest

Agricultural Science	→146
Forestry	→157
Horticulture, Landscape & Sportsturf Management	→158
Animal & Crop Production	→148

### Why is this course for me?

This degree focuses on sustainable management of natural resources (plants, animals, air, soils and water) within the context of agriculture and other land-based industries, and protection of the rural environment for future generations. This specialist applied science degree will equip you for a career at the interface between production agriculture and environmental protection, to give you:

- An understanding of rural environmental issues in Ireland, the EU and worldwide
- A detailed knowledge of sustainable agriculture and land management practice
- The skills to contribute in farming and land-use industries, as either a scientist, planner or policymaker
- First-hand experience of agri-environmental research as a basis for further studies
- Interpersonal and professional skills required in a wide range of career paths

### What will I study?

#### First Year

Focuses on teaching basic sciences relevant to agriculture (especially biology and chemistry) and provides an introduction to rural land-use systems and environmental issues.

#### Second Year

Focuses on the principles of crop and animal production and applied agri-environmental sciences. Modules include: Ecology • Plant Biology • Soil Science • Applied Zoology • Microbiology • Genetics • Biotechnology

On completion of second year, you have the opportunity to develop real-world scientific field skills through participation in a week-long residential field course in the Burren, Co. Clare.

### Third & Fourth Year

Focuses on the environmental impacts of agriculture while learning practical field and lab-based skills in landscape analysis using GIS, as well as becoming familiar with national and international policies to protect rural environments. In fourth year, you complete a supervised research project and produce a thesis. This provides an opportunity to study a topic of your own choice more deeply, and gain practical experience of research and scientific writing.

Students spend an average of 40 hours per week attending lectures, tutorials and laboratory-based practical classes, and in undertaking independent study.

A combination of continuous assessment and end-of-semester written examinations is used. A number of modules also involve written assignments and/or project-based work.

### Career & Graduate Study Opportunities

Many AES graduates follow career paths as environmental consultants. Others work in State agencies that require both agricultural and environmental management skills, including: Department of Agriculture, Food & the Marine • Teagasc • Environmental Protection Agency • National Parks & Wildlife Service • Local authorities

A high proportion of AES graduates go on to further studies at postgraduate level.

### Professional Work Experience (PWE) & International Study Opportunities

A five-month period of structured PWE takes place in third year.

You can also elect to study abroad for one semester, at universities including: University of California, USA • University of Queensland, Australia • Purdue University, USA



[www.ucd.ie/international/ug/  
agri-environmental-sciences](http://www.ucd.ie/international/ug/agri-environmental-sciences)



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“The Faculty in the UCD School of Agriculture and Food Science are very accessible and UCD researchers are leading the way with scientific discoveries and collaborations with industry. I hope to work in an R&D role for a major food company when I graduate.”

**Sumei Hu Student**

“Choosing UCD for Study Abroad was one of the best decisions I could have made. UCD has a diverse agricultural and business programme, and offers classes that are unique and enjoyable. My agricultural professors taught me so much about the food challenges that Ireland and the world is facing.”

**Heather Hunt Student**



# Food Science

BSc (Hons) [NFQ Level 8]

## Food Science **FSS2**

**Length of Course**  
4 Years

### Guideline Entry Requirements

**IB - International Baccalaureate Diploma**  
IB Total 28

Subject Requirements:  
**Maths: 4 at Standard Level**  
**Lab Science: 4 at Standard Level**

**Cambridge A Level [+ GCSE O Level]**  
BCCC / BBC + D AS Level / ABC

Subject Requirements:  
**Maths: GCSE Grade C**  
**Lab Science: GCSE Grade C**

**Other Examinations**  
See [www.ucd.ie/international](http://www.ucd.ie/international)

**UCD International Foundation Year**  
Yes, see [www.dublinisc.com/university-college-dublin](http://www.dublinisc.com/university-college-dublin)

### Other courses of interest

Agricultural Science →146  
Human Nutrition →156  
Food & Agribusiness Management →152

### Why is this course for me?

Food Science develops your scientific knowledge of how to produce high-quality, safe and nutritious foods for the global market. As a food scientist you'll have a role to play in all aspects of the food chain, from production at farm level to the retailer, to the consumer.

### What will I study?

#### First Year

Focuses on the core sciences of biology and chemistry. There is also an Introduction to Food, Diet & Health module to give a flavour of later stages of your degree.

#### Second, Third & Fourth Year

You cover the applied sciences, including: Food Physics • Food Analysis • Microbiology • Sensory Science

You're introduced to Human Nutrition before progressing to the major food science modules, including:

New Product Development • Food Chemistry • Food Processing

The last year focuses on the technology and chemistry of meat, dairy and fermented foods. Food safety and marketing are important aspects of the course. You will also have an opportunity to undertake a research project.

The course involves attending lectures and completing laboratory practicals and sessions to give first-hand experience of operating food processing equipment. There are also many opportunities to work on team-based assignments.

Assessment involves end-of-term written exams and a variety of continuous assessments designed to develop skills for success, including report writing, oral, poster and video presentations, and food formulation exercises.

### Career & Graduate Study Opportunities

Graduates have excellent employment prospects with national and international companies in:

- Production management
- Nutrition
- Food quality and safety
- Sales & marketing
- New product development and research

There are also excellent graduate study opportunities available.

### Professional Work Experience (PWE) & International Study Opportunities

Five months' PWE in the food industry in third year is an integral part of the degree. Students are also encouraged to take a semester abroad and participate on the Agriculture Study Abroad Programme.

Possibilities include:

- Michigan State University, USA
- Purdue University, USA
- Kansas State University, USA
- University of California, Davis, USA
- University of Queensland, Australia
- Cornell University, USA

# Human Nutrition

BSc (Hons) [NFQ Level 8]



“My time at UCD was amazing and I’ll never forget it! I joined the Human Nutrition program, in which I had the chance to have lectures with wonderful professors. Also, my lectures offered me a different way of seeing Nutrition Sciences, I believe it was something very enriching.

UCD offers plenty of opportunities for its students and I could join many different clubs and societies and get in contact with many different cultures, since UCD has an amazing international program. Living and getting in touch with different people and different perspectives have made me a more mature person. I believe my time in Dublin and at UCD was an exciting experience, full of learning and discovery, like training for life!”

**Nathália Petry Student**

## Human Nutrition HMS1

Length of Course  
4 Years

### Guideline Entry Requirements

IB - International Baccalaureate  
Diploma  
IB Total 34

Subject Requirements:  
Maths: 4 at Standard Level  
Lab Science: 4 at Standard Level

Cambridge A Level [+ GCSE O Level]  
ABBC / AAB + C AS level / AAA

Subject Requirements:  
Maths: GCSE Grade C  
Lab Science: GCSE Grade C

Other Examinations  
See [www.ucd.ie/international](http://www.ucd.ie/international)

UCD International Foundation Year  
Yes, see [www.dublinisc.com/university-college-dublin](http://www.dublinisc.com/university-college-dublin)

### Other courses of interest

Agricultural Science	→146
Food Science	→155
Medicine	→90
Commerce	→74

### Why is this course for me?

Nutrition – the interaction between food and health – is becoming increasingly important in society. This degree covers many aspects of nutritional sciences, from biochemistry to molecular and public health nutrition, and also includes topics such as nutrition communication and food regulatory affairs. Upon graduating you’ll be able to apply your knowledge to many different areas of the food and health industry.

### What will I study?

The early years focus on core sciences and general food and health modules, which build your knowledge of biological systems and their application to human nutrition. After significant Professional Work Experience (PWE), final year focuses on specific areas of human nutrition.

### First & Second Year

Core material (chemistry, biology, nutritional biochemistry) • Nutrients & the Role of Nutrition in Lifestages • Nutrition Research modules

### Third & Fourth Year

Ten-month PWE • Molecular, Public Health & Clinical Nutrition • Nutrition Communication • Food Regulatory Affairs • Research Project  
Students spend an average of 40 hours a week attending lectures and tutorials and participating in laboratory workshops, and undertake independent study.

A combination of end-of-semester written examinations and continuous assessment is used. In third and fourth year you’ll complete comprehensive research projects.

### Career & Graduate Study Opportunities

Graduates have found employment in:

- The food industry
- Nutrition research
- Health promotion

You can also train as a public health nutritionist through further study and/or applied practice. Food and health have been identified as strategically significant in UCD. As such, development of internationally recognised research groups in food and health in UCD has resulted in a substantial increase in recruitment of PhD and MSc [Research] posts.

### Professional Work Experience (PWE) & International Study Opportunities

A 10-month PWE programme allows you to graduate with the skills necessary to enter the working world.

Opportunities for international study exist through the PWE component and, upon graduation, through world-class research groups in international universities.

### KEY FACT

The UCD School of Agriculture and Food Science is the first destination of choice for students in Ireland interested in developing their careers in Agriculture, Food Science and Human Nutrition.



[www.ucd.ie/international/ug/human-nutrition](http://www.ucd.ie/international/ug/human-nutrition)

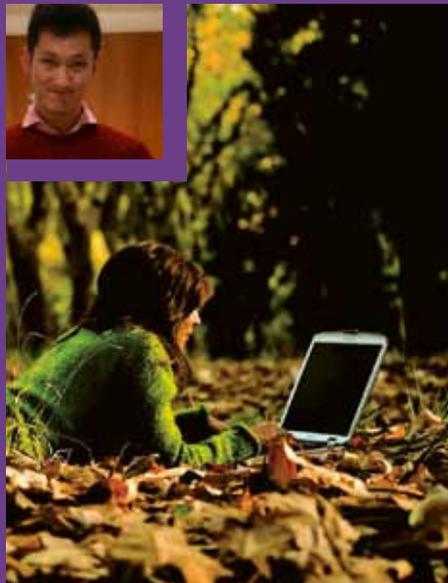


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“UCD Forestry provides both academic and industrial experience, and a variety of modules relating to forests, and practical opportunities working with Teagasc are available. My best experience would be the academic freedom in this department; you feel free to talk to all faculty members, who were of great help. I have really enjoyed the time discussing the research direction with my supervisor, and talking with my colleagues about the modelling methods. I would strongly recommend anyone with interests in forestry to get involved in the great experience of UCD Forestry. To students with an interest in this programme, UCD will create a promising platform to develop your career, as there are many opportunities available to Forestry students presently.”

Yan Liu Student



# Forestry

BAgrSc (Hons) [NFQ Level 8]

## Forestry FOS1

**Length of Course**  
4 Years

### Guideline Entry Requirements

**IB - International Baccalaureate Diploma**  
IB Total 26

Subject Requirements:

**Maths: 4 at Standard Level**

**Lab Science: 4 at Standard Level**

**Cambridge A Level [+ GCSE O Level]**  
CCCD / CCC + C AS Level / CCB

Subject Requirements:

**Maths: GCSE Grade C**

**Lab Science: GCSE Grade C**

### Other Examinations

See [www.ucd.ie/international](http://www.ucd.ie/international)

**UCD International Foundation Year**  
Yes, see [www.dublinisc.com/university-college-dublin](http://www.dublinisc.com/university-college-dublin)

### Other courses of interest

Agricultural Science →146

Agri-Environmental Sciences →154

Horticulture, Landscape & Sportsturf Management →158

### Why is this course for me?

Forestry is the science, art and profession of managing forests. Foresters manage forests to provide a variety of outputs including timber, recreation, conservation and aesthetics. The protection and enhancement of biodiversity, soils and water quality are all highly relevant in the creation and management of forests. Carbon sequestration, renewable energy resources, multifunctional forestry, wildlife management, bio-complexity, sustainable forest management, social and urban forestry, adaptation for and mitigation of climate change, and the conservation of genetic resources are all aspects of modern forest management. Foresters employ the latest technology in geographic information system (GIS) mapping and forest growth modelling to support good management and sustainable practice.

### What will I study?

A broad science-based first year is followed by forestry-focused topics in subsequent years. Fourth year is largely project-based and allows students to combine all of their accumulated skills and knowledge.

#### First Year

Biology • Chemistry • Physics • Mathematics • Economics • Trees & Forests in Ireland • Elective modules

#### Second Year

Soil Science • Plant Ecology • Tree Structure & Function • Principles of Forestry • Professional Forestry Practice • Elective modules

#### Third Year

Forest Management • Forest Establishment • Forest Protection • GIS & Remote Sensing • Wood Science • Elective modules • Professional Work Experience

#### Fourth Year

GIS & Forest Inventory • Forest Management Plan • GIS & Experimental Design • Scientific Research Project • Elective modules

Students spend approximately 40 hours a week attending lectures, laboratory sessions and tutorials, and undertake independent study.

Assessment includes continuous assessment (e.g. class tests, essays) and end-of-semester written examinations. In your final year, assessments are largely based on the project reports.

### Career & Graduate Study Opportunities

Forestry graduates find employment in all areas of the sector, including:

- State and semi-state agencies
- Forest management and consultancy
- Wood processing
- Environmental agencies, renewable energy, carbon accounting
- Education and research

Other opportunities include information technology, land-use planning and financial services. Research to master's and PhD levels is available.

### Professional Work Experience (PWE) & International Study Opportunities

Forestry students complete five months' PWE and are encouraged to experience both Irish forestry and forestry in a foreign country.

In third year, a number of forestry students have studied for a semester in:

- Michigan State University, USA
- Purdue University, USA

# Horticulture, Landscape & Sportsturf Management

BAgrSc (Hons) [NFQ Level 8]

## Horticulture, Landscape & Sportsturf Management HLS1

**Length of Course**  
4 Years

### Guideline Entry Requirements

**IB - International Baccalaureate  
Diploma**  
IB Total 26

Subject Requirements:

**Maths: 4 at Standard Level**  
**Lab Science: 4 at Standard Level**

**Cambridge A Level (+ GCSE O Level)**  
CCCD / CCC + CAS Level / CCB

Subject Requirements:

**Maths: GCSE Grade C**  
**Lab Science: GCSE Grade C**

### Other Examinations

See [www.ucd.ie/international](http://www.ucd.ie/international)

**UCD International Foundation Year**  
No

### Other courses of interest

Agricultural Science →146  
Agri-Environmental Sciences →154  
Forestry →157



"I love science and technology and have always wanted to travel, so studying on a 2+2 programme at University College Dublin was an obvious step for me. From my point of view, this programme provides a unique opportunity to broaden my horizons and receive quality education at two leading Universities at the same time.

I have acquired numerous things from this programme already for which I should be grateful. I am studying with a fantastic group of students who share the same ambitions as I and I have also developed great relationships with UCD staff who have delivered subjects in stage one of the programme in China. I have now completed first year of the programme and look forward to year three in Dublin."

**Fangzi Zha Student**

### Why is this course for me?

Horticulture is the art, science, technology and business of plant cultivation for human use. If you like biology or other science subjects, or you're interested in business studies, home economics or languages, then this course may be for you. It will give you an appreciation of the importance of plants for human life and well-being. The course covers the sciences, environmental studies, business, management and communications, as well as growing food and non-food plants. Landscape & Sportsturf Management focuses on the science behind developing and maintaining Ireland's designed landscapes, golf courses, tennis courts and sport pitches. The objectives of this degree are to give you:

- Knowledge of the growth, development and protection of plants, and use of plants for food, leisure, sports, social and environmental benefits
- An understanding of horticultural plant production systems and how their components are integrated and managed in an environmentally friendly and sustainable manner
- The skills to become a competent, competitive and confident leader who will excel in the national or global horticulture community as a professional horticulturist or horticultural scientist

### What will I study?

You'll study core science subjects in first year, and then develop your horticulture knowledge with specialist modules.

#### First Year

Plants and People • Landscape & Sportsturf Management • Agricultural Economics • Biology • Chemistry • Physics • Mathematics

#### Second Year

Management • Soil Science Basics • Plant Ecology • Plant Biology • Fundamentals of Horticulture • Health, Welfare & Safety in Agriculture

#### Third Year

Plant Protection • Pests • Soil Science Applications • Plant Diseases: Biology & Control • Landscape, Trees & Shrubs • Professional Work Experience

#### Fourth Year

Food Production: Mushrooms, Fruits, Vegetables etc & PostHarvest Physiology • Enterprise Development & Strategy • Research project • Nursery, Garden Centre & Retail Horticulture • Professional Communications

Students spend an average of 40 hours a week attending lectures, tutorials and laboratory practicals and participating in industry site visits and field and greenhouse workshops, and undertake independent study and research.

Assessment includes continuous assessment (e.g. class tests, essays) and end-of-semester written examinations. In your final year, assessments are largely based on the project reports.

### Career & Graduate Study Opportunities

This degree maintains strong links with the horticulture industry. Career opportunities include management, technical advisory, consultation, research, quality assurance and sales or marketing positions, working for companies or within your own business. Opportunities also exist in state, semi-state, EU and international organisations. Your transferable skills will make you highly employable in other industries. Master's and PhD degrees are also available.

### Professional Work Experience (PWE) & International Study Opportunities

All or part of your five-month PWE in third year can be taken abroad, with possibilities including Japan, New Zealand, Australia, USA, Britain and Europe. Studying abroad for one semester is also a popular option for many students.



[www.ucd.ie/international/ug/horticulture-landscape-and-sportsturf-management](http://www.ucd.ie/international/ug/horticulture-landscape-and-sportsturf-management)



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