PHARMACEUTICAL SCIENCES

The pharmaceutical industry in the UK has a greater impact on the UK economy than any other high-tech industry. Employing 73,000 people, of whom around 27,000 are directly involved in research and development (R&D), the pharmaceutical industry offers graduates a chance to play an important role in the development of new medicines with employment opportunities existing at all stages of the drug development process. The BSc in Pharmaceutical Sciences degree is designed to create students who are the next generation of pharmaceutical scientists, able to work in all stages of the drug development process as part of a multi-disciplinary research team.

COURSE CONTENT

The degree has an engaging and dynamic curriculum that deals with the underpinning science of the drug development process, including physical, chemical and biological concepts. Students will encounter innovative and flexible teaching methods and will be provided with a range of work-related learning opportunities (including placement) to equip them with the skills required by employers in industry.

During your course of study, you will develop breadth and depth in the skills, knowledge and experiences required for success in your future career. The BSc has been developed in consultation with pharmaceutical industry representatives and involves a broad syllabus covering the design, evaluation, production, and testing of medicines.

- **Level 1**

The first year of the degree teaches students foundational knowledge and skills in chemistry, maths, physiology and microbiology. This helps students to make the transition from secondary education and prepares them for more complex concepts in Levels 2 and 3.

- **Level 2**

The second year introduces formulation and drug-delivery, medicinal chemistry and analytical techniques. Building upon the knowledge and skills from first year, modules cover key concepts and processes which are fundamental to a career in the pharmaceutical industry. Practical elements help to cement this theoretical knowledge, preparing students for placement* and their Level 3 research project.

*In the sandwich programme, the third year will be spent on a work placement in the pharmaceutical industry, during which you will participate in a real-world project in the working environment for a minimum of 48 weeks.

- **Level 3**

The final year of the degree deals with advanced formulation of small molecules and biosimilars, along with the pharmaceutical analysis of complex systems. During their research project, students are brought into contact with cutting-edge pharmaceutical research conducted by our world-leading academics. Importantly, students will develop an understanding of scale-up and manufacturing processes, and other industry-relevant skills such as a knowledge of quality control and regulatory affairs.

The course is structured to spiral upwards in complexity, so that concepts introduced early are picked up again in later modules with greater complexity, in various aspects of pharmaceutical sciences. The integration of chemistry, biology and material science makes this course unique and gives our graduates a holistic view of pharmaceutical science; a highly desirable quality in those seeking a career in the pharmaceutical industry.

QUEEN'S UNIVERSITY BELFAST

BSc Honours

Pharmaceutical Sciences *3 yrs (B210)*

Pharmaceutical Sciences *(Sandwich) 4 yrs (B211)*

See also Pharmaceutical Biotechnology and Pharmacy

Entrance Requirements

A-level

BBB including Biology and Chemistry + GCSE Mathematics grade C

OR

BBB including Biology and at least one from Mathematics or Physics + GCSE Chemistry grade C or GCSE Double Award Science grades CC + GCSE Mathematics grade C

OR

BBB including Chemistry and at least one from Mathematics or Physics + GCSE Biology grade C or GCSE Double Award Science grades CC + GCSE Mathematics grade C.

For students whose first language is not English

An IELTS score of 6.5 with a minimum of 6.0 in each test component or an equivalent acceptable qualification, details of which are available at: go.qub.ac.uk/EnglishLanguageReqs

WHY QUEEN'S?

- **Global Employability**

Graduates are able to work in any aspect of drug product development, and we are offering a global network of industry and research links through our world-leading academics.

- **Industry Links**

The School of Pharmacy has developed close links with a wide variety of industry partners through research and teaching at a local, national and international level. These include GSK, Eli Lilly, Pfizer, Teva, Astra Zeneca, Reckitt Benckiser, Almac, Capsugel, and many others.

- **World-Class Facilities**

The School provides extensive, state-of-the-art facilities supported by well-equipped pharmaceutical engineering, analytical, molecular biology, advanced microscopy, tissue culture and microbiology laboratories.

- **Internationally Renowned Experts**

The programme is taught by world-leading academics. Research within the School is both fundamental and applied and is supported by a broad range of funders including government, charitable and multi-national industry sources.

CAREERS/FURTHER STUDY

Studying for a BSc in Pharmaceutical Sciences at Queen's will assist students in developing the core skills and employment-related experiences that are valued by employers, professional organisations and academic institutions.

- **Placements**

Placements provide an opportunity to supplement formal University education with invaluable industrial experience and present an opportunity to form strong links with potential employers. Moreover, this will help students develop vital skills and become more aware of the global pharmaceutical community and their connection to it.

- **Employability**

The School of Pharmacy have introduced a range of activities to support successful employability post degree. These include visits to local pharmaceutical industries, employability workshops, courses in writing CVs and job applications, psychometric tests and interview preparation techniques.

- **Graduate Opportunities**

The prospects of employment for a graduate with a BSc in Pharmaceutical Sciences degree in the UK are high. Graduates can pursue careers in the pharmaceutical and medical devices industry. Opportunities also exist in areas relating to R&D, manufacturing and supply, commercial or support functions. Further information may be found at the Association of the British Pharmaceutical Industry careers website: careers.abpi.org.uk

- **Further Study**

Graduates can choose from a wide range of Master's programmes as well as a comprehensive list of research topics for study at PhD level (PhD); see qub.ac.uk/pha for further information.

Entrance requirements
e: admissions@qub.ac.uk
t: +44 (0)28 9097 3838

Course information
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Director of Education
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