



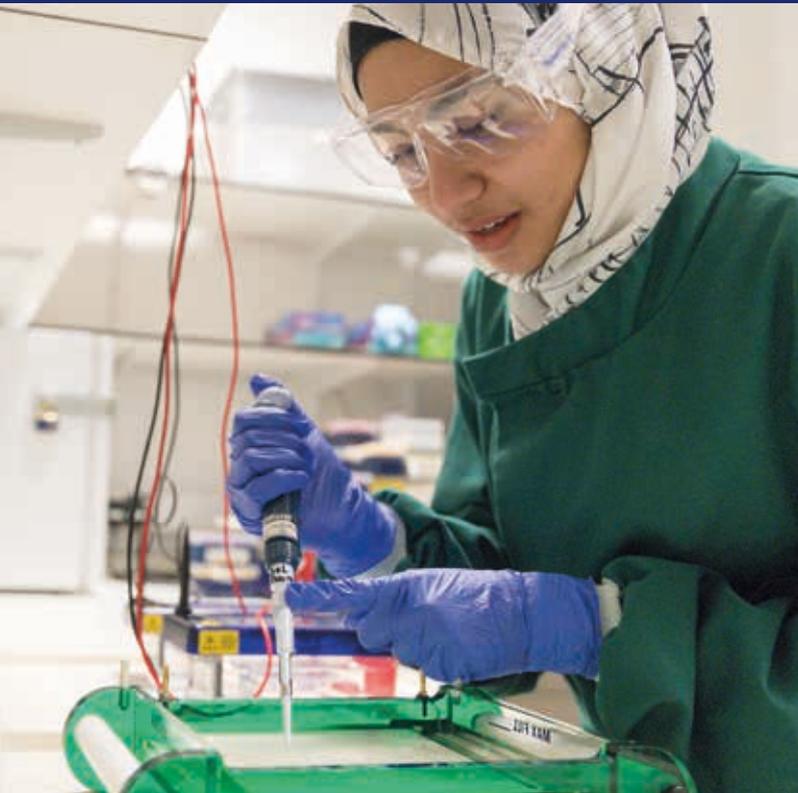
University of
Nottingham

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MSc Biotechnology

Specialisms in plant, microbial
and animal biotechnology

nottingham.ac.uk/pgstudy/biosciences



World-class
laboratories and
technology



International quality
standards of research

Work-based
experience
through industrial
placements



Strong links with
industry partners





Develop a career in biotechnology either in industry or academia, experiencing vibrant dynamic scientific investigations, technology and innovation

Overview

The overarching theme of this course is an understanding of the cellular mechanisms, manipulations of biological systems and production processes. You will be introduced to state-of-the-art technologies in biotechnology and have the opportunity to find out more about current opportunities in the field with visits to industry and career workshops.

A key feature of the course is a three-month research project in your chosen pathway, exposing you to the latest research and trends in industry, with the majority of projects based in relevant industries.

This course is based at the University's Sutton Bonington Campus, located 10 miles south of University Park Campus. The campus boasts world-class research facilities, the latest technology and cutting-edge equipment.

Content

The **Plant Biotechnology** pathway provides theory and practical skills in plant genetic manipulation, plant breeding and genome research, which underpin all aspects of agriculture and horticulture worldwide. Specialist modules will provide an understanding of plant cell biology and the role of phytohormones in plant physiology. Plant sexual reproduction is also covered in the context of improved breeding. A series of off-site visits will inform you about the latest technologies and research allied to plant improvement and provide an insight into current plant research in the agricultural and agro-industry sectors.

The **Microbial Biotechnology** pathway offers knowledge in using micro-organisms as production platforms for valuable compounds such as therapeutics, food additives and antibiotics. Specialist modules will provide you with an understanding of how antibody biotechnology can be applied to solve problems in an industrial and biomedical context. This pathway covers a range of topics from recent advances in the expression systems, strain engineering, challenges in scale-up of production processes and understanding of production processes at molecular, genetic, physiological and cellular levels in an integrated manner.

The **Animal Biotechnology** pathway prepares you for a wide range of options offered by the animal biotechnology industry. This stream covers a range of topics from molecular techniques used to study gene function in eukaryotic cells to whole organisms, to more specialised aspects of bioinformatics, molecular immunology, developmental epigenetics, molecular nutrition, reproductive biotechnologies and stem cell technologies. Our areas of expertise include multidisciplinary projects, for example: transgenic technologies, *in vitro* embryo production systems, biomarker discovery, nutritional influences on physiological functions, genetic and epigenetic basis of disease, genetic evaluation and healthy ageing.

Structure

This one year, full-time masters course (or two years part-time) consists of taught modules (120 credits) and a dissertation (60 credits).

Modules

Further information is available at:
nottingham.ac.uk/pgstudy/biosciences

Entry requirements

You will normally be expected to hold an honours degree at 2:2 level or above (or its international equivalent) in a natural or applied science discipline including plant sciences, microbial sciences or animal sciences depending on the specialism you choose.

Applicants whose first language is not English must also achieve IELTS 6.0 (with no less than 5.5 in each element). Test results should be no more than two years old.

Find out more

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University of Nottingham has made every effort to ensure that the information in this leaflet was accurate when published. Please note, however, that the nature of the content means that it is subject to change from time to time, and you should therefore consider the information to be guiding rather than definitive.

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