

## Pharmaceutical Sciences MSc

Develop your skills and knowledge in the design, development and production of medicines with our Pharmaceutical Sciences MSc at Aston University, Birmingham and prepare yourself for an exciting industrial or academic career in pharmaceuticals or industrial pharmacy.

**Location: Aston University, Birmingham**

Course type

Full-time

Course format

No placements

Duration

1 year

UCAS code(s)

N/A

Start date

Overview

[Explore Pharmaceutical Sciences MSc at Aston University](#)

## Hear from Health Psychology alumni, Dr Shanara Abdin

Hear from our past student Grace

### Why Study a Postgraduate Degree at Aston University?

A postgraduate degree is a great way to improve your career prospects. As well as opening doors, it builds on your experience, develops your skills, and gives you a competitive edge in a crowded job market.

[Previous](#) [Pause](#) [Next](#)

- [Study with research active academics from a wide range of pharmaceutical fields and backgrounds](#)
- [Access to a wide range of state-of-the-art specialist facilities](#)
- [Only Pharmacy School in the UK to hold a prestigious Regius Chair in Pharmacy awarded by HM the Queen](#)
- [Gain specialist skills and knowledge for a career in the pharmaceutical industry or research](#)

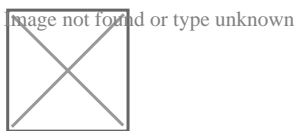
“This is a comprehensive course in pharmaceutical development, designed and delivered by experts in the field to prepare you for careers in pharmaceutical industry and further research.”

**Professor Afzal Mohammed**

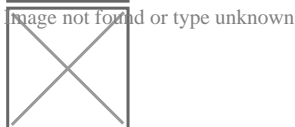
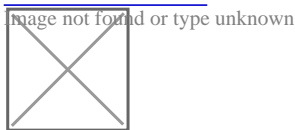
**Course Director and Professor in Pharmacy**

[Application Deadlines](#)

Pharmaceutical Sciences MSc



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Teaching Excellence Framework Gold award logo

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## Course outline and modules

Pharmaceutical science focuses on formulation strategies for current and future drug therapies and medicinal products.

Encompassing a range of scientific disciplines such as chemistry, biochemistry, pharmacology, toxicology and physiology, this specialist area of study is crucial for the safe and effective design, development, production and regulation of medicines.

The Pharmaceutical Sciences MSc at Aston University has been designed to prepare you for an academic or industrial career in the pharmaceuticals or pharmacology arena; an area in considerable demand in response to the continued increase in development of highly complex and sensitive drug molecules.

By choosing to study this specialist pharmacy masters at Aston University, you'll be joining a well-established and highly respected School of Pharmacy, that can trace its roots back to the establishment of the Birmingham Pharmaceutical Institution in 1847. We're also the only Pharmacy School in the UK to hold a prestigious Regius Chair in Pharmacy awarded by HM the Queen, meaning you can be sure that you're learning experience will of

the highest of quality.

This course is part of the [Aston Pharmacy School](#) which sits within the [College of Health and Life Sciences](#).

## Pharmacy research at Aston

Aston has expansive and highly regarded research community; we are home to several pharmacy research groups including:

- [Pharmaceutical Sciences and Clinical Pharmacy Research Group](#)
- [Pharmacology and Translational Neuroscience Research](#)

You'll be taught by passionate research active academics whose specialist areas of research include the formulation development and optimisation of orally disintegrating tablets, oral liquid nano medicines and particle engineering.

Our research is fed into the teaching on our courses, ensuring that you not only have access to the very latest trends and thinking in this specialist area, but that you also develop a critical appreciation of recent scientific developments and their clinical and industrial application.

## International students and post-study work visa

Aston University is a diverse, close community and welcomes international students. Students from over 120 different countries choose to study with us every year. Aston is not only a great place to study, based in the centre of Birmingham it's also a great place to live.

As a University, we welcomed the creation of a new immigration route which will enable international students to remain in the UK for two years after they have completed their studies to find work. The new post-study work visa will apply to international students starting undergraduate and postgraduate courses from 2020. [Click here for more information on post-work visas](#).

## Course outline

During your time on the Pharmaceutical Sciences MSc at Aston, you'll receive specialist training in a broad range of topics such as drug discovery, drug dosage form and design, and chemotherapy and selective toxicity. Ensuring you possess the necessary skills of a pharmaceutical scientist before embarking on your own final research project.

You'll encounter a broad range of experiences designed to enhance your skills and knowledge. It's our aim to provide you with:

- An understanding of the biopharmaceutical, pharmacokinetic and physicochemical principles important in the design and formulation of drug dosage systems.
- An overview of the role of molecular modelling in rational drug design.
- An understanding of the biology of specific targets for drug-based intervention.
- Knowledge of the latest advances in pharmacology. In particular the new chemistry underlying brain function, the neurochemical and neuroanatomical basis of the common neuropathologies, and

- pharmacotherapeutic approaches to central nervous system diseases.
- An insight into the regulatory procedures and laboratory processes required for analysis of pharmaceutical drug delivery products.

In addition to this subject specific knowledge, you will also develop transferable skills in presenting, team working, report writing, critical analysis, negotiating and data analysis.

### **Core modules:**

- Drug Discovery
- Chemotherapy and Selective Toxicity
- Principles of Product Analysis and Validation
- Advanced Pharmaceutical Sciences
- Drug dosage Form Design
- Research Skills
- Research Project

## **Hello - what would you like to ask us?**

Group of students with Hello text

Hello! We're a team of current Aston University students, we're from 10 different countries and we study a range of different postgraduate subjects.

[Click here to ask us anything about studying at Aston University.](#)

## **Speak to our Admissions Team**

If you have any questions about the application process please get in touch with our postgraduate admissions team:

Email: [pgadmissions@aston.ac.uk](mailto:pgadmissions@aston.ac.uk)

Call: 0121 204 3200 (Please note this line is open Monday-Friday between 10am-4pm BST)

[Please click here](#) for guidance on completing the postgraduate application.

## **Entry requirements**

We welcome applications from candidates interested in our course who have the skills and capability to excel. All candidates are considered on an individual basis based on their qualifications, experience, references and motivation.

**All applicants require:**

- Lower second class honours degree (2:2) or higher from a recognised university in pharmacy, pharmaceutical science, biochemistry, chemistry, chemical engineering, and materials science. More information on international degree requirements can be found on our [Aston in your country](#) webpage.
- Applicants whose first language is not English will be required to provide evidence of an English language qualification. English language test requirements may be waived where students' undergraduate degree was studied in an English speaking country. Find out more about our [English language requirements](#).
- For International Students intending to do a foundation year. [Click here to find out more](#).

The information contained on this website details the typical entry requirements for this course for the most commonly offered qualifications. Applicants with alternative qualifications may wish to enquire with the relevant admissions teams prior to application whether or not their qualifications are deemed acceptable. For less commonly encountered qualifications this will be judged on a case-by-case basis in consultation with the academic admissions tutor.

More advice on applying to Aston can be found [here](#).

### **International foundation programmes**

If you don't meet our entry requirements, we have a range of [pathway programmes](#) offered by our partner, **ON CAMPUS** Aston, which you can complete to progress onto one of our degrees.

## **Learning, teaching and assessment**

### **Learning and teaching**

Teaching on the course is delivered via a variety of methods including lectures, seminars, workshops and tutorials. Some modules may also use computer modelling and simulation sessions.

This course is worth 180 credits, with each credit equivalent to 10 learning hours. The learning hours may include but are not limited to lectures, seminars, tutorials, lab sessions, practicals, online activity, reading, other independent study, reflecting on assignment feedback, field trips and work placements.

### **Assessment**

You will be assessed by a mixture of coursework, examinations, practical work and oral and written presentations. The research project module will be assessed on the basis of a submitted project report and an oral defence of a poster.

### **Key staff**

Course Director: [Professor Afzal-Ur-Rahman Mohammed](#)

### **Facilities**

As a postgraduate student with Aston Pharmacy School, you will have access to a range of facilities and resources including:

- Access to industry-standard clinical trials simulations software (e.g. Simcyp, Winnonlin).

- Modern lecture theatres and classrooms, equipped with the latest audio-visual equipment and technology
- Newly refurbished laboratories that are equipped with a range of pharmaceutical and analytical instruments for “wet” practicals
- An established Virtual Learning Environment for teaching and course-organisation materials and communications
- Hard-copy and electronic access to publications, journals and large scientific databases.

## Fees and scholarships

**UK students (2023/24): £9,650**

**International/EU students (2023/24): £20,100**

The United Kingdom government has confirmed that European Union (EU), other European Economic Area (EEA) and Swiss nationals commencing academic courses in England from August 2021 will no longer be charged the same tuition rates as Home students.

## Scholarships

At Aston University we are committed to supporting the most talented and hardworking students to achieve their potential by providing a range of scholarships to help lower tuition and living costs. [Find out more about our scholarships here.](#)

### 20 per cent postgraduate alumni scholarship

Take advantage of the Ferguson Scholarship supported by the [Allan and Nesta Ferguson Charitable Trust](#) dedicated to improving educational opportunities for students who would not otherwise be able to consider studying in the UK. Seven £10,500 scholarships are available to students from Africa and South America. For more information, [click here.](#)

## Career prospects

On successful completion of this programme, you'll be well prepared for an academic or industrial career in the pharmaceuticals or biotechnology arena. This is an area in considerable demand due to the continued increase in development of highly complex and sensitive drug molecules.

You'll be provided with not only the specialist training and practical experience the design and development of effective drug delivery systems, but also a wide range of directly applicable transferable skills for career and professional development. This means, you will be well suited for various careers in the pharmaceutical industry such as analytical sciences, formulation development, project management, regulatory affairs and scientific writing.

In addition, for those that wish to peruse a career in academic research or academia, this course is a well-placed stepping stone for PhD study at Aston or another leading institution.

Graduates from our suite of Pharmacy masters programmes have gone onto secure roles with a variety of organisations across the public and private sector.

Recent graduate roles include:

- Associate Pharmaceutical Development Scientist
- Analytical scientist
- Laboratory Analyst
- Lecturer in Science
- PhD student
- Product Performance Chemist
- Quality Assurance Production Technician
- Quality Control Technician
- Research Associate
- Scientific Director

## Frequently asked questions

### Why study Pharmaceutical Sciences MSc at Aston?

Pharmaceutical science focuses on formulation strategies for current and future drug therapies and medicinal products. It encompasses a range of scientific disciplines including chemistry, biochemistry, pharmacology, toxicology and physiology.

This specialist area of study is crucial for the safe and effective design, development, production and regulation of medicines.

By choosing to study Pharmaceutical Sciences at Aston, you'll be gaining qualification from an institution rated in the Top 10 in the UK for research quality and student satisfaction (Pharmacology and Pharmacy, Complete University Guide 2020). This means you'll have everything you need to develop the skills and knowledge required for a rewarding and exciting academic or industrial career in the pharmaceuticals or pharmacology arena.

### What will I study on this course?



This course covers everything from the role of molecular modelling in rational drug design, to the latest advances in pharmacology and the regulatory procedures and laboratory processes required for analysis of pharmaceutical drug delivery products. You'll also learn a range of important transferable skills in presentation, negotiation and communication, as well as getting the opportunity to gain hands on research experience in your final project.

### **What research could I undertake for my final project?**

Your research project forms a large and important part of your MSc studies, and at Aston, we offer projects covering wide range of specialist disciplines in pharmaceutical sciences. This could include a range of topics in the areas of:

- chemical synthesis and characterisation
- in silico drug modelling
- particle engineering
- formulation design and development.

Recent examples of projects undertaken by Aston Pharmaceutical Sciences MSc students include:

- Formulation and permeability evaluation of nanoparticulate modified release biologic (protein) particulates.
- Assay development, validation and paediatric formulation design of oral liquid formulation.

### **What facilities will be available to me?**

At Aston, you'll benefit from dedicated specialist learning facilities, industry-standard clinical simulations software, and a virtual learning environment, to help you to learn flexibly.

### **Why should international students choose Aston University?**

Study at Aston University and you will be part of a multi-cultural community located at the heart of the dynamic city of Birmingham. Our courses are practical, inspired by industry and many have internationally recognised accreditations. Renowned for our employability prospects and connections to business and industry, we provide outstanding careers support and advice.

For those interested in working in the UK after they have graduated, the UK Government have created a new post-study work visa. See here for [more information](#).

## **Chat with current students**

Register your interest

Register your interest form

Related courses and content

Related courses

## You might also be interested in...

[NEWS - 04/09/2023](#)

### [Aston Medical School awarded 12 NIHR academic clinical fellow posts](#)

[The National Institute for Health and Care Research \(NIHR\) has awarded Aston Medical School 12 prestigious NIHR-funded academic clinical fellow \(ACF\) posts in its latest competitive national funding round.](#)

[NEWS - 14/07/2023](#)

### [Aston University celebrates 100 years of pharmacy](#)

[Aston University's Pharmacy School has celebrated its 100<sup>th</sup> anniversary with a drinks reception and lunch for 100 invited guests.](#)

[More news](#)

[Events - 26/01/2023](#)

### [Oxygen: can't live without it, but stressful to live with it](#)

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## Student Life at Aston

### [Accommodation](#)

[We provide award-winning accommodation on our small, friendly campus in partnership with Unite Students](#)

### [Students' Union](#)

[Aston SU represents and supports around 14,000 students, providing a number of commercial and non-commercial services.](#)

## **Birmingham life**

Aston University is in a great, central location. Ideally positioned in the centre of Birmingham - one of the youngest cities in Europe - our campus is only a 10 minute walk to the city centre.

## **Clubs and societies**

Joining a club or society is one of the best ways to get the most out of your time here at Aston. With over 130 student-led groups we have something for everyone.

## **Sports**

Here's Sports at Aston. Discover what's happening on the Aston University campus at the Sir Doug Ellis Woodcock Sports Centre.

## **Student support at the Hub**

The Hub is a central location on the Ground Floor of the Main Building where most of the student support services are located.

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