



Department of Life Sciences

---

Undergraduate studies in

# Agriculture, Animal and Equine Science

---

# Contents

Welcome	p.1
Our courses	p.2
Foundation courses	p.18
Integrated Masters	p.20
Integrated year in industry	p.22
Global opportunities	p.24
Studying through the medium of Welsh	p.26
Research	p.28
Research highlights	p.30
How to apply	p.32



## Important information

The programme information published in this brochure was correct at time of going to print (May 2022) and may be subject to change. Prospective students are advised to check the definitive programme information, including entry requirements, that is available on our website before making an application, to ensure that the programme meets their needs.

# Welcome

Welcome to the Department of Life Sciences, a world-class research and education centre based here at Aberystwyth University.

We provide an excellent learning environment for both your academic and personal development, with state-of-the-art facilities and generous scholarships. Your course will be brought to life by our committed and inspiring lecturers. Much of our teaching is led by the cutting-edge research interests of our staff.

In the Department of Life Sciences we are able to offer you a wide range of learning opportunities, including interactive lectures and seminars, laboratory classes, small group tutorials, and field courses. The flexibility of being able to select from a range of diverse modules means you can tailor your course to your individual interests. You will be assessed in a variety of ways, including exams, laboratory reports, presentations, and essays, all of which are designed to enhance your subject-specific, personal, and transferable skillsets.

Aberystwyth lies on the shores of Cardigan Bay on the west coast of Wales, set in stunning natural surroundings. The locality offers a fine coastline with expanses of rolling moorland and wooded valleys immediately inland.

Further information about our courses and other opportunities can be found in this booklet. Why not join us on an Open Day or Applicant Visiting Day to see for yourself what makes Aberystwyth such an incredible place to study.

**Professor Iain Donnison**  
Head of Department



# Our courses

## Single honours

Agriculture	p.3
Agriculture with Animal Science	p.4
Agriculture with Business Management	p.6
Animal Science	p.7
Equine and Veterinary Bioscience	p.8
Equine Science	p.10
Equine Studies (top-up scheme)	p.12
Life Sciences	p.13
Veterinary Biosciences	p.14

## Foundation

Agriculture	p.16
Equine Studies	p.18

## Integrated Masters

Agriculture	p.20
Agriculture with Animal Science	p.20

## We also offer:

- Animal Behaviour (BSc, 3 years)
- Biochemistry (BSc, 3 years)
- Biochemistry (MBiol, 4 years)
- Biology (BSc, 3 years)
- Biology (Foundation) (FdSc, 2 years)
- Biology (MBiol, 4 years)
- Biology and Climate Change (BSc, 3 years)
- Biology and Climate Change (Foundation) (FdSc, 2 years)
- Biomedical Sciences (BSc, 3 years)
- Ecology (BSc, 3 years)
- Genetics (BSc, 3 years)
- Genetics and Biochemistry (BSc, 3 years)
- Human Biology and Health (BSc, 3 years)
- Marine and Freshwater Biology (BSc, 3 years)
- Marine and Freshwater Biology (MBiol, 4 years)
- Microbiology (BSc, 3 years)
- Microbiology (MBiol, 4 years)
- Plant Biology (BSc, 3 years)
- Sport and Exercise Science (BSc, 3 years)
- Sport and Exercise Science (Foundation) (FdSc, 2 years)
- Wildlife Conservation (BSc, 3 years)
- Zoology (BSc, 3 years)
- Zoology (MBiol, 4 years)

# Agriculture

## BSc (Hons)

With integrated year in industry

(D401)

Aberystwyth has a long-established reputation for teaching excellence in agriculture. You will acquire a wide range of skills, supplementing your academic study at university with regular visits to commercially run farms and businesses, and gaining the latest insights from scientists at the cutting edge of agricultural research.

Modern agriculture is faced with the task of feeding an increasing global population against a backdrop of dwindling resources, the need to protect the environment, and the need to cope with, and mitigate against, climate change. At the same time, agriculture faces new priorities closer to home as the UK redefines its relationship with Europe. This degree will equip you to tackle these challenges, covering all aspects of agriculture and agricultural production systems, and developing a detailed understanding of the changing farming landscape. You will gain the practical skills needed to manage a sustainable business, and will be ready to adopt best practices, informed by current research, to tackle the challenges of livestock and crop management and get the best from your agricultural business.

Opportunities for Agriculture students at Aberystwyth include:


- teaching by leading experts and researchers in their field
- visits to farms, research establishments and agri-businesses throughout the UK as an integral part of the course
- the opportunity to complete a tutor-supported work experience year to develop skills and enhance career prospects.


### Employability

Our graduates have achieved successful careers in many areas of agriculture and its related industries, including enterprise and farm management, animal health and nutrition, agricultural politics and administration, crop and grassland agronomy, as well as administrative, consultancy and sales careers with agricultural supply companies.

## Key Facts

 Degree type: BSc.

 UCAS Code: H21Y (D401 with integrated year in industry).

 Duration: 3 years (D401 is 4 years).

## Core module list

Below is an indicative list of core modules that you may study on this course.

### First year:

- Agricultural Technology
- Applied Animal Biology \*
- Business, Economics and Land Use
- Crop and Grassland Management
- Introduction to Livestock Production Systems \*
- Study and Communication Skills \*
- The Agricultural Industry \*

### Second year:

- Agronomy and Crop Improvement
- Farm Business Management and Appraisal
- Food, Farming and the Environment \*
- Livestock Production Systems \*
- Research Methods \*

### Final year:

- Research Project \* or Critical Review \*
- Advances in Agriculture \*
- Farm Planning and Advanced
- Farm Management.

See our website for the optional modules you may select to develop your specialist interests.

\* also available partially or entirely through the medium of Welsh.

# Agriculture (top-up scheme)

BSc (Hons)

With integrated year in industry

(D401)

This one-year BSc Agriculture (Top-up) degree at Aberystwyth University will provide a direct route to a BSc Honours degree if you already hold a FdSc or HND in Agriculture (subject to grades) or other equivalent course. Aberystwyth is surrounded by a great diversity of farmland and agricultural terrain, and you will receive a high-quality academic education during this course.

This degree will provide you with a sound understanding of planning techniques for farm businesses, including how to construct fully detailed farm business plans. You will also gain practical experience of acting as a consultant to the manager or owner of an agricultural enterprise or business, providing solutions to the real-life challenges facing them. You will also have the opportunity to specialise in livestock production, crop and grassland production or the agri-environment through a choice of optional modules.

Opportunities for Agriculture (top-up scheme) students at Aberystwyth include:

- teaching by leading experts and researchers in their field
- visits to farms, research establishments and agri-businesses throughout the UK as an integral part of the course
- the opportunity to complete a tutor-supported work experience year to develop skills and enhance career prospects.


## Employability

Our graduates have achieved successful careers in many areas of agriculture and its related industries, including enterprise and farm management, animal health and nutrition, agricultural politics and administration, crop and grassland agronomy, as well as administrative, consultancy and sales careers with agricultural supply companies.

## Key Facts

 Degree type: BSc.

 UCAS Code: H22Y.

 Duration: 1 year top-up scheme.

## Module list

Below is an indicative list of modules that you may study on this course.

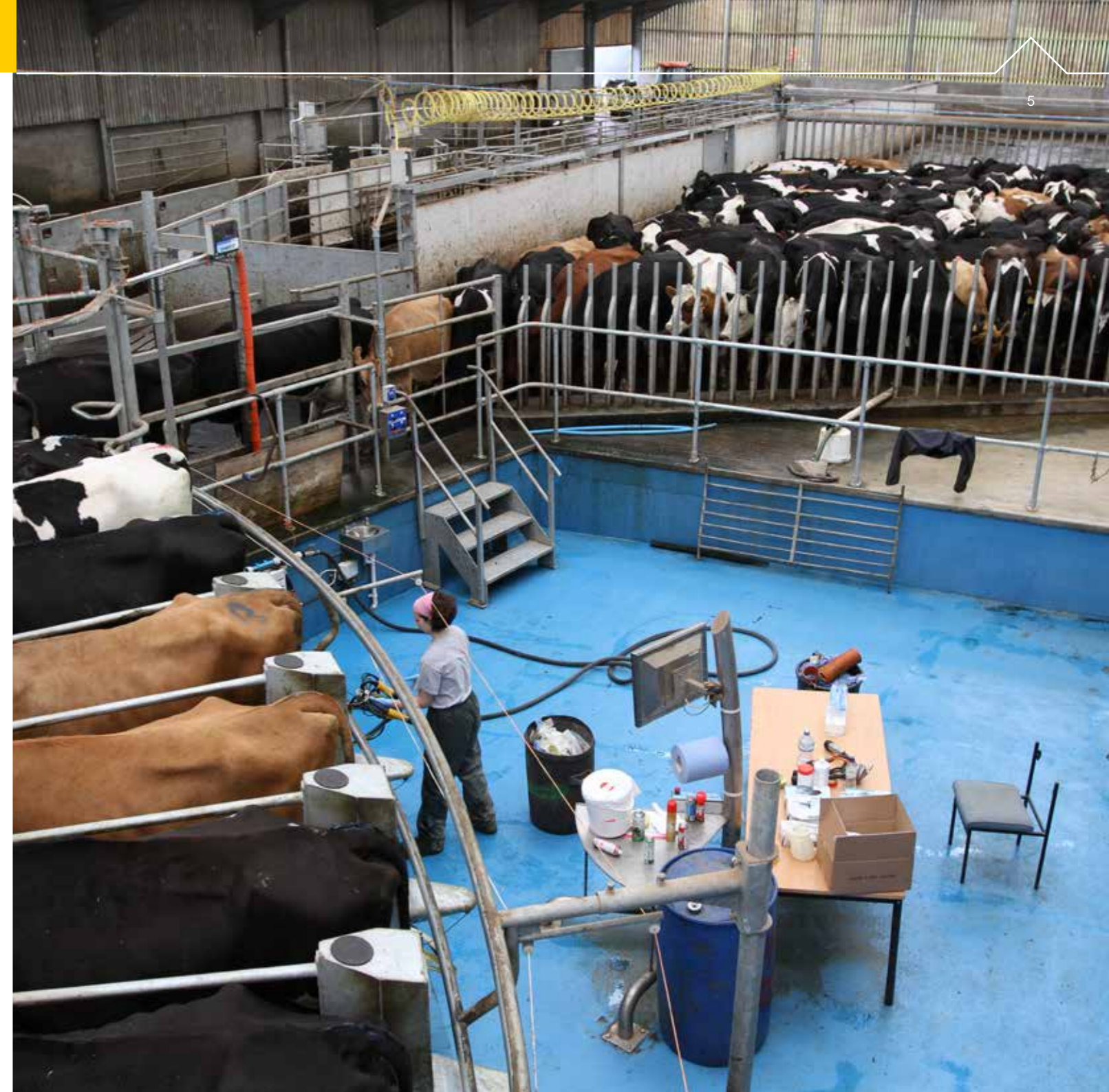
- Advances in Agriculture
- Farm Planning and Advanced Farming Management
- Critical Review \*
- Research Project \*

Optional modules you may select to develop your specialist interests include:

- Crop and Grassland Production Science
- The Agri-Environment.

See our website for the optional modules you may select to develop your specialist interests.

\* also available partially or entirely through the medium of Welsh.



# Agriculture with Animal Science

BSc (Hons)

With integrated year in industry

(D4D3)

Alongside Aberystwyth's credentials in agriculture, on this degree you will benefit from teaching by active researchers in animal disease, nutrition, reproduction, behaviour and more; and from a range of well-equipped teaching and research laboratories. We are home to VetHub1, an animal health research facility focusing on bovine tuberculosis, and the Barrett Centre for Helminth Control, an interdisciplinary research centre leading the fight against helminth diseases of livestock such as liver fluke.

On the Agriculture with Animal Science course, you will establish a firm foundation of practical skills and subject knowledge in agriculture and agricultural production systems. Alongside this core knowledge, you will immerse yourself in the science, production and management of livestock, benefitting from the insights of our active researchers. Your specialism in animal science will cover aspects of nutrition, reproductive physiology, animal health, and animal breeding, as well as emerging animal biotechnologies. With this skill set you will be ready to tackle the challenges of livestock production, and be primed for success in your agricultural business.

Opportunities for Agriculture with Animal Science students at Aberystwyth include:

- being taught by, and becoming involved in, the research work of leading scientists
- visits to farms, research stations and agri-businesses throughout the UK as an integral part of the course
- work experience opportunities in the UK and overseas.


## Employability

Our graduates lead successful careers in many areas of agriculture and agriculture-related industries, including livestock enterprise management, consultancy, animal health, welfare and nutrition, and administrative and sales careers with a wide range of agricultural supply companies.

## Key Facts

 Degree type: BSc.

 UCAS Code: 53C8 (D4D3 with integrated year in industry).

 Duration: 3 years (D4D3 is 4 years).

## Module list

Below is an indicative list of modules that you may study on this course.

### First year:

- Applied Animal Biology \*
- Business, Economics and Land Use
- Crop and Grassland Management
- Introduction to Livestock Production Systems \*
- Study and Communication Skills \*
- Precision Agricultural Technology
- The Agricultural Industry \*.

### Second year:

- Animal Breeding: Genetics and Reproduction
- Applied Nutrition of Livestock, Horses and Companion Animals \*
- Livestock Production Systems \*
- Research Methods \*.

### Final year:

- Research Project \* or Critical Review \*
- Advances in Agriculture \*
- Livestock Production Science \*.

See our website for the optional modules you may select to develop your specialist interests.

\* also available partially or entirely through the medium of Welsh.



# Agriculture with Business Management

## BSc (Hons)

With integrated year in industry

(4D12)

The Institute of Biological, Environmental and Rural Sciences (IBERS) conducts the annual Farm Business Survey in Wales on behalf of the Welsh Government. The survey collects financial and physical data from some 600 farms which is used by policy-makers and researchers to assess the economic factors affecting farming in Wales. Our staff are ideally placed to provide expert training in business management to complement your study of agriculture.

Agriculture with Business Management will provide you with a thorough grounding in practical skills and theoretical knowledge in both farming and commerce. This scheme is appropriate for applicants with little or no farming background as well as those who already have knowledge of agriculture, since it provides a firm grasp of agricultural systems alongside the principles and practices of business. With the option to undertake an integrated year in industry, and with access to the numerous agricultural businesses and commercial farms in the locality and further afield, you will develop the core capabilities and skills demanded by a range of employers and needed for management of your own business.

Opportunities for Agriculture with Business Management students at Aberystwyth include:

- teaching by expert staff from Aberystwyth Business School, as well as the Farm Business Survey for Wales, the most authoritative source of financial information on farming businesses
- visits to farms and agri-businesses throughout the UK as an integral part of the course
- work experience opportunities in the UK and overseas.


### Employability

The combination of knowledge and skills that this degree offers is much sought after by agri-business employers and a number of other professions, including advisory and consultancy services and farm and estate management, as well as agricultural financing. This is also an excellent qualification for a career in other businesses such as in the rapidly growing agri-food sector.

## Key Facts

 Degree type: BSc.

 UCAS Code: D4N2 (4D12 with integrated year in industry).

 Duration: 3 years (4D12 is 4 years).

## Module list

Below is an indicative list of modules that you may study on this course.

### First year:

- Precision Agricultural Technology
- Applied Animal Biology \*
- Business, Economics and Land Use
- Crop and Grassland Management
- Introduction to Livestock Production Systems \*
- Study and Communication Skills \*
- The Agricultural Industry \*.

### Second year:

- Agronomy and Crop Improvement
- Farm Business Management and Appraisal
- Livestock Production Systems \*
- Research Methods \*.

### Final year:

- Research Project \* or Critical Review \*
- Advances in Agriculture \*
- Farm Planning and Advanced Farm Management.

See our website for the optional modules you may select to develop your specialist interests.

\* also available partially or entirely through the medium of Welsh.

# Animal Science

## BSc (Hons)

With integrated year in industry

(D307)

On our Animal Science degree, you will study the applied science relating to domesticated animals, including farm animals, horses and companion animals. As the home of the only Veterinary School in Wales (Aberystwyth School of Veterinary Science), we have excellent facilities to support your studies, including commercially-run university farms, an equine teaching centre, and a range of teaching and research laboratories. Our teaching staff are also active researchers in areas such as veterinary infectious diseases, nutrition, reproduction, behaviour and more.

During your studies you will develop an understanding of the key biology relating to domesticated animal health, including anatomy, physiology, nutrition, disease diagnosis and behaviour. You will also be able to develop a special interest in either livestock science, equine science or behavioural science, by selecting one of the degree's three pathways. Your academic understanding will be firmly grounded within the practical and applied context of animal science and further enhanced by guest lecturers from different areas of the animal science industry.

Opportunities for Animal Science students at Aberystwyth include:


- the option of a year in industry (D307), giving you the opportunity to develop key skills for working in the Animal Science sector
- the ability to specialise in either Equine, Behavioural or Livestock pathways
- teaching through a mix of practical classes, field trips, small-group tutorials and interactive lectures that will give you a firm grasp of the subject.


### Employability

Graduates of this degree will be well prepared for professional roles applying scientific insights to practical problems in animal science, within private and public organisations, advisory and consultancy services, welfare law enforcement, as well as animal feed, animal breeding and pharmaceutical industries.

## Key Facts

 Degree type: BSc.

 UCAS Code: D306 (D307 with integrated year in industry).

 Duration: 3 years (D307 is 4 years).

## Module list

Below is an indicative list of modules that you may study on this course.

### First year:

- Applied Animal Biology \*
- Exploring Genetics
- Biochemistry and the Cellular Basis of Life
- Disease Diagnosis and Control
- Equine Anatomy and Physiology
- Equine Exercise Physiology
- Microbial Diversity \*
- Introduction to Livestock Production Systems \*
- Study and Communication Skills \*.

### Second year:

- Animal Breeding: Genetics and Reproduction
- Applied Nutrition of Livestock, Horses and Companion Animals \*
- Immunology
- Research Methods \*
- Veterinary Health.

### Final year:

- Research Project \*
- Veterinary Infectious Diseases
- Veterinary Pharmacology and Disease Control.

See our website for the optional modules you may select to develop your specialist interests.

\* also available partially or entirely through the medium of Welsh.

# Equine and Veterinary Bioscience

BSc (Hons)

With integrated year in industry

(D335)

Our Equine and Veterinary Bioscience degree is the only one of its kind in the UK. It capitalises on Aberystwyth's reputation as a long-established provider of equine courses, our research strengths in animal disease, nutrition, reproduction and behaviour, and our collaborative links with practising veterinary surgeons at the Wales Veterinary Science Centre.

This degree will provide you with a solid understanding of core concepts in veterinary medicine, including immunology, disease processes and the diagnosis and treatment of disease in a range of species. Dedicated theoretical and practical classes will place special emphasis on the physiology of the horse. Teaching, including some by veterinary surgeons, will help frame your understanding within the practical context. This unique mix of subject matter will help you develop the knowledge and skills required in professional roles within the equine industry, as well as in careers allied to veterinary medicine, such as veterinary laboratory diagnostician.

Opportunities for Equine and Veterinary Bioscience students at Aberystwyth include:

- studying with the longest-established provider of equine courses in the UK
- superb facilities, including a large equine teaching centre, indoor and outdoor arenas, horse walker, round pen, weigh bridge, solarium, stables and foaling boxes with CCTV, demonstration areas, laboratories and much more
- an equine teaching centre which is a British Horse Society (BHS) Approved Training Centre, where you can study for your BHS qualification.

## Employability

Equine and Veterinary Bioscience provides a broad scientific foundation which will prepare you for a wide range of career opportunities in equine and animal science, animal welfare, research and development, advisory and technical support work, and education, in the UK and overseas.

## Key Facts



Degree type: BSc.



UCAS Code: D334 (D335 with integrated year in industry).



Duration: 3 years (D335 is 4 years).

## Module list

Below is an indicative list of modules that you may study on this course.

### First year:

- Applied Animal Biology \*
- Exploring Genetics
- Biochemistry and the Cellular Basis of Life
- Disease Diagnosis and Control
- Equine Anatomy and Physiology
- Equine Exercise Physiology
- Microbial Diversity \*
- Study and Communication Skills \*

### Second year:

- Animal Breeding: Genetics and Reproduction
- Applied Nutrition of Livestock, Horses and Companion Animals \*
- Immunology
- Research Methods \*
- Veterinary Health.

### Final year:

- Behaviour and Welfare of Domesticated Animals
- Research Project \*
- Veterinary Infectious Diseases
- Veterinary Pharmacology and Disease Control.

See our website for the optional modules you may select to develop your specialist interests.

\* also available partially or entirely through the medium of Welsh.



# Equine Science

BSc (Hons)

With integrated year in industry

(D323)

At Aberystwyth we have a dedicated equine teaching centre with an excellent array of practical facilities, and our teaching team have specialist interests in equine reproduction, behaviour and business among others. The Institute of Biological, Environmental and Rural Sciences (IBERS) also has research strengths in animal science more widely, so we are well-placed to provide rigorous scientific training with an equine focus.

Our Equine Science degree will provide you with a solid grounding in the biological sciences with specialism in horses. This will include topics such as physiology, genetics and metabolism, equine anatomy, equine exercise physiology, equine industry, nutrition and reproductive physiology. At the same time, your scientific training will be augmented with more applied aspects, such as equine management practice. This degree will prepare you for a professional career in the equine industry and its allied services, and the strong scientific skill set demanded by a wide variety of employers.

Opportunities for Equine Science students at Aberystwyth include:

- studying with the longest established provider of equine courses in the UK
- superb facilities, including a large equine teaching centre, indoor and outdoor arenas, horse walker, round pen, weigh bridge, solarium, stables and foaling boxes with CCTV, demonstration areas, laboratories and much more
- an equine teaching centre which is a British Horse Society (BHS) Approved Training Centre, where you can study for your BHS qualifications
- teaching delivered by internationally recognised researchers.

## Employability

Our Equine Science degree will prepare you for a wide range of employment opportunities in equine and animal science, research and development, advisory and technical support work, enterprise management and education, in the UK and overseas.

## Key Facts



Degree type: BSc.



UCAS Code: D322 (D323 with integrated year in industry).



Duration: 3 years (D323 is 4 years).

## Module list

Below is an indicative list of modules that you may study on this course.

### First year:

- Applied Animal Biology \*
- Exploring Genetics
- Biochemistry and the Cellular Basis of Life
- Equine Anatomy and Physiology
- Equine Exercise Physiology
- Microbial Diversity \*
- Molecular Laboratory Skills
- Study and Communication Skills \*

### Second year:

- Animal Breeding, Genetics and Reproduction
- Applied Nutrition of Livestock, Horses and Companion Animals \*
- Equine and Human Exercise Physiology
- Research Methods \*

### Final year:

- Research Project \*
- Behaviour and Welfare of Domesticated Animals
- Equine Stud Management
- Equine Grassland Management, Nutrition and Development.

See our website for the optional modules you may select to develop your specialist interests.

\* also available partially or entirely through the medium of Welsh.





# Equine Studies (top-up scheme)

## BSc (Hons)

If you have already passed an appropriate HND or Foundation Degree at merit level or above, our Equine Studies (top-up) scheme allows you to complete a further year of study to graduate with a BSc degree.

Our Equine Studies (top-up) scheme will build upon your foundation degree to further develop your skills in aspects of equine management and equip you with an advanced level of understanding in animal breeding and nutrition. This skill set will equip you for graduate level employment within the equine industry in the UK and abroad, or for a wide range of advisory, commercial and educational work in the equine and rural sectors. The further development of your business management skills will be readily transferable to graduate level roles in other sectors of commerce and industry, and of great use in starting your own business.

Opportunities for Equine Studies (top-up scheme) students at Aberystwyth include:

- studying with the longest established provider of equine courses in the UK
- superb facilities, including a large equine teaching centre, indoor and outdoor arenas, horse walker, round pen, weigh bridge, solarium, stables and foaling boxes with CCTV, demonstration areas, laboratories and much more
- an equine teaching centre which is a British Horse Society (BHS) Approved Training Centre, where you can study for your BHS qualifications.

### Employability

Equine Studies (top-up) is designed to prepare you for a wide range of graduate level employment opportunities in equine and animal science, research and development, advisory and technical support work, and enterprise management in the UK and overseas.

## Module list

Below is an indicative list of modules that you may study on this course.

- Research Project
- Equine Stud Management
- Equine Marketing and Small Business Management
- Equine Grassland Management, Nutrition and Development.

Optional modules you may select to develop your specialist interests include:

- Behaviour and Welfare of Domesticated Animals
- Equine and Human Exercise Physiology.

## Key Facts



Degree type: BSc.



UCAS Code: D325.



Duration: 1 year top-up scheme.

# Life Sciences

## BSc (Hons)

The Life Sciences foundation year is specifically designed to provide you with an alternative route into higher education to study one of our biological sciences degrees. You may be eligible for this scheme if you are qualified to enter higher education but do not have the relevant qualifications in science at A level (or equivalent), if you come from a non-traditional academic background, or if you have not yet achieved your full academic potential.

The Life Sciences foundation year is taught by staff from within the Department of Life Sciences, and consists of a fully integrated programme of lectures, practicals, workshops and tutorials in biology and associated subjects. This course will give you a solid foundation in a range of scientific disciplines including biochemistry, botany, cell biology, ecology, evolution, genetics, microbiology, zoology, study skills, and biological field and laboratory techniques. At the conclusion of the foundation year, you will have developed the knowledge and skills needed to progress into the first year of one of our degree schemes.

### Employability

The Life Sciences foundation year provides a route into higher education, and through it a range of exciting opportunities for employment and further training. Depending on your chosen discipline, you will be a strong candidate for work as a research scientist, a conservation officer, a higher education lecturer or secondary school teacher.

## Key Facts



Degree type: BSc.



UCAS Code: C990.



Duration: 4 years.

## Module list

Core modules you may study in your foundation year include:

- Communication Skills
- Molecules and Cells
- Organisms and the Environment
- Practical Skills for Biologists.

The modules you will study after your first year are determined by the degree scheme you choose to progress onto.

For an indication of the modules available, see the relevant degree pages in this prospectus, visit our website, or contact us.

# Veterinary Biosciences

## BSc (Hons)

With integrated year in industry

(D907)

Veterinary Biosciences capitalises on Aberystwyth's strength in the animal health sector, which has led to the establishment of the Aberystwyth School of Veterinary Science, the only Veterinary School in Wales. We have large animal facilities at our commercially run university farms and specialist equine teaching centre, as well as a range of laboratories to ensure you gain relevant practical skills.

On this degree, you will combine modern molecular, cellular and physiological aspects to understand the biology of farm animals, pets, horses and wild animals. Your research-led perspective on veterinary health and disease will be integrated with an understanding of the realities of veterinary practice. Among many skills, you will learn to synthesise information from scientific literature, scrutinise data in terms of quality and quantity, respond to new data through laboratory investigation, and understand the implications of the findings for the veterinary field.

Opportunities for Veterinary Biosciences students at Aberystwyth include:

- being taught by trained veterinary surgeons and world-class veterinary researchers
- practical experience involving animal handling at our equine centre and farms, with the latest scientific techniques taught in our modern laboratories
- the ability to progress into a range of veterinary careers including veterinary science degree programmes on graduation.

### Employability

Veterinary Biosciences graduates are well prepared for work in the animal health sector and inspired to tackle the challenges of the future, such as drug-resistant pathogen evolution, the effects of intensified farming, and the care of aging companion animals. They are well suited to careers in a range of areas, including veterinary research, veterinary diagnostic laboratories, Civil Service, charity advocacy, teaching, as well as research in the pharmaceutical and agricultural industries. Many of our students studying this degree aspire to study veterinary medicine.

## Key Facts



Degree type: BSc.



UCAS Code: D906 (D907 with integrated year in industry).



Duration: 3 years (D907 is 4 years).

## Module list

Below is an indicative list of modules that you may study on this course.

### First year:

- Applied Animal Biology \*
- Exploring Genetics
- Biochemistry and the Cellular Basis of Life
- Disease Diagnosis and Control
- Equine Anatomy and Physiology
- Microbial Diversity \*
- Molecular Laboratory Skills
- Study and Communication Skills \*

### Second year:

- Animal Breeding: Genetics and Reproduction
- Immunology
- Research Methods \*
- Veterinary Health.

### Final year:

- Behaviour and Welfare of Domesticated Animals
- Research Project \*
- Veterinary Infectious Diseases
- Veterinary Pharmacology and Disease Control.

See our website for the optional modules you may select to develop your specialist interests.

\* also available partially or entirely through the medium of Welsh.



# Agriculture (Foundation)

FdSc

With integrated year in industry

(D403)

This degree is an excellent option for those who wish to train as managers of agricultural enterprises, or to retrain and pursue a career in agriculture. Students who successfully complete this course to the required standard can progress onto our BSc Agriculture degree.

On this course you will be challenged with real-life scenarios so that you can study a blend of science, technology, and farm management to explore and understand the way in which modern agricultural methods produce food in a sustainable manner and provide a profit for the farm business. You will cover all aspects of agricultural production systems, while also developing a detailed understanding of the changing farming landscape, and the skills and theoretical knowledge needed to manage a sustainable business.

Opportunities for Agriculture (Foundation) students at Aberystwyth include:

- teaching by leading experts and researchers in their field
- visits to farms and agri-businesses throughout the UK as an integral part of the course
- work experience opportunities in the UK and overseas.

## Employability

Students graduating with a Foundation Degree in Agriculture enter a variety of technical and managerial roles at enterprise and farm level. You will be able to adopt best practices that incorporate the very best of current research, and husbandry practices that allow you to tackle the challenges of livestock and crop management in a changing and challenging physical and financial environment.

## Key Facts



**Degree type:** Foundation.



**UCAS Code:** D402 (D403 with integrated year in industry).



**Duration:** 2 years (D403 is 3 years).

## Module list

Below is an indicative list of modules that you may study on this course.

### First year:

- Precision Agricultural Technology
- Animal Science
- Business, Economics and Land Use
- Crop and Grassland Management
- Introduction to Livestock Production Systems \*
- Study and Communication Skills \*
- The Agricultural Industry \*
- Soil and Plant Science
- The Development and Management of British Habitats \*

### Second year:

- Agronomy and Crop Improvement
- Business Budgeting and Appraisal
- Food, Farming and the Environment \*
- Livestock Production Systems \*
- Research Methods \*
- Science and Technology in Agriculture.

See our website for the optional modules you may select to develop your specialist interests.

\* also available partially or entirely through the medium of Welsh.



# Integrated Masters schemes

## MAg

Agriculture	(D404)
Agriculture with Animal Sciences	(D4D4)

Our Integrated Masters schemes offer you the opportunity to combine a BSc with an extra year of study so that you graduate with a Masters-level qualification. These degrees develop the breadth and depth of your knowledge and prepare you to be subject specialists able to make effective use of state-of-the-art innovations within the agricultural industry. They can also serve as a stepping stone to further research degrees and will develop the skills needed by today's professionals.

During your Masters-level final year of study, you will have the opportunity to apply your subject-specific knowledge and understanding to an independent, scientific research project conducted in close collaboration with one of our Institute's research groups. You will also study taught modules aimed at giving you insight into the most current techniques and knowledge in the agricultural sciences.

Opportunities for Integrated Masters students at Aberystwyth include:

- university farms that are home to a 350 cow dairy herd being milked through robotic parlours, 1,000 ewes including a flock of pedigree Texel sheep and commercial arable and forage crops and grassland
- crop science and production research facilities that include the UK's National Plant Phenomics Centre, plant breeding programmes that underpin commercial seed production, a seed biobank that is part of the UK Plant Genetic Resources Group, hydroponic crop research facilities, biofuel crop research programmes and the Biorefining Centre of Excellence (BEACON)
- livestock science, production and health facilities that include the Small Ruminant (Sheep) Platform of the UK's Centre for Innovation Excellence in Livestock, the VetHub1 Bovine Tuberculosis Research Facility, Veterinary Parasitology facilities and a close working relationship with the Wales Veterinary Science Centre
- the Pwllpeiran Upland Research Station and the Aberystwyth Innovation and Enterprise Campus, home to the Future Foods Centre which is a food grade environment for the testing, validation and improvement of existing and novel materials as foods.

## Key Facts



Degree type: MAg.



Duration: 4 years.

## Core module list

Below is an indicative list of core modules that you may study on this course.

### Final year:

- MBiol Research Project
- Research Methods in the Sciences.

## Employability

Our Integrated Masters degrees have been specifically created to meet the increasing demand for suitably qualified personnel to work at high level within the agricultural and allied industries. The subject specialist skills developed on this course will allow you to target careers in agricultural consultancy, agronomy, farm management, livestock health and nutrition and all other allied roles. The Integrated Masters in Agriculture is also a recognised alternative to MSc for progression to a PhD studentship, as well as an excellent foundation for a career as a professional scientist.



# Integrated year in industry

If you want to broaden your horizons and get a taste of the workplace or experience a career through a work placement, then the integrated year in industry will strengthen and improve your career prospects after graduating. The majority of our single honours courses are available with the option of an integrated year in industry.

The integrated year in industry takes place in your third year, after which you will return to Aberystwyth to complete your degree in your fourth year. The year is assessed and contributes towards your final degree mark.

#### Advantages:

- More employable when you graduate
- More likely to have a higher starting salary
- More likely to secure a graduate level job.

#### Our own students have identified additional advantages:

- Find out what you would actually like to do as a graduate
- Great experience - exploring a new area which can be abroad
- Makes your final year easier
- Develop your social and professional networks.

Applications and interviews can be time-consuming and you will graduate a year later than your university friends, but the advantages of the integrated year in industry definitely outweigh the disadvantages.

#### What support is available?

- Support is provided by an academic member of staff primarily responsible for the integrated year in industry students and the department's own Careers consultant, working hand in hand with the Careers Service
- In your first year you will receive guidance on how to explore career opportunities and enhance employability
- In your second year you will receive help searching for posts, writing CVs, cover letters and making applications. You will receive formal interview practice and official approval of your placement(s)
- During your Year in Industry you will receive regular contact and support and will be visited by an academic supervisor.

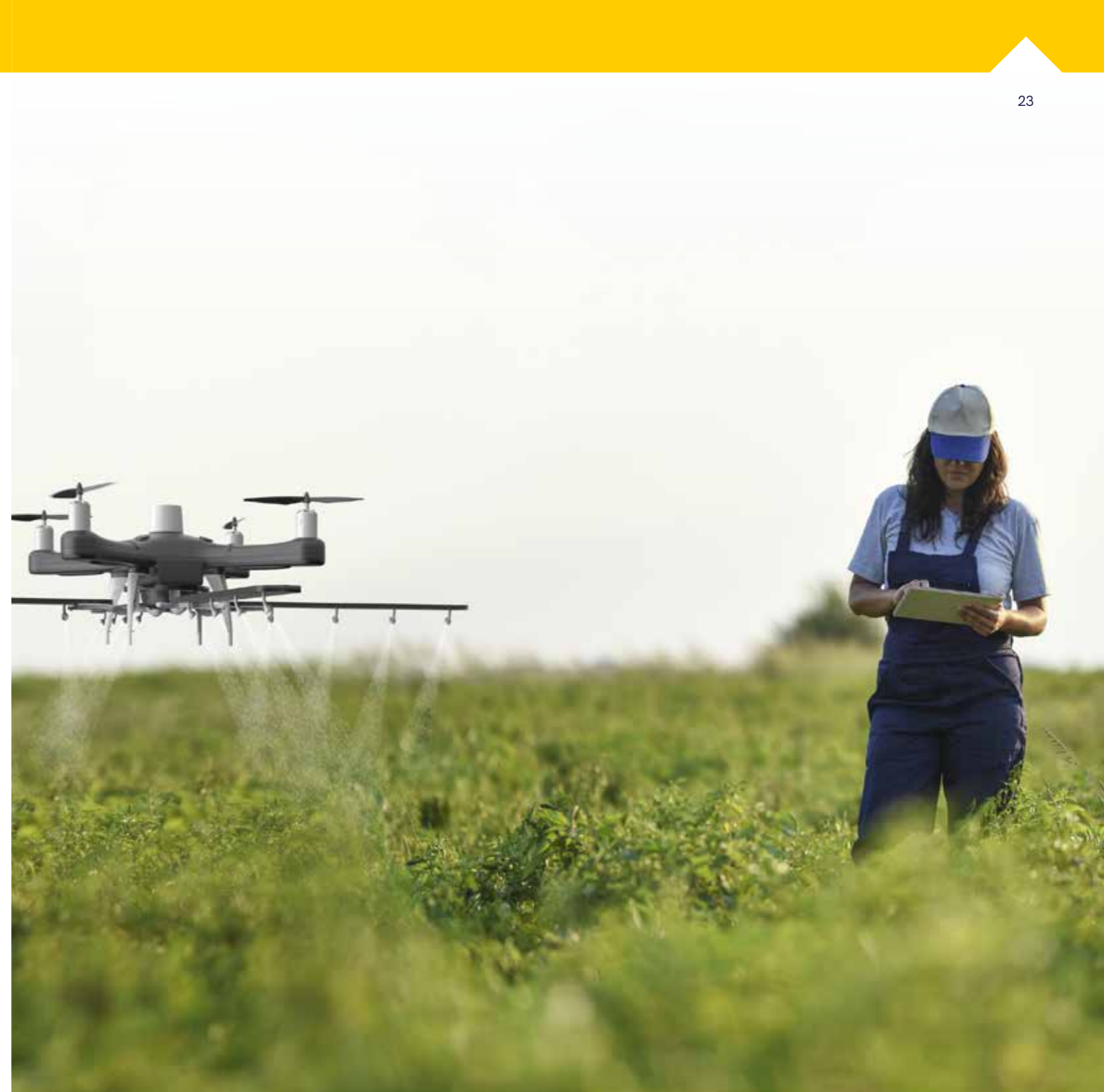
---

## Megan, McDonald's Progressive Young Farmer Programme, UK

My placement is with Avara Foods and Cargill Protein Europe. I am following the poultry from breeding parentstock, hatching and rearing broiler chicks through to primary processing in the factory. I have worked within the New Product Development team as well as on the factory floor, logistics and customer relations. I finish the year working in a McDonald's restaurant for 3 days, serving the final product.

After my year in industry, I view my degree in a completely different perspective; I can now appreciate how what I am learning at University is applicable in the agricultural sector. I would definitely recommend the programme and if you are considering applying for a placement next year - cer amdani!/go for it!

---



# Global opportunities



Aberystwyth's Global Opportunities team offer an exciting range of options for you to go overseas as part of your degree: from short courses and volunteering opportunities in the summer, to a full semester or year abroad studying your chosen subject at one of our partner universities.

The University also offers a number of courses which include an integrated year studying abroad, enabling you to study at one of our European or international partner universities for one or two semesters during your third year, returning to Aberystwyth for your final year and graduation.

Reports have shown that students who study abroad are more attractive to employers and earn more than their peers. Take advantage of the opportunity of a lifetime while improving your critical skills by choosing to study abroad.



Sydney



Denmark



Montana



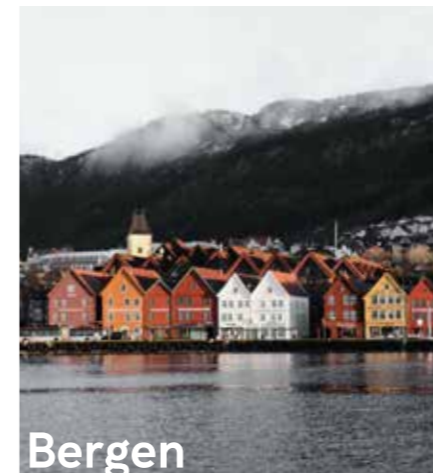
St. Petersburg



Hong Kong



Washington, DC



Bergen



Austria



Ottawa

# Studying through the medium of Welsh

All undergraduate degree schemes in the Department of Life Sciences can be studied partly through the medium of Welsh. For some degree schemes, more than half the modules are available through the medium of Welsh.

You may choose to present all your coursework, including assignments and oral presentations, through the medium of Welsh and complete your written examinations in Welsh, regardless of the module's medium of instruction. The Department also ensures that all Welsh-speaking students are allocated a personal tutor and dissertation tutor who can speak the language. These teaching arrangements mean that our Welsh-medium provision is open to students from a range of different Welsh language backgrounds.

Studying through the medium of Welsh is advantageous in many ways, including:

- increased job prospects
- being taught in smaller groups
- being part of a friendly and welcoming Welsh-speaking community.

All students studying Welsh medium modules will also be eligible for the University's Welsh medium study scholarship, worth up to £250 per year. Furthermore, many of our degree courses are eligible for Coleg Cymraeg Cenedlaethol undergraduate scholarships worth £1500 over three years. For more information about these scholarships and for a list of the eligible degree schemes please see the Coleg Cymraeg Cenedlaethol website: [www.colegcymraeg.ac.uk/en/study/mediumofwelsh](http://www.colegcymraeg.ac.uk/en/study/mediumofwelsh)



# Research

The Department of Life Sciences is an internationally-recognised research and teaching centre providing a unique base for research in response to global challenges such as food security, bioenergy and sustainability, and the impacts of climate change. Our scientists conduct research on genes and molecules, whole organisms and the environment.

The National Plant Phenomics Centre (NPPC) is an important resource for many of our crop scientists. It offers state-of-the-art phenotyping platforms with the aim of delivering integrated phenotyping solutions for key crop and model species. Through the use of innovative technologies it is able to measure plant performance and physiology at different scales, from the molecular and cellular to organ and population level.

## Animal Systems

The Animal Systems group studies more efficient ways of producing high quality animal products with emphasis on ruminants (dairy, beef and sheep). The aim is to develop innovative agricultural systems to deliver improvements in agricultural productivity, environmental protection, economic stability and animal health, and feeding systems that will improve the health of the animal and the quality of the animal product, which will ultimately result in a healthier consumer.

## Breeding Methodologies

The Breeding Methodologies group focuses primarily on developing new approaches to plant breeding, developing novel technologies for genotyping and phenotyping and identifying the genetic basis of traits useful to breeders and for conservation. The main plant species researched include ryegrass, legumes, oats, clover and Miscanthus.

## Herbivore Gut Ecosystem

This group's interests lie in understanding and manipulating rumen function. A key aim is to minimise the production of undesirable emissions, such as methane and nitrogen, and their environmental impact by ruminant livestock, mainly cattle and sheep. Molecular approaches, including high-throughput DNA sequencing for metagenomic and transcriptomic profiling, and non-targeted metabolite analysis are used. With these technologies we develop and apply integrative approaches to the microbial ecology of feed utilisation and to explore the interactions between bacteria, fungi, ciliates and methanogens.

## Public Good Plant Breeding

This group focuses on the potential of genetic improvement to support multifunctional land-use and alleviate environmental impacts as well as coping with problems associated with climate change. Researchers develop innovative grass, clover, oat and miscanthus varieties that have a significant impact in the market and on end use. By combining conventional and molecular approaches to plant breeding with high throughput phenotyping the group aims to develop improved plant varieties that are marketed by our commercial partners.

## Plant Biology for the Sustainable Bioeconomy Research Group

This group undertakes internationally recognised plant biology and breeding relevant to biomass production by collecting and characterising relevant germplasm in the centres of diversity; breeding high yielding hybrids with drought, cold, heavy metal resilience to allow plants to be grown on marginal lands in current and future climates; and understanding and manipulating flowering and senescence for breeding better hybrids. Key techniques used in our research include nutrient management, nitrogen-fixation, potassium-recycling and carbon sequestration.





# Research highlights

## Alpacas at the upland research centre

Our researchers are investigating whether the South American alpaca is suited to life in the Welsh hills where grass quality is often lower and unsuitable for sheep. This could provide new opportunities for farming in upland areas. The herd are happily settling down to life in the Cambrian Mountains and have produced two baby alpacas or cria in recent months.



## Turning farm waste into high-protein animal feed

Our scientists are investigating how slurry and wastewater from the dairy industry could be used to produce a high-energy, low-cost and environmentally-friendly feed for livestock. The aim is to use farm waste to grow duckweed - a fast-growing plant biomass which can then be used as a protein source for feeding livestock. It is anticipated that using the waste products on the farm could lead to improved water quality in rivers and coastal areas.

## Mixed farming and agroforestry systems have many advantages

Our researchers will explore different types of mixed agricultural systems, including agroforestry. Mixed farming can result in many benefits in terms of general sustainability, resilience to climate change, better utilisation of nutrients and biodiversity. The project is built around networking and co-learning. The backbone of the project is a network of farmers, from 10 different European countries, who have existing knowledge of different types of mixed farming that others in the networks, and beyond, can benefit from.



## Fighting Bovine TB

Our scientists have developed skin tests which can distinguish between animals infected with bovine TB and those which have been vaccinated against the disease. The new tests will facilitate global vaccination programmes that will reduce the transmission of this highly infectious disease from cattle to humans.

# How to apply

Once you've decided what course you want to study and where, you'll be able to start the university application process. Here's a brief overview of the process and our procedures here at Aberystwyth.

## 1 Apply through UCAS.com

Deadline 15 January. Aberystwyth University institution code: A40.

**Top tip:** You'll be given a 10-digit UCAS ID number. Keep this to hand as you'll be asked for it many times.

## 2 The University will consider your offer

**Top tip:** Use UCAS Track to keep an eye on your application. At Aberystwyth we aim to make a decision within four weeks.

## 3 The offer will show on UCAS track

## 4 Decide where to go

Once you've received all your offers, you'll need to decide which university you want to go to, within a set time. This is when you'll need to note which universities will be your firm and insurance choices.

## 5 Accommodation

Once you've chosen your firm/insurance choice you'll be able to apply for your accommodation (April onwards).

## 6 Results day

UCAS Track will confirm your offer of a place. If you're not clear what the offer is, contact the university directly. Make sure you're not on holiday on results day. If you don't get the grades you've hoped for, you may want to consider entering Clearing.

## 7 Start packing!





Department of Life Sciences,  
 Penglais Campus,  
 Aberystwyth University,  
 Aberystwyth,  
 Ceredigion,  
 SY23 3DA, UK

☎ +44 (0) 1970 62 1986

@ ivers@aber.ac.uk

f /IBERSAberUni

🐦 @ibers\_aber

Designed and produced by  
 Global Marketing and Student Recruitment,  
 Aberystwyth University 2022.



Printed on  
 100% recycled paper