BE AT THE FOREFRONT OF HEALTHCARE INNOVATION

MSc in Pharmacology and Drug Development
MSc in Pharmacology and Education

TANIA BERNARDES, MSc in Pharmacology and Drug Development, Class of 2022
TWO INSPIRING PROGRAMMES

"The MSc in Pharmacology and Education provides a deep insight into therapeutics, while allowing you to develop your knowledge and skills as an educator – preparing you to pursue a career in academia."

DR LAURA SADOFSKY,
PROGRAMME DIRECTOR, PHARMACOLOGY AND EDUCATION

"The MSc in Pharmacology and Drug Development will give you an in-depth knowledge of drug development within an academic, clinical and industrial setting. This critical mix of knowledge and interaction with our expert teachers will open exciting opportunities to broaden your career prospects."

DR SIMON CALAMINUS,
PROGRAMME DIRECTOR, PHARMACOLOGY AND DRUG DEVELOPMENT

TO ACHIEVE YOUR CAREER GOALS

DISCOVER PHARMACOLOGY AND EDUCATION
hyms.ac.uk/pharmacology-and-education

DISCOVER PHARMACOLOGY AND DRUG DEVELOPMENT
hyms.ac.uk/pharmacology-drug-development
CONTENTS

2 WELCOME
4 CASE STUDY: BETHANY SITCH, CLASS OF 2020
5 A DIFFERENT KIND OF MEDICAL SCHOOL
7 DISCOVER THE MSc IN PHARMACOLOGY AND DRUG DEVELOPMENT
10 DISCOVER THE MSc IN PHARMACOLOGY AND EDUCATION
13 MODULES
16 PROGRAMME TIMELINE
18 SUPPORTING YOU TO SUCCEED
19 YOUR APPLICATION

FULL-TIME: 1 YEAR
PART-TIME: 2 YEARS
(please note that the part-time study option is only available to those international students who do not require a visa to study in the UK)

BASED PRIMARILY AT THE UNIVERSITY OF HULL

AVAILABLE AS AN INTERCALATED DEGREE
I studied Biomedical Science at the University of Hull, and that’s where I developed a real passion for science. I loved human biology, but it was the pharmacokinetics and pharmacology aspects of my undergraduate course that inspired me to pursue a postgraduate qualification.

The Pharmacology and Drug Development programme highlighted a bench-to-bedside aspect of medicine which I hadn’t seen before and gave an insight into the industrial side of pharmacology. When I learned the course collaborated with Reckitt, I was really keen to get involved.

I was given a mentor based at Reckitt, who helped me to develop a deeper knowledge of the industry and gain an understanding of opportunities for employment. They put me in touch with colleagues in other areas of the business, so when I got my job at Reckitt, I already had connections.

The masters gave me the confidence I needed to succeed. I’d recommend it to anyone who wants to work in industry.

“THE PROGRAMME ALLOWED ME TO MAKE INDUSTRY CONNECTIONS”

BETHANY SITCH, FORMULATION ASSISTANT, RECKITT

“I T R E A L L Y G A V E M E T H E C O N F I D E N C E T O S U C C E E D”

STUDIED:
MSc IN PHARMACOLOGY AND DRUG DEVELOPMENT

RESEARCH PROJECT:
PHARMACOLOGY OF ESTROGEN RECEPTOR SIGNALING IN HUMAN WOUND REPAIR

GRADUATED:
2020

JOB TITLE:
FORMULATION ASSISTANT, RECKITT
A DIFFERENT KIND OF MEDICAL SCHOOL

As a postgraduate taught student at Hull York Medical School, you will be welcomed into our vibrant and supportive community, addressing the needs of an ever-changing healthcare environment.

You will be taught by world-leading subject experts, clinicians and researchers, who will encourage you to think independently and critically, so you graduate with the expertise to succeed in a rapidly changing healthcare environment.

We are the joint medical school of the Universities of Hull and York, and as such you will have access to the world-class facilities, equipment and expertise as well as the learning resources of both our parent universities.
“THE SCHOOL HAS PROVIDED EVERYTHING I NEEDED TO EXCEL”

“I was attracted to study the MSc in Pharmacology and Drug Development because of the structure of the course and the modules which cover all aspects of drug development. The School has provided everything I needed to excel, not only in the course, but also in my drug development career. It was a phenomenal experience for me and a significant push into the next phase of my career.”

OLALEKAN AYUBA, MSc PHARMACOLOGY AND DRUG DEVELOPMENT STUDENT, CLASS OF 2022
Pharmacology is the science underpinning the action of drugs on biological systems, and its reach and impact – playing a vital role in medicine, nursing, dentistry and veterinary medicine. Pharmacology therefore touches all our lives.

This programme is aimed at applicants from a wide range of backgrounds, including clinical, pharmaceutical, biomedical, life or basic sciences, which creates a unique, stimulating and collaborative environment. If you are a highly motivated, inquisitive student, looking to push the boundaries of contemporary knowledge in pharmacology and drug development, whilst at the same time extending yourself and boosting your career opportunities in a high achieving academic setting, then this programme is for you.

You will benefit from the academic, educational and industrial expertise within our Centre for Biomedicine, and will also be taught by leading clinical and industrial experts from outside the Centre, including scholars from the Hull Health Trials Unit. This ensures you receive high quality tuition covering the principles and process of clinical trials, including study rigour, participant recruitment, data analysis and interpretation, and regulation and governance.

As well as learning from our tutors’ expertise, you will be challenged to think differently and develop skills to become a self-directed learner – allowing you to continually grow your pharmacology knowledge throughout your career.

“THE PROGRAMME WAS A GREAT EXPERIENCE; I CAME OUT WITH HUGE KNOWLEDGE ABOUT HOW DRUGS WORK WITHIN BIOLOGICAL SYSTEMS.”

TANIA BERNARDES, MSc IN PHARMACOLOGY AND DRUG DEVELOPMENT CLASS OF 2022
MSc IN PHARMACOLOGY AND DRUG DEVELOPMENT: KEY FACTS

PROGRAMME DURATION
You can choose to study full-time for one year, or part-time over two years to fit around your work and home life. Please note that the part-time study option is only available to those international students who do not require a visa to study in the UK.

LOCATION
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.

MODULES
The programme is a 180 credit Masters programme, with six taught modules (5 core, 1 optional at 20 credits each), and a core research project/dissertation (60 credits). Learn more about modules on p13.

ASSESSMENT
Assessments vary by module, and include oral presentations, essays, portfolio, practical write ups, poster presentations, and project work. See p13.

INTERCALATION
The MSc in Pharmacology and Drug Development will help give intercalating medical students a deeper understanding and appreciation of prescribing and the science of medicines, which can open up a possible career as a Medical Adviser. Learn more about intercalation on p13.

CAREERS
Through studying this Masters programme, you will have the opportunity to develop key skills essential for effective design, delivery and interpretation of laboratory and clinical data. This skill set is key for multiple roles within the industrial, medical and academic sectors, both in the UK and internationally.

Within industry this MSc is likely to open job opportunities in drug safety, quality, regulation and compliance including roles such as Consumer Safety or Quality Manager, Clinical Data Associate, or Clinical Data Manager, alongside the more traditional lab roles. Through studying this Masters, you will also develop the skills to further your academic career by pursuing a PhD.
HOW IS THE PROGRAMME TAUGHT?

We place an emphasis on helping you to develop the self-directed learning skills that will equip you for lifelong learning and future employment, as well as allowing you to flourish academically in your programme.

Through our founding corporate partner Reckitt, the leading global hygiene, health and nutrition company behind global brands such as Nurofen and Gaviscon, you will also experience regular contact with an industrial mentor, access to Reckitt’s state-of-the-art Science and Innovation Centre in Hull, and taught sessions delivered by industry employees alongside university colleagues.

With our philosophy of research-led teaching, you will be taught through a combination of practicals, lectures, seminars, tutorials and independent study. Some of these sessions may be online, whilst others will involve external speakers.

This combination of different teaching activities allows you to broaden and deepen your learning around the topics in this programme.

The MSc programme 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 importance of clinical trials. Learn more about modules on p13.
Now more than ever, Pharmacology plays a critical role in healthcare. If you are interested in becoming a pharmacology educator or clinical researcher, and passing on your expertise to the next generation of pharmacology students and colleagues, the MSc in Pharmacology and Education is ideal.

This programme combines modules from the MSc in Pharmacology and Drug Development programme with our Higher Education Academy-accredited MSc in Health Professions Education.

Our MSc in Pharmacology and Education will provide you with a unique opportunity to advance your pharmacology knowledge alongside developing as an educator.

You will learn from experts at the forefront of pharmacology, medicine or medical education. This includes external experts, our own Health Trials Unit, pharmacology academics and our Health Professions Education Unit (hyms.ac.uk/hpeu).

You will finish your year with us by conducting a significant research project focussing on generation of novel data to support and improve pharmacology education for both science or medical professions. We will support you to increase your chances of getting your work published.

“YOU WILL LEARN FROM EXPERTS AT THE FOREFRONT OF PHARMACOLOGY, MEDICINE OR MEDICAL EDUCATION.”
MSc IN PHARMACOLOGY AND EDUCATION KEY FACTS:

PROGRAMME DURATION
You can choose to study full-time for one year, or part-time over two years to fit around your work and home life. Please note that the part-time study option is only available to those international students who do not require a visa to study in the UK.

LOCATION
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.

MODULES
The programme is a 180 credit Masters programme, with six core taught modules (20 credits each), and a core research project/dissertation (60 credits). Learn more about modules on p13.

ASSESSMENT
Assessments vary by module, and include written assessments, oral presentations, and a dissertation. See p13.

INTERCALATION
The MSc in Pharmacology and Education will help give intercalating medical students a deeper understanding and appreciation of prescribing, as well as giving you a competitive edge when applying for foundation year training and jobs. Learn more about intercalation on p19.

CAREERS
Through studying this MSc, you will have the opportunity to expand your pharmacology and therapeutics knowledge as well as gaining an insight into the clinical trials process. Alongside this, the course will equip you with practical knowledge to deliver exceptional teaching, assessment and research.

This skill set is key for multiple roles within the industrial, medical and academic sectors. This course will provide you with expertise to help you become a pharmacology educator and will be useful for those wishing to follow an academic or clinical academic career.

In addition, this MSc will give you knowledge and experience to pursue a career in the pharmaceutical industry and is likely to open job opportunities in drug safety, quality, regulation and compliance. Through studying this Masters, you will also develop the skills to allow you to further your academic career by pursuing a PhD.
HOW IS THE PROGRAMME TAUGHT?

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.

We employ a variety of teaching and learning techniques to deliver this programme. These include structured sessions led by clinicians and/or tutors as well as a blended route to mix face-to-face study days with online learning.

The programme is built around core modules that cover the fundamental principles of pharmacology, the clinical relevance of drugs for the major organ systems and the fundamental processes involved in clinical trials. Alongside the pharmacology component, there are core modules covering learning and teaching, assessment, and research methods to train the educators of tomorrow. Learn more about our modules on p13.

“

Our aim is to find ever more effective treatments for a range of conditions and diseases, to ensure better health outcomes for patients worldwide.”
FOUNDATIONS OF PHARMACOLOGY

You will 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.

ASSESSMENT:
Abstract 10%, Essay One 20%, Essay Two 70%

BENCH TO BEDSIDE II: CLINICAL TRIALS

You have designed a drug – but what 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, all the time developing your skills in evidence synthesis and critical appraisal.

ASSESSMENT:
Abstract 30%, clinical trial protocol review 70%

DISSERTATION

You will have 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 your results.

ASSESSMENT:
Presentation 20%, written dissertation 80%

Please note that specific module details may change from time to time. For the latest information, please visit our website.
ADDITIONAL MODULES

PHARMACOLOGY AND DRUG DEVELOPMENT

PRACTICAL RESEARCH SKILLS IN PHARMACOLOGY

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.

ASSESSMENT:
BioCOSHH submission 20%, lab report submission 80%

BENCH TO BEDSIDE I: DESIGN AND DISCOVERY

You will examine the work that goes on before a drug is given to humans, learning the core concepts of drug design, and having the opportunity to visit testing facilities, where you will receive input from experts in the pharmaceutical industry.

ASSESSMENT:
Essay 30%, portfolio 70%

ANALYTICAL SKILL IN PHARMACOLOGY

This module will provide experience of specific analytical laboratory techniques as a means of illustrating key techniques used within the process of drug development.

ASSESSMENT:
Lab report 60%, poster presentation 40%

DRUG REGULATION

This optional module will provide hands-on experience to understand the key role that regulations play in the whole drug development process, from initial discovery and pre-clinical studies, through clinical trials, obtaining marketing authorisation and post-marketing activities.

ASSESSMENT:
Portfolio 100%

THERAPEUTICS

In this module, optional on the Pharmacology and Drug Development programme and core on the Pharmacology and Education programme, 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.

ASSESSMENT:
Oral presentation 40%, essay submission 60%

Please note that specific module details may change from time to time. For the latest information, please visit our website.
# PHARMACOLOGY AND EDUCATION

## LEARNING AND TEACHING

This module will introduce you to the key principles of teaching and learning in the health professions, enabling you to confidently prepare, deliver and evaluate teaching sessions in your area of practice.

**ASSESSMENT:**
Written assignment 100%

## 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 literature relating to assessment and feedback and use case studies to explore the relationships between assessment, feedback and learning.

**ASSESSMENT:**
Group wiki project 10%, written assignment 90%

## RESEARCH APPROACHES IN HEALTH PROFESSIONS EDUCATION

This module will introduce you 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.

**ASSESSMENT:**
Group wiki project 10%, written assignment 90%

"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. "

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Please note that specific module details may change from time to time. For the latest information, please visit our website.
## PROGRAMME TIMELINE*

**MSc in Pharmacology and Drug Development**

### FULL-TIME OPTION

<table>
<thead>
<tr>
<th>TERM 1</th>
<th>TERM 2</th>
<th>TERM 3 (+SUMMER)</th>
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</table>
| • Foundations of Pharmacology (20 credits)  
• Practical Research Skills in Pharmacology (20 credits)  
• Bench to Bedside I: Design and Discovery (20 credits) | • Bench to Beside II: Clinical Trials (20 credits)  
• Drug Regulation (20 credits)  
• Analytical Skill in Pharmacology (20 credits) OR Therapeutics (20 credits) | |
| | | • Dissertation (60 credits) Result collection, analysis and write up |

### TWO YEAR PART-TIME OPTION

<table>
<thead>
<tr>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>TERM 3 (+SUMMER)</th>
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</table>
| • Foundations of Pharmacology (20 credits)  
• Practical Research Skills in Pharmacology (20 credits) OR  
• Bench to Bedside I: Design and Discovery (20 credits) | • Bench to Bedside I: Design and Discovery (20 credits) OR  
• Practical Research Skills in Pharmacology (20 credits) | |
| | | • Analytical Skill in Pharmacology (20 credits) OR Therapeutics (20 credits) OR  
• Bench to Bedside II: Clinical Trials (20 credits) AND Drug Regulation (20 credits) |
| | | • Bench to Bedside II: Clinical Trials (20 credits) AND Drug Regulation (20 credits) OR  
• Analytical Skill in Pharmacology (20 credits) OR Therapeutics (20 credits) |
| | | | • Dissertation (60 credits) Result collection, analysis and write up |

*The programme timelines above are for illustrative purposes only and are subject to change.*
## MSc in Pharmacology and Education

### Full-Time Option

<table>
<thead>
<tr>
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<th>TERM 3 (+SUMMER)</th>
</tr>
</thead>
</table>
| • Foundations of Pharmacology (20 credits)  
• Learning and Teaching (20 credits)  
• Research Approaches (20 credits) | • Therapeutics (20 credits)  
• Bench to Bedside II: Clinical Trials (20 credits)  
• Assessment and Feedback (20 credits) | |

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

### Two Year Part-Time Option

<table>
<thead>
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<th>YEAR 2</th>
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</thead>
</table>
| • Foundations of Pharmacology (20 credits)  
• Learning and Teaching (20 credits)  
• Research Approaches (20 credits) | • Bench to Bedside II: Clinical Trials (20 credits)  
• Assessment and Feedback (20 credits)  
• Therapeutics (20 credits) |

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

*The programme timelines above are for illustrative purposes only and are subject to change.*
When you join Hull York Medical School, you join a close-knit community. Our aim is to ensure you get the most out of your time at medical school, and that you are supported throughout your postgraduate studies.

Our postgraduate programmes are intensive and challenging but ultimately hugely rewarding. Our programmes develop you to become a self-directed learner - and therefore a lifelong learner.

We recognise that there may be times when you need additional support to help you manage academic or personal pressures, and we are here to help.

Our Student Wellbeing Team have expertise in supporting postgraduate students and can help signpost students to support services within the Medical School, in our parent universities and external agencies as appropriate.
Applicants must have previous training in human or mammalian biology (e.g. graduates from medical, biomedical or biological undergraduate courses), Chemistry/Pharmacology or other related fields with a minimum 2.2 (Hons) degree or equivalent.

Applicants whose first language is not English will need to demonstrate proficiency in English as follows: IELTS: 6.5, with no less than 6.0 in each component. Please visit our website for the latest requirements and information.

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

If you are currently studying Medicine, you may have the option to take a year out of your medical degree to do an intercalating degree. Choosing to intercalate brings many benefits, from broadening your horizons through study of a subject you are passionate about, to developing your research and academic inquiry skills and career prospects.

A well-chosen intercalation programme can provide a significant career stepping stone, whether as a clinical academic or in a particular specialism, providing you with the broader skillset and expertise you need to succeed in your chosen area. Discover more about the benefits of intercalating on our Pharmacology programmes on p8 and p11.

There are lots of ways to find out more about our Pharmacology programmes. From virtual taster sessions, to on-campus Open Days, we run events around the year to allow you to gain a deeper insight into postgraduate study at Hull York Medical School.

Click the links above to visit our website where you can find details of upcoming events, or subscribe to our postgraduate newsletter so you never miss the latest announcements.
FURTHER INFORMATION

Admissions Enquiries:
pgtadmissions@hyms.ac.uk

Visit our website for the latest information
Pharmacology and Drug Development
hyms.ac.uk/pharmacology-drug-development

Pharmacology and Education
hyms.ac.uk/pharmacology-education

All details were correct at time of publication (September 2023). For the most up-to-date programme information and entry requirements, please visit hyms.ac.uk/pharmacology-drug-development and hyms.ac.uk/pharmacology-education.