School of Life Sciences
TAUGHT MASTER’S PROGRAMMES
Welcome to Warwick and the School of Life Sciences

Our focus is on excellent teaching and research with impact.

Our research falls into five themes: Biomedical Science, Biotechnology, Environmental Bioscience, Infection and Plant and Crop Science.

Our facilities support multidisciplinary research programmes across Warwick and with other universities, research institutes and industry both nationally and internationally.

The School of Life Sciences was ranked second in the UK for Agriculture, Food and Veterinary research in the Government’s 2014 research ranking exercise. Overall more than 80% of life sciences research was rated as ‘World Leading or Internationally Excellent’.

“We have a great range of courses that train you in key skills for the relevant sectors. Our expertise in these subjects, the involvement of external stakeholders with relevant industrial and business backgrounds and the networking opportunities at Warwick are the special mix that gets our alumni off to a great start in their professional careers.”

Dr Hendrik Schäfer
Director of Taught Postgraduate Studies
Why choose Warwick Life Sciences?

Warwick is a Russell Group university ranked within the UK top ten.

You will be joining a thriving community of Postgraduate students from all over the world. To enhance your studies, as a Master’s student you have dedicated learning spaces, additional learning support, via our tutor and mentor system, and directed careers help.

You will have the opportunity to gain an introduction to the commercial world, in cooperation with Warwick Business School, by developing skills in marketing, accounting, intellectual property and business strategy.

You will be taking the first step towards establishing your career. As well as scientific and applied knowledge you will be gaining transferable skills desired by employers - team working, communicating with peers and sector specialists, logical reasoning, innovation, organising and planning, report writing and oral presentation.

According to the Postgraduate Taught Experience Survey (2014-15)

88% of our Masters students were ‘satisfied with their course overall.’

83% said that ‘as a result of the course they felt better prepared for their future career.’

89% of students who were not fluent in English felt they ‘received appropriate support for their language needs.’

What are my career prospects with a Warwick Life Sciences Master’s degree?

A Master’s from Life Sciences will prepare you for a wide range of potential careers.

You will gain a range of skills that lead you to employment within industry, public and government organisations, small to medium businesses and consultancy.

You can go on to further study, a top-level graduate programme or use the entrepreneurial skills you will learn to start your own business.

You will establish an excellent basis to launch your career through taught modules and an individual project or dissertation.

As a Warwick student, you will have access to far more than just academic qualifications. Student Careers will help you with career planning and Skills & Student Development offers a number of well-established programmes to advance your personal development.

Warwick is the third most targeted university by top employers.

High Fliers Report 2016

One employer’s thoughts on a Biotechnology, Bioprocessing & Business Management graduate.

“Quickly he began to carve out his own space and reputation as a hard working colleague with a knack for drawing out insights from research and an eye for detail. This graduate took on his career with great success, working with patients, nurses, specialists of all varieties, as well as key opinion leaders in a number of burgeoning fields of research. This work has taken him across the globe to oversee the research as it takes place, refining research design in situ and ultimately to delivering those commercially and clinically critical insights straight to our pharmaceutical clients.”

Shazada Ali
Associate Director
Double Helix Discovery
Students can choose from a range of Master’s programmes, including interdisciplinary courses with modules delivered by Warwick’s renowned Business School.

**We have five programmes:**

- MSc Biotechnology, Bioprocessing & Business Management
- MSc Medical Biotechnology & Business Management
- MSc Environmental Bioscience in a Changing Climate
- MSc Food Security
- MSc Sustainable Crop Production: Agronomy for the 21st Century

You will take core and elective modules and complete an individual dissertation, research project or work placement (depending on the programme). The modules are designed to develop core knowledge and skills but also allow flexibility so that you can pursue particular interests.

**How will I learn?**

Teaching is delivered in many formats; by formal lectures, small group interactive workshops, practicals and tutorials, as well as through field and site visits. You will work as an individual and also in teams with your fellow students.

You will complete a major individual dissertation or project which will allow you to focus on an area of particular interest to you or of importance to your career aspirations.

Module assessment currently includes written essays, seminar presentations, both as individuals and in groups, multiple choice question exams and poster presentations.

**Who will teach me?**

Leading individuals with expertise, from Life Sciences and Warwick Business School, form a multidisciplinary teaching faculty.

The course is delivered by internationally acknowledged academics and industrial experts.

**How will I be supported?**

Life Sciences offers you tailored language support and a mentor to help with academic writing.

You will have a personal tutor to support you on both academic and personal issues. In addition, the University has a comprehensive support and welfare structure.

You will have a full week induction programme which will introduce you to your course, your fellow students and the taught postgraduate team. Induction workshops include literature searching, academic writing and working in a team.

“Everything was different and new, which can be intimidating, but also very exciting. I enjoyed the fact that everyone was very helpful and supportive, which made me feel at home very quickly. It is hard to be stressed in a new environment when tutors and other students are so friendly.”

Daria Dziewulska
Biotechnology, Bioprocessing & Business Management graduate
Currently a Sustainability and Feedstock Analyst at Qila Energy
MSc Biotechnology, Bioprocessing & Business Management

The bioprocessing and biotechnology industries are major components of global industrialised economies with wide-reaching impact in medicine, pharmaceuticals, manufacture and the food sector. These industries require a new calibre of technical specialist with both business acumen and scientific knowledge. This MSc offers you the key business information and industrially relevant expertise, together with the science base, to meet this requirement.

Core Modules
Core modules examine the science and technology involved in biotechnology and bioprocessing, commercial development of a project and business strategy, finance and marketing.

- Fundamentals of Biotechnology
- Molecular Biology & Genetic Engineering
- Biochemical Engineering
- Biopharmaceutical Product & Clinical Development
- Entrepreneurship & Commercialisation
- Bioproduct Plant Design & Economic Analysis
- Business Strategy
- Marketing Management
- Accounting & Finance Management
- Dissertation/Project

Optional Modules
A range of elective modules examine environmental or medical aspects, advanced biotechnology and E-business. You will choose three of these, dependant on your interests and career aspirations.

- Fundamentals of Biotechnology
- Molecular Biology & Genetic Engineering
- Biochemical Engineering
- Biopharmaceutical Product & Clinical Development
- Entrepreneurship & Commercialisation
- Bioproduct Plant Design & Economic Analysis
- Business Strategy
- Marketing Management
- Accounting & Finance Management
- Dissertation/Project

Careers
This MSc is suitable for you if you want a career in Biotechnology and related industrial sectors where employees need multidisciplinary knowledge. Graduates work in a wide range of jobs including project management, business development and general managerial positions.

Career destinations of our alumni include the Binding Site Group Ltd, Tata Technologies, AkzoNobel, Frost & Sullivan, Pfizer, Novartis, the European Medicines Agency, as well as numerous small to medium sized businesses, PhD programmes and graduate schemes.

Alumni job titles include Business Analyst, Project Manager, Product Specialist, Regulatory Affairs, Medical Writer, Business Development Manager, Research Associate and Clinical Project Manager.

“Industry and commerce are seeking individuals with a skill set which is interdisciplinary. This unique degree successfully addresses this demand as judged by the employment spectrum of our graduates.”

Dr Crawford Dow
Course Director
MSc Medical Biotechnology & Business Management

The modern medical biotechnology industry is a major component of global industrialised economies with impact around the world. The industry is demanding technical specialists with both business and scientific knowledge, requirements met by this MSc programme which covers a broad range of biomedical science, business and management skills as an integrated package.

Developed out of our successful Biotechnology, Bioprocessing and Business Management MSc, this course will provide you with knowledge and understanding of key technical, business and societal issues relevant to the operation and development of medical biotechnology industries. It will equip you to make original and informed contributions to advance and develop these industries. It will also develop your capability to research and analyse market needs for medical product development and propose technical strategy based on up to date information and leading edge diagnostic technology.

Core Modules
Core modules examine the science and technology involved in biotechnology, commercial development of a project and business strategy, finance and marketing.

- Fundamentals of Biotechnology
- Molecular Biology & Genetic Engineering
- Biopharmaceutical Product & Clinical Development
- Entrepreneurship & Commercialisation
- Regenerative Medicine
- Medical Diagnostics
- Essentials of Medical Genomics
- Business Strategy
- Marketing Management
- Accounting & Finance Management
- Dissertation/Project

Optional Modules
Optional modules examine aspects of drug discovery and development; impact of microorganisms on pharmaceutical manufacture and product shelf-life and biotechnological advances in combating infectious diseases and their implementation.

You will choose two optional modules, dependant on your interests and career aspirations.

- Chemotherapy of Infectious Diseases
- Fundamental Principles of Drug Discovery
- Laboratory Skills
- Microbiomics & Metagenomics
- Vaccines & Gene Therapy

Careers
This MSc is suitable for those looking for a career in medical biotechnology and related industrial sectors where employees need multidisciplinary knowledge. Graduates are expected to work in a wide range of jobs including project management, business development and general managerial positions.

“Within the medical sector research on, and application of, biotechnology is increasing very significantly offering huge potential for treatment and diagnosis. To sustain and accelerate these advances requires individuals with a skill set which is multidisciplinary. This degree offers an ideal path to address this need.”

Dr Crawford Dow
Course Director
Escalating rates of environmental and climate change are forcing us to re-evaluate our management of agricultural and natural habitats. The competing demands on agricultural land for food production and for bioenergy provision must be reconciled with environmental stewardship and mitigation of climate change.

This MSc provides a timely and integrated perspective on environmental bioscience, management, societal matters and regulation as these relate to issues such as sustainable production of food and provision of ecosystem services.

Core Modules
Modules examine the science and impacts of climate change, the emerging concepts around environmental accounting and the value of ecosystem services, and the importance and conservation of biodiversity. Further modules examine the role of microorganisms in biogeochemical cycles, the impacts of environmental change as these relate to competing land uses and explore strategies for adaptation to, and mitigation of, environmental change.

- Soil, Water & Plant Mineral Nutrition
- Biosciences, Politics & Social Acceptability
- Climate Change
- Biological Invasions in Changing Environments
- Environmental Accounting
- Organic & Low Input Systems
- Biodiversity, Conservation & Ecosystem Services
- Challenges of Global Food Security
- Environmental Protection, Risk Assessment & Safety
- Microbiomics & Metagenomics
- Laboratory Project, Work Placement or Dissertation

Optional Modules
Optional modules, some delivered by Warwick Business School, add a multidisciplinary aspect to extend your career options. You will take either one or two optional modules. The module in environmental law provides a legislative perspective.

- Accounting & Finance Management
- Business Strategy
- International Environmental Law
- Marketing Management

Careers
This MSc is for those looking for a research career in environmental bioscience or to improve their employment prospects in governmental or non-governmental organisations. Graduates work in diverse areas related to environmental policy development, sustainability in farming systems, rural development, environmental management, science communication, policy and consultancy.

Career destinations include: Policy Outreach Officer at the Climate Change Consortium of Wales; Science Editor and Marketing Manager; Environmental Marketing Officer; Climate Change Consultant; Global Sustainability Manager at Molson Coors Brewing; and Integrated Farm Management promotion for LEAF (Linking Environment and Farming). Other graduates have progressed on to PhD programmes.

“In this time of global environmental change, it is difficult to overstate the importance of understanding environmental issues, being able to communicate them to a wide range of stakeholders and the necessity to increase the sustainability of our lifestyle. If you see your career in this area, this course will provide you with an excellent base.”

Dr Hendrik Schäfer
Course Director
MSc Food Security

Delivering global food security is one of the critical challenges of the 21st century. Each nation needs to balance local food production with imports and consider environmental and economic impact. This Master's considers the critical factors influencing global food security including the contributions of climate change, biodiversity, water, soil, land use, labour, diet and urbanisation.

Core Modules
- Crop Physiology & Production
- Advances in Crop Protection
- Soil, Water & Plant Mineral Nutrition
- Climate Change
- Environmental Accounting
- Organic & Low Input Systems
- Challenges of Global Food Security
- Laboratory Project, Work Placement or Dissertation

Optional Modules
- Optional modules, some delivered by Warwick Business School, add a multidisciplinary aspect to extend your career options. You will take up to three optional modules.
  - Accounting & Finance Management
  - Biodiversity, Conservation & Ecosystem Services
  - Biological Invasions in Changing Environments
  - Business Strategy
  - International Environmental Law
  - Marketing Management
  - Microbiomics & Metagenomics
  - The Global Food System

Careers
Demand for well-qualified people to contribute to food production and the supply chain will increase. Governments require experts who are able to contribute to policy creation and legislation and non-governmental organisations need people who work at the interface of natural and social science.

This MSc prepares you for career paths in academic research and a wide range of public and commercial enterprises, government agencies, policy development and consultancy.

Initial career destinations include Analyst Consultant for Air Quality at Ricardo-AEA, Assistant Manager at Gouria Agricultural Ventures Ltd, Abu Dhabi Farmers Service Centre and NGO work on sustainable agro-nutrition. Other graduates have progressed on to PhD programmes.

“An important aspect of Food Security is its interdisciplinary nature. Our course involves learning about, and interactions with, a number of other disciplines including the social sciences, law, business and marketing.”

Dr Rosemary Collier
Course Director

“"A unique course structure that not only focuses on Life Sciences modules but also Politics, Environmental Law and Social Sciences. The opportunities and support given in terms of the final year project were truly fantastic and opened many doors for me!”

Ukti Shah
Food Security graduate
Currently an Applications Technologist at Finlays
MSc Sustainable Crop Production: Agronomy for the 21st Century

Crop agriculture provides mankind’s increasing population with foods, fibres and fuel - this course provides the knowledge and practical skills for crop management and improvement. You will gain a combination of practical expertise and academic understanding to develop key skills. This Master’s provides knowledge and practical skills in crop management and crop improvement, including the latest advances in plant pathology, integrated pest management and soil health.

Core Modules
Modules explore the importance of the soil for crop nutrition and water uptake, modern techniques of plant breeding and provide you with skills to undertake commercial field trials.
- Crop Physiology & Production
- Advances in Crop Protection
- Soil, Water & Plant Mineral Nutrition
- Climate Change
- Organic & Low Input Systems
- Cereal, Oilseed & Root Crop Agronomy
- Introduction to BASIS - Crop Protection
- Plant Breeding & Trial Design for Registration
- Laboratory Project, Work Placement or Dissertation

Optional Modules
Optional modules, some delivered by Warwick Business School, add a multidisciplinary aspect to extend your career options. You will take up to two optional modules.
- Accounting & Finance Management
- Biodiversity, Conservation & Ecosystem Services
- Biological Invasions in Changing Environments
- Business Strategy
- Challenges of Global Food Security
- International Environmental Law
- Marketing Management
- Microbiomics & Metagenomics

Careers
You will acquire the skills necessary for career paths in the agriculture of crops, agronomy, crop trial management and as policy development officers, technical commodity specialists and professional advisors. You will be able to join sales teams for fertiliser, agrochemical and other specialist supply companies.

We expect graduates to become the industry’s future managers and leaders. PhD study is another option.

Initial career destinations include Regional Technical Agronomist at Bayer Crop Science, Trainee Product Specialist at Berry World, Trainee Agronomist at Agrovista, Crop Trialist at Eurofins, Agronomist and Agricultural Consultant at Agrinig, Nigeria, and Senior Field Technician at University of Warwick.

“You will interact with academics who are working closely with the crop production industry, including pest and disease control and crop breeding, and you will have opportunities to learn how crops are grown in the field.”

Dr Rosemary Collier
Course Director
I was able to get a job two weeks before handing in my dissertation. In my interview they were really interested in my MSc and we spent more than an hour talking about my business plan for the Entrepreneurship module alone!

The best thing about the MSc was the incredible variety of skills you get to develop. One week you’re studying how a batch bioreactor works and the next you’re getting a crash course on management accounting. Initially I thought the worst thing about the course was the presentation element but I really developed my skills in that area and presentations eventually became one of my favourite parts of the course.

Olivia Hart
Biotechnology, Bioprocessing & Business Management graduate
Currently an Account Executive at Ogilvy Healthworld working primarily in pharmaceutical advertising and medical education
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Apply for a course at warwick.ac.uk/pglifesci

This information was correct at the time of printing. Our courses, modules and schedules are continually reviewed and updated to reflect the latest research expertise at Warwick, so it is therefore very important that you check the website for the latest information before you apply and when you accept an offer.