

Pharmaceutical Science MPharm Sci(Hons) and BSc(Hons)

Faculty of Science

a world of
possibilities 

Kingston University London



BSc(Hons) MPharm Sci(Hons) Pharmaceutical Science

Our programme

The School of Pharmacy and Chemistry has one of the largest undergraduate teaching programmes in chemical and pharmaceutical Sciences in the United Kingdom. There are 30 full-time academic staff with wide ranging educational, research and industrial expertise, particularly in pharmaceutical chemistry, but also in pharmacy, pharmacology and forensic science. There is a healthy balance of experienced and new younger staff with flourishing research interests. This dynamic academic environment fosters an enthusiasm for learning and supports excellence.

Kingston's Pharmaceutical Science degrees offer a comprehensive coverage of the areas of chemistry and biology which underpin research in the pharmaceutical industry. The modules in Years 2 and 3 cover more specialised topics such as computer-aided drug design, pharmaceutical analysis and aspects of law, ethics and marketing relating to drugs. A major feature of the final year is a project involving novel research in a chosen area of pharmaceutical science.

Careers

A career in pharmaceutical science offers a real opportunity to make a difference to people's lives. To meet the continued demand for new drugs to combat disease worldwide, the UK pharmaceutical industry spends more than £10 million per day on research (which represents 28% of all industry-supported research in the UK). Pharmaceutical science is concerned with the science of medicines, from the identification and isolation of biologically active compounds, through to their formulation into drugs for clinical use. Graduates find career opportunities in a wide variety of areas of the pharmaceutical industry, ranging from drug design to sales and marketing. Many of our graduates go on to achieve MSc or PhD qualifications.

Which course is for you?

You can study the course as a three-year or four-year (sandwich) programme leading to a BSc(Hons) in Pharmaceutical Science. Alternatively, you can study for an Integrated Masters MPharm Sci(Hons) in Pharmaceutical Science. This involves four years of study, which can be based entirely at the University, or with the third year spent in industry.

Industrial training

This optional feature allows you to gain valuable paid experience. The School has long established placement opportunities within hospitals and industry. Placements are dependent on students passing an interview with the employer.

Why study Pharmaceutical Science at Kingston University?

- Kingston is long established as a top teaching university.
- You will be taught by friendly, enthusiastic staff and will have access to a "student support officer" who will provide you with help, advice and support.
- Your course is supported by excellent facilities in modern purpose-built laboratories equipped with state-of-the-art instrumentation.
- Strong school links with industry (including the optional sandwich year) ensure you are well prepared for today's employment market.
- Kingston is situated on the River Thames, 25 minutes from central London, with an exciting and varied social and cultural scene.

Course programme

Course content

Year 1

In Year 1 you will cover the various aspects of pharmaceutical chemistry and biology which underpin pharmaceutical science.

Foundation Chemistry for Pharmaceutical Science I is an introductory chemistry module. You will consider atomic and electronic structure, leading to an understanding of ionic and covalent bonding. In organic chemistry, you will learn about the naming and structure of compounds, as well as some important functional groups.

Foundation Chemistry for Pharmaceutical Science II allows you to learn more about the structure, synthesis and chemical reactions of simple organic molecules. You will also be introduced to the concepts of rates of reactions and thermodynamics and explore their importance in understanding reactions in pharmaceutical chemistry.

Modern Laboratory Techniques is a practical-based module where you will gain hands-on experience of some of the key techniques used in the preparation and analysis of chemical systems.

Cells and Tissues explores the structure and function of prokaryotic and eukaryotic cells and tissues, as well as reviewing the microscopic techniques that are used for their study.

Pharmaceutical Chemistry is designed to introduce you to the application of chemistry in the design and development of new drugs. You will consider the role the physical and chemical properties of drugs play in their design, delivery and action.

Cell Reactions is about the reactions and processes occurring within cells and the control mechanisms involved. This module will afford you a basic understanding of the chemistry of the components of living matter and the relationship of biological function to chemical structure.

In **Academic Skills for Molecular Science** you will enhance the skills required for success on your degree. The work covers mathematical, writing and study skills. It draws heavily on examples from the scientific world.

Year 2

In Year 2 you will expand the skills developed in the first year to gain more detailed knowledge in specialised areas of pharmaceutical science. You will learn about aspects of how pharmaceuticals may act in and affect living systems in the modules:

- Introduction to Pharmacology, Toxicology and Immunology
- Microbiology

You will find out about analysis of pharmaceuticals in:

- Bioanalysis I
- Bioanalysis II

And you will start to learn how pharmaceuticals can be synthesised and prepared for use, in the modules:

- Organic Chemistry I
- Organic Chemistry II
- Properties and Formulation of Pharmaceuticals

Year 3

Year 3 is designed to build upon the knowledge and skills you have gained in previous years. In addition to the core modules you will be able to specialise by studying advanced modules in a chosen subject area eg medicinal chemistry or computer-aided drug design. In addition, an important feature of Year 3 is the research project, which provides the opportunity for you to work independently and to extend your practical skills. The project is assessed via a written report, and oral and poster presentations, allowing you to further develop important communication skills.



Want to know more?
[www.kingston.ac.uk/
pharmsci](http://www.kingston.ac.uk/pharmsci)

Course structure

Years 1 and 2

This is identical for all routes. See 'Course content' (left).

BSc Pharmaceutical Science (optional sandwich year)

Year 3

- Modern Industrial Practice
- Biological Chemistry
- Pharmacology and Toxicology
- Project OR
- Advanced Experimental Skills and Dissertation
- Three option modules*

MPharm Sci Pharmaceutical Science (with industrial experience)

Year 3

- Work Performance
- Work Reporting
- Assignments in Chemical and Pharmaceutical Science I
- Assignments in Chemical and Pharmaceutical Science II

Year 4

- Project
- Biological Chemistry
- Research Methods and Skills
- Modern Industrial Practice
- Three option modules*

MPharm Sci Pharmaceutical Science (full-time course)

Year 3

- Research Methods and Skills
- Biological Chemistry
- Advanced Analytical Techniques
- Modern Industrial Practice
- Assignments in Chemical and Pharmaceutical Science II
- Three option modules*

Year 4

- Project
- Pharmacology and Toxicology
- Computer-aided Drug Design
- Two option modules*

* Option modules to choose from:

- Medicinal Chemistry
- Drugs from Natural Sources
- Topics in Contemporary Chemistry
- Computer-aided Drug Design
- Protein Biochemistry
- Polymeric and Biomaterials
- Advanced Analytical Techniques
- Clinical Chemistry
- Pharmacology and Toxicology
- Advanced Medicinal Chemistry

NB: Modules are constantly under review and this list should not be regarded as definitive.

Course features

Transfer to MPharm Sci degree – At the end of your first year you may be considered for transfer to the MPharm Sci degree. This is subject to your academic performance and an interview.

Industrial experience – The optional year of industrial training provides first-hand experience of how pharmaceutical chemistry is applied in an industrial situation. The Industrial Tutor will co-ordinate your paid placement.

Study abroad – You may study part of the BSc/MPharm Sci course in a university in Europe or the USA.

BSc and MPharm Sci routes

All new undergraduate students in Pharmaceutical Science are enrolled initially on the MPharm Sci programme to ensure that their fees position is protected for up to four years. The first two years of the Masters and BSc programmes are identical. Progression to the final two years of the Masters course is, however, only open to students with a high attainment. Students who do not reach the necessary standard, or who wish to complete their course in three years, will follow the BSc programme of study.

Further information

Entry requirements

A minimum of 200 points to include two A-level passes or equivalent. Applicants must have A2 Chemistry and AS biology, or vocational A-level double award in Science.

All applicants must have GCSEs (A-C) in five subjects including Chemistry and Biology or Dual Science, English Language and Mathematics.

General Studies will not normally be accepted as a qualifying subject.

Alternatively we will accept BTEC ND with three merits in final year units.

We also welcome applications from students studying an appropriate Access course, mature students, and international students with equivalent qualifications.

Extended degree

You can study the course as an extended degree including an extra, preparatory year. This provides an alternative entry route if you lack traditional or science-based qualifications.

Contact details

Course and admissions enquiries

Faculty of Science
The School Administrator
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Accommodation

T: +44 (0)20 8417 3829
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www.kingston.ac.uk/accommodation

Student Funding Service

T: +44 (0)20 8417 3560
www.kingston.ac.uk/studentfunding

Disability and Dyslexia Support Services

T: +44 (0)20 8417 4284/4252
Minicom: +44 (0)20 8417 4447
F: +44 (0)20 8417 4443
www.kingston.ac.uk/disability-and-dyslexial

Open days

Several open days are held each year. Please contact the admissions office or visit the University website for more details.
www.kingston.ac.uk/opendays

UCAS codes

MPharm Sci Pharmaceutical Science

B204 – 4 years full-time
BBF2 – 4 years full-time with industrial experience

BSc(Hons) Pharmaceutical Science

BB22 – 3 years full-time
BBG2 – 4 years sandwich
B208 – 4/5 years including foundation year

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www.kingston.ac.uk/mpharmsci



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