MSC PHARMACOLOGY AND DRUG DEVELOPMENT

MSC PHARMACOLOGY AND EDUCATION

Postgraduate Brochure 2021-22
Welcome to Hull York Medical School, where we will challenge you to think differently and question everything. We are at the forefront of fresh scientific insight and pioneering research, finding new answers to ever more complex questions. So, if you want to design and develop the next generation of therapeutic drugs or grow as a pharmacology educator, then your journey starts with us.

WE ARE TRAINING OUTSTANDING CLINICIANS, ACADEMICS, SCIENTISTS AND HEALTHCARE PROFESSIONALS

EXCEPTIONAL INNOVATIVE VISIONARY PIONEERING
We look at education differently and we believe that our graduates are better clinicians, practitioners and researchers as a result. We will help you to become a lifelong learner, developing the skills and techniques to question perceived knowledge and to push the boundaries of what we know and understand about pharmacology and developing new drugs.

As a Masters student at Hull York Medical School, you will be part of a vibrant, inclusive research environment. You will have unparalleled opportunities to work alongside leaders in the field of pharmacology - in basic science, at the forefront of ‘clinical trials’, or in an industrial setting - as well as experts in health professions education.

At Hull York Medical School, we thrive on nurturing the research and analytical skills necessary to produce critical, enquiring and resilient graduates.

Our Pharmacology and Drug Development programme will provide you with a comprehensive knowledge and understanding of new drug discovery, from initial design through to completion of clinical trials. You will benefit from teaching delivered by our corporate partner RB, as well as access to RB’s state-of-the-art healthcare Science and Innovation Centre.

Dr Simon Calaminus, Programme Director, Pharmacology and Drug Development

At Hull York Medical School, we have access to world-leading experts in both medical education and pharmacology. This gives us an excellent opportunity to offer the Pharmacology and Education programme, which will equip you with the latest learning and teaching expertise alongside cutting-edge pharmacology and therapeutics knowledge, informed by our research.

Dr Laura Sadofsky, Programme Director, Pharmacology and Education
ABOUT THE PROGRAMMES

Pharmacology is the science underpinning the action of drugs on biological systems, and its reach and impact are vast. At Hull York Medical School we offer two of the very best, most exciting Pharmacology programmes: Pharmacology and Drug Development; and Pharmacology and Education.

Both programmes are designed to provide you with the skills and knowledge to play an active role in developing the next generation of drugs, providing you with unrivalled opportunities to immerse yourself in the clinical, research and development, and industrial aspects of pharmacology. Whichever of the two programmes best suits your interests and career goals, you can be sure that you will benefit from exceptional teaching delivered by leading experts.

MSC IN PHARMACOLOGY AND EDUCATION

This programme will provide you with a comprehensive professional education to develop you as a teacher and researcher of pharmacology and drug development.

The education modules on this programme are delivered by our Health Professions Education Unit. You will be trained in pedagogical techniques that will allow you to teach pharmacology to students and healthcare professionals, and also conduct an education research project.

As a student on the Pharmacology and Education programme, you will benefit from our relationship with corporate partner RB, experiencing taught sessions delivered by industrial science employees alongside university colleagues.

This programme is a useful and significant step on the path to applying for Fellowship of the Higher Education Academy (HEA).

MSC IN PHARMACOLOGY AND DRUG DEVELOPMENT

The MSc in Pharmacology and Drug Development provides insight into the journey of a new drug, from ‘bench to bedside’ and beyond. It is built around core modules that cover the fundamental principles of pharmacology and the clinical relevance of drugs for the major organ systems, whilst demonstrating the drug development process - from initial drug design to understanding the critical importance of clinical trials.

You will finish your year with us by conducting a significant research project under expert guidance in either basic or applied pharmacology with the aim of generating novel and publishable research findings.

We are delighted to be the founding corporate partner for the MSc in Pharmacology and Drug Development. Hull is home to our global centre of excellence for health, where we research, develop and manufacture many of our iconic brands.

By working with Hull York Medical School, we are helping to shape the development and delivery of the curriculum to equip tomorrow’s researchers with invaluable industry insights and experience. This knowledge is useful to those entering clinical and academic careers, as well as those aspiring to work in industry.

Bruce Charlesworth, Chief Medical Officer, RB
PROGRAMME DURATION
You can choose to study full-time for one year, or part-time over two years. If you are an intercalating student you will need to opt for the full-time study option. The part-time option is ideal if you want to continue working alongside your studies.

WHERE YOU WILL STUDY
You will be based predominantly at Hull York Medical School’s facilities at the University of Hull, although some sessions will be delivered online or off campus by external providers. You may also be required to travel to the University of York for some study days on the educational modules.

INTERCALATION
If you are considering taking a year out from your Medicine programme to intercalate, it is important to choose a programme of study that you are genuinely interested in. Studying these programmes will give you an advantage when applying for training and jobs, as well as making you a better clinician and/or academic.

CAREERS
The course will allow you to develop key skills essential for effective design, delivery and interpretation of laboratory and clinical data. This skill set is key for many roles within the industrial, medical and academic sectors.

Within industry these programmes are likely to open job opportunities in drug safety, quality, regulation and compliance as well as Consumer Safety, Quality Management, and Clinical Data Management. In the medical sector,

35% OF OUR RESEARCH IS WORLD-LEADING OR INTERNATIONALLY EXCELLENT (REF)

YOU WILL BECOME A LIFELONG LEARNER, DEVELOPING THE SKILLS AND TECHNIQUES TO QUESTION PERCEIVED KNOWLEDGE AND TO PUSH THE BOUNDARIES OF WHAT WE KNOW AND UNDERSTAND ABOUT PHARMACOLOGY AND NEW DRUG DEVELOPMENT
MODUL\ES

CORE MODULES ON BOTH PROGRAMMES

Foundations of Pharmacology
In this module you will have the opportunity to learn, discuss and critically analyse key pharmacological topics, such as the general principles of drug action, pharmacodynamics, pharmacokinetics, and adverse drug reactions which underpin the drug development process.

Therapeutics
The use of drugs underpins modern medical practice. In this module you will explore the use of drugs in cardiovascular, cancer, gastrointestinal, renal, liver, rheumatological, and endocrine disease as well as exploring areas of uncertainty around the prescription of medicines. Your training will be delivered by active clinicians, members of our corporate partners, and research scientists teaching in tandem.

Bench to Bedside II: Clinical Trials
Now you have designed a drug, what happens next? This module will give you a detailed overview of clinical trials. You will reflect on the different elements of trial design, understand the phases of clinical trials, whilst all the time developing your skills in evidence synthesis and critical appraisal, which are crucial for underpinning evidence-based practice.

Dissertation
You will undertake a substantive research project within the field of pharmacology or pharmacology and education and produce a formal dissertation. You will gain experience or conducting independent research, from formulating a research question to presenting your findings in written and spoken form.

THE COMBINATION OF ACADEMIC, CLINICAL AND INDUSTRY RELEVANT EXPERIENCE WILL GIVE YOU AN OUTSTANDING UNDERSTANDING OF PHARMACOLOGY AS YOU PROGRESS THROUGH YOUR COURSE
Experimental pharmacology goes hand in hand with the need to develop practical lab skills. In this module you will complete laboratory based experiments to refine your rigorous approaches to working through an experimental protocol, gaining knowledge of different scientific phenomena and analysing, interpreting and presenting experimental data.

Bench to Bedside 1: Design and Discovery
In this module, you will examine the work that goes on before a drug is given to humans. This will include learning the core concepts of drug design, from target selection, through in vitro and appropriate testing and thinking about appropriate formulation. You will also visit various external facilities and receive ‘real world’ input from members of the pharmaceutical industry.

MSC PHARMACOLOGY AND DRUG DEVELOPMENT ADDITIONAL MODULES

Practical Research Skills in Pharmacology
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Bench to Bedside II: Clinical Trials
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Dissertation
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Our aim is to find ever more effective treatments for a range of conditions and diseases, to ensure better health outcomes for patients world-wide.
Learning and Teaching
In this module you will be introduced to the basic principles in learning and teaching within a health profession/clinical environment. You will enhance your skills as an effective clinical teacher with a good grounding in educational theory and you will learn basic teaching skills such as writing outcomes.

Assessment and Feedback
You will be provided with the framework to analyse and review your experiences in assessment and feedback. You will learn to engage critically with the literature relating to assessment and feedback and use case studies to explore the relationships between assessment, feedback and learning.

Research Approaches in Health Professions Education
In this module you will be introduced to key concepts in quantitative and qualitative research in order to form a research question, plan an appropriate methodological approach and method for data collection and analysis, and write a research proposal. The module will give you the foundational knowledge to interrogate published literature and to take a reflective stance towards your own research.

YOU WILL FINISH YOUR YEAR WITH US BY CONDUCTING A SIGNIFICANT RESEARCH PROJECT AND WE WILL HELP MAXIMISE THE CHANCES OF YOUR WORK BEING PUBLISHED
# Programme Timelines

**MSC Pharmacology and Drug Development**

### Full Time Option

<table>
<thead>
<tr>
<th>Term 1 (Oct-Dec)</th>
<th>Term 2 (Jan-Mar)</th>
<th>Term 3 (Apr-Jun)</th>
<th>(Jul-Aug)</th>
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Dissertation (80 credits)  
Result collection, analysis and write up

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### Part Time Option: Year 2

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Result collection, analysis and write up

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**MSC Pharmacology and Education**

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Dissertation (60 credits)  
Result collection, analysis and write up

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### Part Time Option: Year 2

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Dissertation (60 credits)  
Result collection, analysis and write up
We will provide exceptional training that will be relevant and timely, giving you the tools to apply your newly acquired advanced knowledge of pharmacology in clinic, research or the pharmacology industry.

We encourage all of our students to be lifelong self-directed learners. You will have numerous opportunities to immerse yourself in the subject and gain new skills, but you will be the driving force behind your own learning and development.

In addition, we employ a variety of teaching, learning and assessment techniques to deliver our programmes through structured sessions led by clinicians and/or tutors, including:

- Relevant site visits
- Online and digital learning and assessment resources
- Practical laboratory activities
- Independent study
- Small group practical work
- Seminars and workshops
- Flipped classrooms
- Dissertation supervision

We encourage all our students to be lifelong self-directed learners
ENTRY REQUIREMENTS

Applicants must have previous training in human or mammalian biology (e.g. graduates from medical, biomedical, life science and veterinary medicine backgrounds with a minimum degree classification of 2:2). Applicants whose first language is not English will be required to demonstrate evidence of proficiency in English Language as follows: IELTS: 6.5 (in the academic test, with minimum score of 6 in all four language competences: listening, reading, speaking and writing).

Intercalating medical students must have successfully completed a minimum of three years of an MB BS or comparable medical qualification.

STUDENT SUPPORT

Postgraduate study requires a huge personal commitment. Our programmes are intensive and challenging but ultimately hugely rewarding. In addition to the student support services at the Universities of Hull and York, we also have our own dedicated student support team providing a range of pastoral services to all our students.

HOW TO APPLY

If you would like to apply for a place on the Masters in Pharmacology and Drug Development or the Masters in Pharmacology and Drug Development and Education, you will need to complete an online application form available at:

hyms.ac.uk/pharmacology-drug-development
hyms.ac.uk/pharmacology-education

FEES AND FUNDING

TUITION FEES FOR 2021/22 ARE AS FOLLOWS:

UK (Home)
Full-time (1 year): £9,730
Part-time (2 years): £4,865*

International and EU
Full-time (1 year): £23,300
Part-time (2 years): £11,650*

*This is the year 1 fee. Fees for future years are subject to confirmation.

Please visit our website (hyms.ac.uk/pharmacology-drug-development or hyms.ac.uk/pharmacology-education) for further information on tuition fees as well as financial support available.