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 and want to boost your career, then your journey starts with us.
We look at education differently and we believe that our graduates are better clinicians, practitioners and researchers as a result. On this programme, 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 developing new drugs.

At Hull York Medical School, we thrive on nurturing the research and analytical skills necessary to produce critical, enquiring and resilient graduates. We believe that these vital attributes are essential in enabling you to adapt to new situations and achieve success in your chosen career.

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’, at our own clinical trials unit, or in an industrial setting.
About the Programme

This innovative MSc course teaches 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.

Alongside this you will learn from experienced clinicians within the NHS how to link the process of drug development to the translation of drugs into the clinic.

Hull York Medical School researchers and colleagues at the Hull Health Trials Unit (HHTU) at the University of Hull have been working alongside our major corporate partner RB to provide our students with a unique mix of opportunities to learn the basic knowledge of the drug development process, to develop industry links, and gain valuable experience working in a commercial environment. As a result, this MSc will provide you with unrivalled opportunities to immerse yourself in the clinical, research and development, and industrial aspects of pharmacology.

As well as learning, understanding and effectively applying the principles of pharmacology, you will develop skills to become a self-directed learner, allowing you to grow your pharmacology knowledge throughout your career.

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. 11

Bruce Charlesworth, VP R&D Health and Hull Site Lead at RB
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.

You will be based predominantly at Hull York Medical School’s facilities at the University of Hull, although some sessions will be delivered off campus by external providers.

If you are considering taking a year out from your degree programme to intercalate, it is vital that you make a balanced choice between choosing a programme of study that matches your interests and one that will have positive career benefits.

As well as helping your Medicine studies, what you study when you intercalate can have a significant impact on your application to deaneries and the career prospects open to you after that, when competition for the best jobs post-graduation is stiff. Studying a Masters degree programme will also earn you more points for the Foundation Programme Application Systems (FPAS) than a Bachelors degree.

This Masters will provide valuable knowledge applicable to all subsequent medical careers. This will be especially important if you want to pursue a medical speciality, giving you an advantage when applying for training in competitive specialities, as well as making you a better clinician and / or academic.

After completing the course, there will be a number of career paths open to you, including safety, quality, regulatory and compliance as Consumer Safety or Quality Managers. You will also be qualified to pursue roles within the clinical and medical fields as Clinical Study Managers or Medical Advisers.

In addition, through studying this Masters programme, you will have the opportunity to develop skills essential for effective design, delivery and publication of cutting-edge research findings from projects in basic and applied pharmacology through to interpretation of clinical data. This programme is therefore invaluable if you are a practising clinician or healthcare professional considering an academic career.

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
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.

Experimental pharmacology goes hand in hand with the need to develop practical lab skills. In this module you will complete four 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.

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.
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

In this phase of your studies, you will get the opportunity to put your new skills to the test by undertaking a substantive research project within the field of pharmacology, with the opportunity to publish the results. Projects can be based within a laboratory, or can focus on regulation and analysis of the clinical trial process.

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
### PROGRAMME TIMELINES

#### FULL TIME OPTION

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<th>Term 1 (Oct-Dec)</th>
<th>Term 2 (Jan-Mar)</th>
<th>Term 3 (Apr-Jun)</th>
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<tr>
<td>Foundations of Pharmacology (20 credits)</td>
<td>Practical Research Skills in Pharmacology (20 credits)</td>
<td>Therapeutics (20 credits)</td>
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<td>OR</td>
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Dissertation (80 credits)  
Result collection, analysis and write up

#### PART TIME OPTION: YEAR 1

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<td>OR</td>
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#### PART TIME OPTION: YEAR 2

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<td>Therapeutics (20 Credits)</td>
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<tr>
<td>OR</td>
<td>Practical Research Skills in Pharmacology (20 credits)</td>
<td>OR</td>
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</tbody>
</table>
| OR | Therapeutics (20 Credits) | Dissertation (80 credits)  
Result collection, analysis and write up |
TEACHING, LEARNING AND ASSESSMENT

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, as a scientist or a regulator.

We encourage all of our students to be lifelong self-directed learners. You will have numerous opportunities to immerse yourself in the subject, enhance your knowledge 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 this programme through structured sessions led by clinicians and / or tutors to help you get the most out of your studies with us. These structured sessions include:

• 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
ENTRY REQUIREMENTS

Applicants must have previous training in human or mammalian biology (e.g. graduates from medical, biomedical, life science and veterinary medicine backgrounds). 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).

The University of Hull offers Pre-Sessional English Language courses for international students wishing to improve their English language skills. Further information can be found at www.hull.ac.uk.

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 and this programme is no different. This MSc is 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, you will need to complete an online application form available at www.hyms.ac.uk/pharmacology-drug-development.

FEES AND FUNDING

Please visit our website (www.hyms.ac.uk/pharmacology-drug-development) for comprehensive and up-to-date information on tuition fees as well as financial support available.

THIS PROGRAMME IS INVALUABLE IF YOU ARE A PRACTISING CLINICIAN OR HEALTHCARE PROFESSIONAL CONSIDERING AN ACADEMIC CAREER
FOR FURTHER INFORMATION

Admissions Enquiries:
pgtadmissions@hyms.ac.uk
01904 321690

Find out more:
hyms.ac.uk/pharmacology-drug-development