School of Food Science and Nutrition
FACULTY OF MATHEMATICS AND PHYSICAL SCIENCES

UNIVERSITY OF LEEDS

FOOD SCIENCE AND NUTRITION
UNDERGRADUATE DEGREES 2019
IMPORTANT INFORMATION

Information provided by the University such as in presentations, University brochures and the University website, is accurate at the time of first disclosure. However, courses, University services and content of publications remain subject to change. Changes may be necessary to comply with the requirements of accrediting bodies or to keep courses contemporary through updating practices or areas of study. Circumstances may arise outside the reasonable control of the University, leading to required changes. Such circumstances include, industrial action, unexpected student numbers, significant staff illness (where a course is reliant upon a person’s expertise), unexpected lack of funding, severe weather, fire, civil disorder, political unrest, government restrictions and serious concern with regard to the transmission of serious illness making a course unsafe to deliver. After a student has taken up a place with the University, the University will look to give early notification of any changes and try to minimise their impact, offering suitable alternative arrangements or forms of compensation where it believes there is a fair case to do so. Offers of a place to study at the University will provide up to date information on courses. The latest key information on courses, entry requirements and fees can be found at courses.leeds.ac.uk. Please check this website before making any decisions.
SCHOOL OF FOOD SCIENCE AND NUTRITION

Food belongs at the heart of our culture, bringing families and friends together. At the same time, food and its nutrients are essential for our survival, and food-related health issues are regarded by many as being as important as climate change.

The study of food and nutrition is a fast-moving discipline, full of practical, technical and intellectual challenges. It draws on knowledge from a range of disciplines including chemistry, biology, physics, psychology, business, and even geography or mathematics!

At Leeds we have an active research environment which enables us to offer exciting courses taught by experts who are leaders in their fields.

Your degree from the University of Leeds and the wider experience you’ll gain while you’re studying here will help you stand out from the crowd and secure that all-important graduate job.

Our degrees
Food Science MSci, BSc
Food Science and Nutrition MSci, BSc
Nutrition MSci, BSc

In recognition of our strong and continued commitment to gender equality, we have received a prestigious Athena SWAN Bronze Award.

This is awarded by the Equality Challenge Unit, the national body that promotes equality in the higher education sector.
LEARNING AND TEACHING

We were ranked 2nd in the UK for Food Science in the Times and The Sunday Times Good University Guide 2018.

We achieved 83% overall student satisfaction in the National Student Survey 2017 (NSS).

We were ranked 2nd in the UK for Food Science in the Times and The Sunday Times Good University Guide 2018.

But it’s not just us who believe we’re great. We’re consistently ranked in the top three places in the UK to study food science and nutrition in major lists such as the Guardian University Guide, The Times and The Sunday Times Good University Guide and The Complete University Guide.

We have always been a leader in the teaching of food science and nutrition subjects, and we’ve established a reputation as one of the world’s leading universities in the field.
RESEARCH-LED TEACHING

All our academic staff are involved in both research and teaching. This means that you’ll be taught the very latest developments by leading researchers in their fields. We also invite external experts from industry and government to share their knowledge with you.

ACCREDITATION

All our BSc courses are accredited by the Institute of Food Science & Technology (IFST), and our BSc Nutrition course is accredited by the Association for Nutrition (AfN). This means that our degrees have been recognised as providing a high-quality and industry-relevant education.

DISCOVERY MODULES

As well as the compulsory and optional modules that make up your course, you’ll also have the opportunity to choose discovery modules. There are many discovery modules to choose from, allowing you to pursue interests outside food science and nutrition during your course.

INTEGRATED MASTERS

We offer a range of three-year BSc degrees and four-year MSci, BSc Integrated Masters degrees.

Masters is a four-year degree that extends your studies to Masters level, enhancing your career prospects or setting you up to pursue a PhD.

Our MSci, BSc degrees have an industrial and a non-industrial placement variant. Read more on the course pages.

WORLD-LEADING FACILITIES

We have all the facilities you’ll need to support and enhance your academic studies and the University is investing millions of pounds each year to ensure we maintain a first-class academic environment. From laboratories and lecture theatres to one of the largest and most impressive libraries in the UK, you’ll find everything you need for your studies right here on campus.

STUDENT SUPPORT

We take fantastic care of our students. You’ll be assigned a personal tutor to guide you through your studies with us, and there’s lots of support available from fellow students through our peer mentor scheme.

Using our Virtual Learning Environment, you can access learning resources including reading lists, past exam papers, skills and assessment guides. You’ll also be able to play back video recordings of your lectures and download lecture notes.

JOIN FOODSCI SOC

You can also join the student-run food science and nutrition society, FoodSciSoc. The society brings students together to help each other with problems, have fun through social events such as cinema trips and pub quizzes, and take part in activities such as cooking demonstrations. There are also many other food and drink-related societies that you could join, such as the Food4Change which raises awareness for food waste, sustainability and health issues through hosting guest speakers, running events around campus and being involved in projects both within and outside the university, such as the Real Junk Food Project.
REWARDING CAREERS

Employability is high on our agenda, and 96% of our recent graduates have successfully secured employment or gone on to further study within six months of graduating (latest Destinations of Leavers from Higher Education (DLHE) survey).

Throughout your time with us you will not only be supported by the School’s dedicated employability officer, but you will also be able to access additional employability support from the wider Employability Team, which includes a qualified careers consultant and a Faculty-wide employability and placements officer.

Recent graduates have secured positions at organisations including:

- Tesco
- Bakkavor
- Modelez International
- Premier Foods
- Sainsbury’s
- Arla Foods
- Heart Research UK
- Samworth Brothers
- NHS
- The Serious Sweet Company

CAREERS SUPPORT

We support you from your first year through to your final year with a series of employability and careers activities.

We’ll help you through the career decision-making process, support you in your applications for work experience and graduate jobs, and bridge the gap between you and employers.

You’ll benefit from:

- Professional development modules, giving you the opportunity to develop the essential skills required for a career in food science and nutrition
- Timetabled employability sessions at all stages of your course
- Practical help with developing your CV, making applications, and preparing for interviews and assessment centres
- Networking opportunities
- One-to-one guidance or coaching appointments to focusing on you and your future
- Support with seeking summer, international and volunteering opportunities.

We hold an annual Food Science and Nutrition Employability Fair where students can network with a range of alumni and employers to find out about careers and access opportunities. Companies represented recently include Kellogg’s, PepsiCo, Nestlé and Mondelez International.

In addition to this course-specific fair, our Careers Centre and Employability team organises an annual STEM Careers Fair, giving you many more opportunities to meet graduate recruiters and gain an insight into a range of career paths.

The University of Leeds is a top five university targeted by employers The Graduate Market in 2017, High Fliers Research. Recent employers on campus targeting students have included Mars, ASDA, Associated British Foods, Iceland Foods, Kerry Group and Warburtons.
INDUSTRIAL PLACEMENT

All our degree courses include the option to complete a placement year in industry, which would be the third year of your course.

Our MSci, BSc (Industrial) degrees incorporate an industrial placement as standard. But we offer flexibility, so if you’re not yet sure if a placement year is for you, you can always make your mind up when you are here, normally at the start of your second year. Placements are also permitted on the BSc and MSci, BSc courses.

A placement year is a great opportunity to learn new knowledge and skills while putting those you have already developed at university into practice. It is a great way to enhance your employability while gaining a real understanding of what working in the industry will be like - ultimately helping you decide what kind of career you might like to follow after university.

Throughout the year, our employability officer promotes industrial placement opportunities to students and supports applications to a range or large and small organisations across one of the world’s largest industries.

In recent years, our students have gained work experience with some of the biggest and most well-known organisations in the industry, including:

- Asda
- Sainsbury’s
- Aunt Bessie’s
- Co-op
- Marks and Spencer
- Mondelez International
- MyProtein (The Hut Group)
- The Walt Disney Company
- Mondelez International
- MyProtein (The Hut Group)
- The Walt Disney Company

On successfully completing your placement year, you will be awarded the ‘Industrial’ variant in your degree title to demonstrate your unique expertise to future employers.

STUDY ABROAD

Our BSc courses give you the chance to study abroad as part of your degree.

You would typically spend your third year studying at a partner institution and then return to Leeds for your final year. Spending a year living and studying abroad is a unique prospect. You’ll have the chance to immerse yourself in another culture and gain unforgettable experiences.

You’ll also gain an overseas education and develop new skills that will impress future employers. We have relationships with many international universities, representing some of the best places to study abroad across the world.

“One of my favourite things about the course was the opportunity to spend a year either in industry or studying abroad. This was also one of the reasons that I chose to go to Leeds. I opted for the study abroad year and spent a year at Monash University in Melbourne. This was one of the highlights of the course as it gave me so much experience, both from an academic point of view and in terms of social, cultural and life experience.”

CLAIRE BROUARD
STUDY ABROAD YEAR IN MELBOURNE, AUSTRALIA

“IT’S BREATH-TAKING; THE AMOUNT OF SKILLS I HAVE LEARNED, THE INSIGHT I HAVE GAINED INTO THE WORKING WORLD, MY PERSONAL DEVELOPMENT AND PROFESSIONAL ATTITUDE WORKING WITH OTHERS AS WELL AS THE INDEPENDENCE AND IMPORTANCE OF MY OWN WORK. I NOW KNOW DEFINITELY WHERE I WANT TO BE IN THE FUTURE, HAVE THE CONTACTS TO HELP AND ALSO DEVELOPED A MATURE HARD WORKING ATTITUDE WHICH I’M SURE WILL BE OF GREAT USE IN MY FINAL YEAR AND BEYOND.”

BEN KEW, FOOD SCIENCE
NEWLY WEDS FOODS LTD
SEASONINGS R&D FOOD TECHNOLOGIST
Food Science is a far-reaching discipline that applies pure science subjects, such as chemistry, biology, nutrition, biochemistry, and microbiology, to studying the nature, properties and composition of foods and changes which occur during processing and storage.

Our Food Science course is specifically designed to relate scientific principles to practical and commercial applications relevant to the food industry. The programme will give you an in-depth understanding of food processing, food texture, flavour, food formulations, product development and food safety. You'll investigate operations that are applied to preserve foods, as well as special procedures which are used to produce everyday commodities. You'll also study the effects food and drink can have on our health and wellbeing.

In year 1 you will be introduced to scientific principles related to the composition of foods, the sources of nutrients in the diet, and essential chemical and physical behaviour of foods during processing and storage. You will also study key processing technology.

In year 2 you will deepen your understanding of food texture, flavour and taste. You will be introduced to the theory behind food formulation and new product development.

On the BSc programme, there is an optional placement year between the second and final year. You can choose to undertake an industrial placement or spend a year studying abroad. On the MSci, BSc degree, you can choose to undertake an integrated industrial placement with a food-related organisation, which replaces your third year, or you can choose to complete a four-year course.

In your final year, you'll apply your knowledge and skills to designing new foods, from concept, through formulation and processing to sensory evaluation, packaging and marketing. Your team project based on new product development will explore the role of food scientists in developing and marketing new healthy food ranges for food manufacturers. You'll also undertake an individual research project, where you'll be given a choice of topics to investigate, which will relate to the research activity in the School. Students on the MSci, BSc programme will also study Masters-level modules.
This list of modules will give you a flavour of what you will study but may change from time to time. For a complete list of our latest module information visit courses.leeds.ac.uk.

**Food Science**

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<th>Year 1 - Compulsory modules</th>
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<td>Studying in a Digital Age (Food Science)</td>
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<td>Innovation and Design Principles for Foods</td>
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<td>Food Colloids: Formulation of Creamy, Fatty and</td>
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<td>Introduction to Food Product Development</td>
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<td>Food Quality Assurance</td>
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<th>Year 3 - Compulsory modules</th>
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<tr>
<td>Food Processing: from Farm to Shop</td>
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<td>How Ingredients Interact in Foods</td>
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<th>Year 4 (MSci) - Compulsory modules</th>
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<td>Research Project</td>
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<th>Year 4 (MSci) - Optional modules</th>
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<tr>
<td>Physical Aspects of Food</td>
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<td>Food Biotechnology</td>
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These are typical modules/components studied and may change from time to time.
Nutrition is a fast-moving discipline that focuses on understanding the role of diet in maintaining a healthy human body and the prevention of disease.

Our Nutrition course is designed to develop understanding of the science underpinning the relationship between food, health and wellbeing, taking into account the scientific, social and ethical considerations that inform the nutrition profession.

In year 1 you will be introduced to scientific principles related to nutrient structure and function, sources of nutrients in the diet, and essential elements of physiology and biochemistry.

In year 2 you will deepen your understanding of the scientific basis of nutritional recommendations for the whole population. The relationship between nutrition and energy metabolism will also be explored in the context of the global obesity crisis. On the BSc programme, there is an optional placement year between the second and final year. You can choose to undertake an industrial placement or spend a year studying abroad. On the MSci, BSc degree, you can choose to undertake an integrated industrial placement with a food or nutrition-related organisation, which replaces your third year, or you can choose to complete a four-year course. If you choose the MSci, BSc Industrial variant, during your placement, you’ll carry out an extended project, which will further develop your knowledge. You’ll also improve your practical transferable skills, such as team-working and problem-solving, or you can choose to complete a four-year integrated masters course.

In your final year, you’ll explore nutrition policy and public health, discussing the role of scientists, industry, government and consumers in the policy-making process. You’ll also examine the concept of personalised nutrition. A team project based on new product development gives you the opportunity to explore the role of industrial nutritionists in developing and marketing new healthy food ranges for food manufacturers. You’ll also undertake an individual research project. Students on the MSci, BSc programme will study Masters-level modules.

“After graduating I would like to study a master degree in Dietetics, which would allow me to practice as a dietitian in my home country. Being a dietitian is a meaningful career; you can help people to achieve a healthy and nutritious body through a well-balanced diet.”

NATALIE CHOI, BSC NUTRITION

FOR FULL COURSE DETAILS, INCLUDING MODULE INFORMATION, VISIT courses.leeds.ac.uk
## MODULES

This list of modules will give you a flavour of what you will study but may change from time to time. For a complete list of our latest module information visit courses.leeds.ac.uk.

### Nutrition

#### Year 1 - Compulsory modules

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<td>Key Skills in Food and Nutritional Sciences</td>
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#### Year 2 - Compulsory modules

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<td>Food Analysis</td>
<td>Principles of Research: Diet in Populations</td>
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<td>Microbiological and Chemical Food Safety</td>
<td>Literature Review in Food Science and Nutrition</td>
<td>Physiology II - Integration Between Physiology and Nutrition</td>
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<td>Nutritional Issues in the Life Cycle</td>
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#### Year 2 - Optional modules

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<td>Food and the Allergic Reaction</td>
<td>Introduction to Food Product Development</td>
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<td>Nutrition in the Prevention and Treatment of Disease</td>
<td>Food Quality Assurance</td>
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<td>Careers in Food and Nutrition</td>
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#### Year 3 - Compulsory modules

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<td>Food Product Development - Team Project</td>
<td>Obesity and Personalised Nutrition in the 21st Century</td>
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<td>Critical Appraisal of Scientific Literature</td>
<td>Nutrition Policy and Public Health</td>
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<td>Food and Cancer</td>
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#### Year 4 (MSci) - Compulsory modules

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<td>Impacts of Food Processing on Nutritional Quality</td>
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These are typical modules/components studied and may change from time to time.
FOOD SCIENCE AND NUTRITION

Food Science and Nutrition BSc:
UCAS code DB64 / Entry grades ABB / Duration 3 years

Food Science and Nutrition MSci, BSc
UCAS code DB65 / Entry grades AAB / Duration 4 years

Food Science and Nutrition MSci, BSc (Industrial):
UCAS code DB66 / Entry grades AAB / Duration 4 years

Our Food Science and Nutrition course provides a balance between the scientific aspects of food science and nutrition and the wider implications of diet on our health and wellbeing. It addresses key issues concerning both producers and consumers, including aspects of manufacture, marketing, legislation, labelling and retail.

In year 1 you will be introduced to scientific principles related to nutrient structure and function, sources of nutrients in the diet, the concept of 'a balanced diet' and essential elements of physiology and biochemistry. You will also gain a practical understanding of food materials and the importance of food as a carrier of nutrients.

In year 2 you will develop your understanding of the links between diet and health outcomes. You'll examine food texture, flavour and taste and the elements and concepts of food allergy. On the BSc programme, there is an optional placement year between the second and final year. You can choose to undertake an industrial placement or spend a year studying abroad. On the MSci, BSc degree, you can choose to undertake an integrated industrial placement with a food-related organisation, which replaces your third year, or you can choose to complete a four-year course. If you choose the MSci, BSc Industrial variant, during your placement, you'll carry out an extended project, which will further develop your knowledge. You'll also improve your practical transferable skills, such as team-working and problem-solving.

In your final year, you will work on a team project based on new product development, exploring the role of food and nutrition scientists in developing and marketing new healthy food ranges for food manufacturers. You will also develop your understanding of 'functional foods' and how you can use food and diets to prevent diet-related disease. Students on the MSci, BSc programme will study Masters-level modules.

“The best aspect of studying on my course at the University of Leeds has been our professors. Most of the professors at the School of Food Science and Nutrition are researchers in their field and have both an in-depth understanding of the subject and knowledge about recent research in the field. There is always something new to learn from them.”

PAVITHRA BHASKAR
BSc FOOD SCIENCE AND NUTRITION
# Modules

This list of modules will give you a flavour of what you will study but may change from time to time. For a complete list of our latest module information visit courses.leeds.ac.uk.

## Food Science & Nutrition

### Year 1 - Compulsory modules

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<td>Bubbly Foods</td>
<td>Introduction to Food Product Development</td>
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<td>Innovation and Design Principles for Foods</td>
<td>Microbiological and Chemical Food Safety</td>
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<td>Functional Foods</td>
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### Year 4 (MSci) - Compulsory modules

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### Year 4 (MSci) - Optional modules

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<td>Quality</td>
<td>Nutrition: Policy and Practice</td>
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<tr>
<td>Impacts of Food Processing on Nutritional</td>
<td>GMOs, Antibodies and PCR</td>
<td>Nutrition Through the Lifecourse</td>
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These are typical modules/components studied and may change from time to time.
ENTRY REQUIREMENTS
AND HOW TO APPLY

ENTRY REQUIREMENTS
Our entry requirements range from AAA to ABB at A-level depending on which course you choose. For all our courses, your A-levels must include at least two science subjects (except for BSc Food Science and Nutrition where your A-levels must include at least one science subject) and at least one from Chemistry, Physics, Biology or Mathematics.

Where an A-level science subject is taken, we require a pass in the practical science element (if applicable) alongside the achievement of the A-level at the stated grade. A-level General Studies and Critical Thinking are not accepted.

We also accept a variety of alternative qualifications (check our website for details).

ENGLISH LANGUAGE REQUIREMENTS
GCSE English Language grade C (or above) or an equivalent recognised English language qualification, e.g. IELTS 6.0 (6.5 for MSci courses) overall with no less than 5.5 (6.0 for MSci courses) in each component.

ACCESS TO LEEDS
We’re committed to identifying the best possible applicants, regardless of personal circumstances or background. Access to Leeds is an alternative admissions scheme which accepts applications from individuals who might be from low income households, in the first generation of their immediate family to apply to higher education or have had their studies disrupted.

For more details visit leeds.ac.uk/a2l

HOW TO APPLY
All undergraduate applications should be made through the universities and colleges admissions service (ucas).

Full instructions on how to apply are available at ucas.com

APPLICANT DAYS
Suitable applicants will be invited to an applicant day, which gives you the opportunity to meet our academic staff and students, enjoy a tour of our facilities, view student accommodation and find out more about your course.

SCHOLARSHIPS
The University of Leeds has a long-standing history of helping students to manage their finances while at University, with a comprehensive range of bursaries and scholarships available.

For more information, visit physicalsciences.leeds.ac.uk/scholarships

CONTACT US
If you require any more information about our courses, modules, or any other aspect of studying food science and nutrition at Leeds, please contact our Undergraduate Admissions team.

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University of Leeds
Leeds LS2 9JT, UK

Tel: +44 (0)113 343 2958
Email: foodug@leeds.ac.uk

FIND US ONLINE

food.leeds.ac.uk
@foodscileeds
IMPORTANT INFORMATION

Information provided by the University, such as in presentations, University brochures and on the University website, is accurate at the time of first disclosure. However, courses, University services and content of publications remain subject to change. Changes may be necessary to comply with the requirements of accrediting bodies or to keep courses contemporary through updating practices or areas of study. Circumstances may arise outside the reasonable control of the University leading to required changes. Such circumstances include industrial action, unexpected student numbers, significant staff illness (where a course is reliant upon a person’s expertise), unexpected lack of funding, severe weather, fire, civil disorder, political unrest, government restrictions and serious concern with regard to the transmission of serious illness making a course unsafe to deliver. After a student has taken up a place with the University, the University will look to give early notification of any changes and try to minimise their impact, offering suitable alternative arrangements or forms of compensation where it believes there is a fair case to do so. Offers of a place to study at the University will provide up-to-date information on courses. The latest key information on courses, entry requirements and fees can be found at courses.leeds.ac.uk. Please check this website before making any decisions.
What can biology learn from physics, and how can environmental science be advanced with mathematics? Natural Sciences focuses on how interdisciplinary study and research can tackle the latest scientific problems and push back the frontiers of knowledge.

As a natural scientist, you will be uniquely positioned to tackle this next generation of scientific challenges because the concepts and language of multiple scientific disciplines are taught to you from day one of your degree.

At Leeds we have an active research environment which enables us to offer exciting courses taught by experts who are leaders in their fields. You’ll be directly engaged in research through project work.

Your degree from the University of Leeds and the wider experience you’ll gain while you’re studying here will help you stand out from the crowd and secure that all-important graduate job.

“Leeds has always been at the forefront of interdisciplinary research, and achieving the Teaching Excellence Framework Gold Award also shows how we translate these skills to deliver an outstanding education and exceptional student experience.”

DR PAUL BEALES
NATURAL SCIENCES PROGRAMME MANAGER

In recognition of our strong and continued commitment to gender equality, we have received a prestigious Athena SWAN Bronze Award.

This is awarded by the Equality Challenge Unit, the national body that promotes equality in the higher education sector.
The problems facing today's scientists are increasingly complex, and it’s rare that a single discipline can provide all the answers. Interdisciplinarity and collaborative working are key to modern research, and they’re central to natural sciences too.

Natural Sciences can be studied as a three-year BSc or a four-year Masters, BSc degree. Both allow you to develop specialisms from a wide range of science subjects, with a particular focus on combining the strengths of each subject into an interdisciplinary framework.

This approach also recognises that not everybody’s interests fit neatly into moulds like chemist, physicist or biologist – and that by bringing together different elements of distinct branches of science, new and exciting fields of study can be explored.

With our Natural Sciences degree, you essentially build the course you want to study, and become the scientist you want to be. You choose which sciences to focus on, and how much to study of each, by choosing modules from the following subjects:

- Biology
- Biochemistry
- Chemistry
- Environmental Science
- Food Science and Nutrition
- Mathematics
- Physics

WHAT IS NATURAL SCIENCES?

The problems facing today's scientists are increasingly complex, and it’s rare that a single discipline can provide all the answers. Interdisciplinarity and collaborative working are key to modern research, and they’re central to natural sciences too.
OUR INTERDISCIPLINARY CENTRES

The University of Leeds’ interdisciplinary centres bring together scientists from all specialisms, from all over the world, to work on the latest challenges and fields of research. They represent the collaborative spirit and multifaceted expertise at the heart of natural sciences.

As an undergraduate, you’ll get to see first-hand the difference interdisciplinary research can make at these centres, which align with the scientific themes mapped out in the Natural Sciences course. You may even eventually use them for your own final year and postgraduate research projects.

THE ASTBURY CENTRE

Home to a Wellcome Trust-funded PhD programme, the Astbury Centre for Structural Molecular Biology brings together scientists and experts from physics, biology and chemistry to explore the molecular basis for life, creating a truly interdisciplinary place to teach and learn.

The Centre has cutting-edge research infrastructure for structural microbiology techniques, including a £17m investment in brand new nuclear magnetic resonance machines and electron microscopes that show how biological molecules function on the atomic level.

THE PRIESTLEY CENTRE

The Priestley International Centre for Climate is unique in bringing together world-leading expertise in all the key strands of climate change research. The focus is on new research partnerships that improve links between our physical, technological, economic and social understanding of climate change with strategies for mitigation and adaptation.

The Centre is a key partner in the development of UK national climate modelling capability, making use of extensive local and national high-performance computing resources.

THE BRAGG CENTRE

Advanced materials are changing all our lives, and a major new £96m international centre for engineering and physical sciences will help to foster a culture of interdisciplinary working in the development of novel materials to address 21st-century challenges.

Due to be completed in 2020, the Bragg Centre for Advanced Functional Materials will bring together scientists and researchers from Chemistry, Physics and Astronomy, Computing and Engineering to work on the biggest technical challenges facing industry and science.

LEEDS INSTITUTE FOR DATA ANALYTICS

Data is at the heart of many branches of science, and making sense of big datasets is a key component of the future of interdisciplinary research.

Supporting more than 20 research centres, programmes and projects, the Institute brings together researchers and data scientists from various disciplines including medicine, biological sciences, geography, transport studies, mathematics and many more.

“Interdisciplinary research provides a broader view of a specific question and, in the long run, saves time and effort while also providing more accurate and relevant analyses.”

ASIF FAZAL

NATURAL SCIENCES MNATSC
The future is interdisciplinary. Be a part of it.

The major scientific breakthroughs of the future will be interdisciplinary, with scientists from across different specialisms working together to solve the world’s biggest problems.

At Leeds, we’re at the forefront of those breakthroughs. Our approach to interdisciplinary research feeds into our teaching. Whether you want to understand more about how to combine physics and maths to study the quantum world, to model the growth of biological populations or to understand biochemistry at the atomic level, we have the perfect team to guide you.

**DISCOVERY MODULES**

As well as the compulsory and optional modules that make up your course, you’ll have the chance to take discovery modules. These allow you to pursue interests outside of natural sciences during your course.
FLEXIBLE DEGREES

Natural Sciences can be taken as a three-year BSc, or as a four-year Integrated Masters, BSc degree. It's one of the most flexible science courses you can study: you can devote your time to a particular specialism across multiple disciplines, or work towards knowing as much as possible about a variety of topics.

You also have the opportunity to spend a year studying abroad or undertaking an industrial placement. If you decide to do this, your degree will extend by a year.

There’s no need to decide anything now. You don’t even have to tell us which sciences you want to study until you arrive at Leeds.

STUDENT SUPPORT

We take great care of our students. As well as being assigned a personal tutor to guide you through your studies with us, each subject has a specialist link tutor to provide support on the programme. You’ll also be supported by fellow students through our popular peer mentoring scheme.

Using our Virtual Learning Environment, you can access learning resources including reading lists, past exam papers, skills guides and assessment guides. You’ll also be able to play back video recordings of your lectures and download lecture notes.

OUR EXPERTISE

Our Natural Sciences course is delivered by world-leading scientists from academic schools across the University. Continual investment in our schools and interdisciplinary centres means we provide them with the resources, facilities and equipment they need to keep making discoveries and ensure we stay at the cutting edge of modern science.

“Leeds prides itself for its interdisciplinary research. This made the University of Leeds a perfect place to witness how traditionally separate disciplines can come together to fulfil mutual scientific goals.”

ADIL SHAH
NATURAL SCIENCES MNATSC
CAREERS AND EMPLOYABILITY

Natural scientists who are used to working together to find innovative solutions are in high demand. Over 88% of our recent graduates have successfully secured a professional or managerial role or gone on to further study within six months of graduating (DHLE, 2015/16).

The University’s links with industry mean you will have opportunities to spend time in a workplace setting, as well as learning about the commercial applications of interdisciplinary science on your course. We’re also one of the top ten UK universities targeted by employers (The Graduate Market in 2018, High Fliers Research).

REWARDING CAREERS

Our close working relationships with a large number of key companies means that throughout your degree you’ll be exposed to industry and prepared for a career in a professional environment.

Recent graduates have gone on to work for some of the biggest companies in the world, including Covance and Johnson Matthey.

Others have secured PhD positions to work on some of the big discoveries of the future. The career options available to you will be varied and could take you to a rewarding career in government agencies, research institutes, healthcare or industry.

CAREERS SUPPORT

Our dedicated Faculty Employability team will support, guide and advise you, ensuring you graduate with a clear plan of what you want to do next. In addition to specialist face-to-face meetings, you’ll benefit from:

- timetabled employability sessions
- the opportunity for paid summer internships in local SMEs, charities, University of Leeds departments and multi-national organisations
- presentations and workshops delivered by employers.

Our Employability team also organises an annual Careers Fair, which will give you the opportunity to meet over 100 recruiters to gain an insight into graduate jobs and explore work experience and internship opportunities.

STUDENT ENTERPRISE

Some students want to start their own business when they graduate. The University’s innovative SPARK initiative can help you with business start-up support, advice and funding to develop your idea into a viable business.

You also have the opportunity to apply for the Year in Enterprise programme, which gives you the chance to take a year out to develop your business – you’ll receive a £5,000 bursary and have access to advice, mentoring and professional networks.

WE ARE PROUD WINNERS OF THE MOST IMPROVED COMMITMENT TO EMPLOYABILITY AWARD (NUE AWARDS 2018).

The Faculty of Mathematics and Physical Sciences Employability team won the Most Improved Commitment to Employability Award at the National Undergraduate Employability Awards Ceremony in 2018. This is a reflection of the unrivalled support given to our students at Leeds, and the widening pool of work experience opportunities available to students in today’s competitive market.
INDUSTRIAL PLACEMENT

An industrial placement is a fantastic way to gain work experience and find out first-hand how interdisciplinary science is practised in a non-academic setting. You’ll spend a year as an employee of an organisation, gaining a deeper understanding of the challenges and possibilities of the area of industry you want to work in.

Our Natural Sciences MNatSc, BSc course offers the opportunity for an industrial placement between years 2 and 3 or years 3 and 4 of your degree. This will extend the length of your course by a year.

Our dedicated Employability team will work with you during a series of placement information and preparation sessions. These sessions will inform you of the wide variety of options available to you, what to expect from the application process and how to apply.

Additionally, you’ll have the support of a personal tutor throughout your placement year, who will help you decide how to use your experiences in your studies when you return.

“...a project aiming to develop a product for firefighters...”

SOPHIE KIRKPATRICK
NATURAL SCIENCES MNATSC
INDUSTRIAL PLACEMENT YEAR AT DIVERSEY

STUDY ABROAD

Natural scientists are needed all over the world, and our Study Abroad programme gives you the opportunity to find out how science is pursued in other cultures – not just as an observer, but as an active participant.

You can take a study year abroad with your Natural Sciences MNatSc, BSc degree, usually as an additional year after the second of your course.

We have over 400 partner institutions to choose from, including in Australia, Canada, France, Germany, Hungary, Spain, Singapore and the USA. You’ll have the chance to immerse yourself in another culture, make new connections and have unforgettable experiences, while gaining an overseas education and developing the skills employers seek.

If you need help learning a new language before your study year, the University’s Language Centre can arrange study options ahead of time.

“My best experience as a student was my year abroad in Canada. I’ve definitely made some friends for life at university.”

HANNAH CHARLTON
NATURAL SCIENCES MNATSC
STUDY YEAR ABROAD IN CANADA
Natural Sciences is a prestigious degree, designed to prepare you for taking on the scientific challenges of the future.

The course is extremely flexible, giving you the choice of which science subjects you want to study and how much you study of each subject. You can also choose whether or not to spend a year studying abroad or working in industry.

HOW THE COURSE WORKS

The MNatSc course lasts for four years, and during each year you'll study 120 credits. You'll begin by studying three subjects from this list, eventually focusing on two:

- Biology
- Biochemistry
- Chemistry
- Environmental Science
- Food Science and Nutrition
- Mathematics
- Physics

YEAR ONE

In your first year you’ll study three subjects and take 40 credits from each.

You can choose your three subjects from a list of seven and the choice is entirely yours. However, if you choose to study physics, you must also study mathematics. You must have achieved grade A in the required A-level.

Note that you cannot choose a combination of environmental science and food science and nutrition.

YEAR TWO

In your second year, you must continue to study at least two of the three subjects that you studied in your first year. You can choose to study these two subjects equally (60 credits of each), or as a major/minor split (80 credits of one subject and 40 of the other).

Alternatively, you could choose to study 50 credits of each subject and make up the remaining 20 credits by either studying the third science subject you studied in your first year or a discovery module from an area of your choosing.

If you study physics in your second year, you must also study at least 20 credits of mathematics.

YEAR THREE

In your third year, you will continue to study the two subjects that you primarily studied in your second year. You could choose to study these two subjects equally (60 credits of each) or as a major/minor split (80 credits of one subject and 40 of the other).

You have the option to study up to 20 credits of Discovery modules in year three. In the BSc programme, you will also undertake a 20-credit independent project.

YEAR FOUR

In the final year of the MNatSc programme, you will undertake an independent research project worth 40-60 credits, with the remaining 60-80 credits spent on optional modules. This must include at least 20 credits of theory in each of your two main subjects.

The research project is your opportunity to pursue the topics that interest you the most. It could be based in one scientific area, or an interdisciplinary project building on both the sciences that you're studying.
YEAR 1
Study three science or mathematics subjects equally.

YEAR 2
Study two subjects equally or as a major/minor split.
You can also choose to take a third subject. This can be another science or a discovery module such as a language course.

You can insert an industrial or study abroad year here.

YEAR 3
Study two subjects equally or as a major/minor split.

You can insert an industrial year here.

YEAR 4
Study two subjects and undertake a major research project.
COURSE THEMES AND COMBINATIONS

Being able to build a course around your own passions and interests is one of the greatest appeals of Natural Sciences at Leeds. Here are some examples of how subjects can be combined for interdisciplinary study of novel and exciting fields:

**MATERIALS SCIENCE AND NANOTECHNOLOGY**

New materials with reactive and dynamic properties influence everything, from new electronics to self-repairing polymers and new materials for biomedical applications. To control the global properties of materials correctly, you need to understand how they work at the smallest scale. By combining your knowledge of physics, chemistry and maths, you will gain new insights into the nanoscale world.

**CHEMISTRY, MATHEMATICS, PHYSICS**

**NOVEL THERAPEUTICS**

The modern-day pharmaceutical industry uses combinations of biological and chemical methods to target disease. New therapies could be a small chemical molecule that selectively targets a biological receptor or an antibody that targets a cancer cell. Some modern therapies even contain biological and chemical components linked together.

**CHEMICAL BIOLOGY**

Chemical biology lets us use the power of chemistry to gain new insights into biological systems. Chemical synthesis enables the preparation of specific molecular probes that let us understand biological pathways in ever more detail and understand how nature is controlled at the molecular level.
The science of the atmosphere controls our everyday lives to such a huge extent that we need to understand the reactions that take place in the atmosphere as well as how species in the atmosphere move and interact. Atmospheric scientists also study other worlds, designing models and experiments to study the atmospheres on extraterrestrial planets and their moons.

“My subjects complement each other very well, so I feel like I’m just doing a course in all the little things that interest me. It is very interesting to see the different approaches each science has to similar problems and very rewarding to see the overlap and understand all angles of it fully.”

KIM SPIJKERS-SHAW
NATURAL SCIENCES MNATSC

Understanding and predicting the properties of soft matter requires the application of fundamental concepts in applied mathematics and physics such as fluid dynamics and statistical mechanics. This can be used, for example, to optimise formulation and processing of foods to enhance their texture and mouthfeel, providing consumers with a more enjoyable gastronomic experience.

Application of methods from physics in the life sciences has revolutionised our understanding of how biological systems work. Thanks to these high-level physics concepts, we can look at processes such as the folding up of proteins one molecule at a time or understand the tiny changes in energy that occur when molecules interact. At the same time, theoretical modelling methods let us simulate complex biological systems to understand them in ever greater detail.

The human genome contains about six billion base pairs of DNA. What is the function of the products of these genes and what does the rest of the DNA outside the genes do? These questions require us to be able to handle huge quantities of data, looking for small but significant differences. By combining advanced mathematical methods, statistical analysis and biological insight, bioinformaticians are slowly revealing the subtle control mechanisms buried in the heart of our DNA.

Biology is hugely diverse and complex – combinations of high level mathematics and biology let us understand these systems in unprecedented detail. From the diversity of genes to evolution and population dynamics, your mathematical knowledge will help you develop new insights into these key processes.

A very large number of potential modules is available on this course. For a complete list, please visit the course catalogue: www.leeds.ac.uk/courses

The range of compulsory and optional modules available to you depends on which science subjects you choose to focus on. Some modules become compulsory if you choose certain combinations of subjects.
ENTRY REQUIREMENTS AND HOW TO APPLY

A-level: A*AA, including sciences relating to pathway.

Your A-level subject combination must enable the study of three subjects in year one. See table below for details of which A-level is required to study which subject on the course.

A-level General Studies and Critical Thinking are excluded. Where an A-level science subject is taken, we require a pass in the practical science element, alongside the achievement of the A-level at the stated grade.

We also accept a variety of alternative qualifications. Check our website for details.

ENGLISH LANGUAGE REQUIREMENTS

GCSE English Language grade C (or above) or an equivalent recognised English language qualification, eg IELTS 6.0 overall with no less than 5.5 in each element.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Required A-level</th>
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<tbody>
<tr>
<td>Biology</td>
<td>Biology</td>
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<tr>
<td>Biochemistry</td>
<td>Biology or Chemistry</td>
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<tr>
<td>Chemistry</td>
<td>Chemistry</td>
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<tr>
<td>Environmental science</td>
<td>Any two science subjects</td>
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<tr>
<td>Food science and nutrition</td>
<td>Any two science subjects</td>
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<tr>
<td>Mathematics</td>
<td>Mathematics</td>
</tr>
<tr>
<td>Physics</td>
<td>Physics and Mathematics</td>
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THE APPLICATION PROCESS

ACCESS TO LEEDS

We’re committed to identifying the best possible applicants, regardless of personal circumstances or background. If you do not meet our entry criteria, you may be eligible through the Access to Leeds scheme.

leeds.ac.uk/a2l

HOW TO APPLY

All undergraduate applications should be made through the Universities and Colleges Admissions Service (UCAS).

ucas.com

OFFER PROCESS

Suitable applicants will be invited to an applicant day, which gives you the opportunity to meet our academic staff and students, enjoy a tour of our facilities, view student accommodation and find out more about your course.

We like to interview applicants before making an offer, so the day will also include an interview with one of our academics. This will give you the chance to discuss your application in more detail, check that it’s the right course for you and your career plans, have your questions answered and find out more about studying at Leeds.

SCHOLARSHIPS

The University of Leeds has a long-standing history of helping students to manage their finances while at University, with a comprehensive range of bursaries and scholarships available.

natsci.leeds.ac.uk/undergraduate/scholarships

CONTACT US

If you require any more information about our courses, modules or any other aspect of studying Natural Sciences at Leeds, please contact our Undergraduate Admissions team.

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