



NUS
National University
of Singapore

Yong Loo Lin
School of Medicine

MASTER OF SCIENCE IN MEDICAL PHARMACOLOGY



APPLY NOW



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DIRECTORS' MESSAGE

Welcome to the MSc in Medical Pharmacology at the Yong Loo Lin School of Medicine, National University of Singapore. This programme represents our strategic response to the burgeoning needs of the biotech and pharmaceutical sectors in Singapore and the Asia-Pacific region.

Singapore is rapidly cementing its position as a leading hub for biotech innovation, yet challenges such as talent shortages in key areas including pharmacology, toxicology, clinical development, and regulatory affairs threaten the sustainability of this growth. Our MSc programme is designed to address these gaps by equipping professionals with a comprehensive understanding of the drug development lifecycle, from discovery through clinical application and regulation.

Unique among pharmacology programmes, we offer three specialised tracks - Clinical, Translation, and Education - each designed to prepare graduates for impactful careers. The Education track, in particular, answers the critical call for pharmacology trainers to sustain excellence in teaching and workforce development across the healthcare, academic, and industry sectors.

At the core of our curriculum is a commitment to interdisciplinary learning, hands-on experience, and innovation. Students will engage with leading faculty and industry experts, leverage cutting-edge facilities, and collaborate on capstone projects tailored to real-world challenges. These experiences, combined with a strong focus on ethical practices and leadership, ensure graduates are well-prepared to drive meaningful change in their chosen fields.

This programme is more than an academic pursuit, it is a gateway to a dynamic and impactful career. Whether your passion lies in advancing therapeutic innovations, ensuring regulatory excellence, or shaping the next generation of pharmacologists, we invite you to join us in this transformative journey.



Warm regards,
A/Prof Gavin Dawe
A/Prof Judy Sng

(Programme Director and
Co-Director, MSc in Medical Pharmacology)
Yong Loo Lin School of Medicine
National University of Singapore



WHY CHOOSE NUS MEDICINE?

The National University of Singapore (NUS) is a global powerhouse in education and research, ranked 8th globally and 1st in Asia by the QS World University Rankings 2025. Choosing NUS means choosing an education that empowers you to become a future-ready leader-driven by curiosity, innovation, and the ability to tackle real-world challenges with confidence.

At the heart of NUS, the Yong Loo Lin School of Medicine stands as Asia's foremost medical institution, consistently ranked among the world's best for its transformative research, progressive education, and dedication to advancing healthcare. Within this dynamic ecosystem, the Department of Pharmacology serves as a pivotal hub, bridging critical gaps in understanding drug mechanisms, decoding the complexities of drug interactions and pioneering therapeutic innovations to improve lives.

In our commitment to health for all, our strategic research and education programmes focus on groundbreaking biomedical advancements, partnering with global collaborators to deliver high-impact solutions that create lasting improvements in human health. Join us on this journey!

PROGRAMME OVERVIEW

The field of therapeutics is advancing at an unprecedented pace, driven by breakthroughs in gene therapies, cell therapies, RNA-based treatments, and next-generation biologics. As the demand for safer, more effective, and personalised treatments grows, experts in pharmacology are needed to drive the next wave of innovation.

The MSc in Medical Pharmacology at NUS Yong Loo Lin School of Medicine is a postgraduate coursework programme designed with industry input. It can be completed in 1 year (full-time) or 2 years (part-time) and equips students with expertise in pharmacology, toxicology, and drug safety monitoring to advance the development of innovative medicines. Students can specialise in Clinical Pharmacology, Translational Pharmacology, or Pharmacology Education, aligning their learning with their career aspirations.

The curriculum integrates rigorous academic training with hands-on experience. Students will engage in capstone projects mentored by leading experts, expanding their professional networks and enhancing their career readiness.

For practitioners passionate about pharmacology education, the programme offers a dedicated education track, equipping them to train the pharma sector and future experts while keeping pace with technological advancement.

KEY BENEFITS



Acquire In-Depth Knowledge

Develop expertise in pharmacology and toxicology to understand how medicines work and ensure their safety.



Build Interdisciplinary Skills

Address challenges in sustainable and innovative drug development through a multidisciplinary approach.



Master the Drug Development Process

Gain a comprehensive understanding of the entire drug development lifecycle, from preclinical research to clinical trials.



Engage with Industry Leaders

Learn from and collaborate with industry and clinical leaders for hands-on experience and real-world insights.

CAREER OPPORTUNITIES

Graduates of this programme are equipped with specialised knowledge and interdisciplinary skills, enabling them to excel in clinical, translational, and education-focused careers. They have key roles in areas such as drug discovery, clinical trial management, toxicology, pharmacovigilance, and training future healthcare professionals. With career opportunities in pharmaceutical and biotech companies, contract research organisations (CROs), hospitals, regulatory bodies, and academic institutions, graduates make a meaningful impact on advancing drug safety, efficacy, and innovation.

Below are some of the career pathways aligned with the programme's specialised tracks:

Clinical Specialisation



- Clinical Pharmacologist
- Clinical Drug Development Manager
- Clinical Research Coordinator
- Clinical Research Associate
- Clinical Research Nurse
- Regulatory Affairs Specialist

Translational Specialisation



- Nonclinical Pharmacologist
- Toxicologist
- Drug Discovery Scientist
- Project Manager (Drug development)
- Study Director (Drug development)
- IP & Patent Manager

Pharmacology Education



- Pharmaceuticals Patient Educator
- Pharma Industry Trainer
- Drug Educator
- Medical Writer
- Scientific Educator



CURRICULUM

This programme is available as a 1 year (full-time) or 2 years (part-time) degree. Students can choose to specialise in one of the 3 specialisations offered: [Clinical](#), [Translation](#) and [Education](#).

GRADUATION REQUIREMENTS

To graduate, students have a choice of:

Master of Science in Medical Pharmacology

Clinical Pharmacology

- Complete 6 Core Courses
- Choose and complete 5-6 Elective Courses
- Complete 1 Capstone

Master of Science in Medical Pharmacology

Translational Pharmacology

- Complete 5 Core Courses
- Choose and complete 6-7 Elective Courses
- Complete 1 Capstone Project

Master of Science in Medical Pharmacology

Pharmacology Education

- Complete 5 Core Courses
- Choose and complete 6-7 Elective Courses
- Complete 1 Capstone Project

Students must complete a total of 40 units in order to graduate from the programme.

STUDY PLAN

Please refer [HERE](#) for the proposed study plan for full-time and part-time students.



PROGRAMME

CLINICAL PHARMACOLOGY CORE COURSES

Course Code	Course Title
PHC5003	Effective Scientific Communication
PHC5004	Ethics & Good Practice in Medicinal Research
PHC5006	Clinical Pharmacology I
PHC5007	Clinical Pharmacology II
ABM5001	Leadership in Applied Biomedicine
ABM5002	Advanced Biostatistics for Research

TRANSLATIONAL PHARMACOLOGY CORE COURSES

Course Code	Course Title
PHC5003	Effective Scientific Communication
PHC5004	Ethics & Good Practice in Medicinal Research
PHC5005	Principles and Praxis of Pharmacology
ABM5001	Leadership in Applied Biomedicine
ABM5002	Advanced Biostatistics for Research

PHARMACOLOGY EDUCATION CORE COURSES

Course Code	Course Title
PHC5003	Effective Scientific Communication
PHC5005	Principles and Praxis of Pharmacology
PHC5201	Quantitative Research in Medical Education
PHC5202	Curriculum Design for Pharmacology
ABM5001	Leadership in Applied Biomedicine

PROGRAMME

*To graduate with a particular track specific: students must choose a minimum of 3 elective courses from their specialised tracks

ELECTIVE COURSES

Course Code	Course Title
CLINICAL PHARMACOLOGY	
PHC5101	Clinical Trial Design and Management
PHC5102	N-of-1 Pharmacology
PHC5103	Personalised Medicines and Pharmacometrics
PHC5104	Pharmacovigilance and Regulatory Affairs
PHC5105	Natural Products & Complementary Medicine
TRANSLATIONAL PHARMACOLOGY	
PHC5106	Toxicology and Safety Assessment
PHC5107	Next Generation Medicines: From Bench to Bedside
PHC5108	Green and Sustainable Pharmacology
MDG5204	Advanced Human Pharmacology
MDG5232	Current Practices in Biotechnology
MDG5252	Understanding IP and Patents in the Biomedical Industry
PHARMACOLOGY EDUCATION	
PHC5108	Green and Sustainable Pharmacology
PHC5211	Transforming your Teaching using Technology
PHC5212	Qualitative Research in Medical Education
MDG5251	Nuts and Bolts of Teaching in Higher Education
MDG5204	Advanced Human Pharmacology

FACULTY



A/Prof Gavin Dawe

Programme Director
Head of Department, Pharmacology
Yong Loo Lin School of Medicine



A/Prof Judy Sng

Programme Co-Director and
Education Track Lead
Yong Loo Lin School of Medicine



Dr Nurulhuda Mustafa

Programme Deputy Director
Yong Loo Lin School of Medicine



Prof Christopher Chen

Programme Clinical Track Lead
Yong Loo Lin School of Medicine
Visiting Senior Consultant, National
University Hospital
Director, Memory Aging and
Cognition Centre



A/Prof Minh Le

Programme Translation Track Lead
Yong Loo Lin School of Medicine
Principal Investigator, NUS
Institute for Digital Medicine
(WisDM)



A/Prof Gautam Sethi

Capstone Coordinator
(Translation)
Yong Loo Lin School of
Medicine



**Research A/Prof
Lingzhi Wang**

Capstone Coordinator (Clinical)
Yong Loo Lin School of Medicine



Dr Mitchell Lai Kim Peng

Yong Loo Lin School of Medicine



Dr Rajkumar Ramamoorthy

Yong Loo Lin School of Medicine

FACULTY



Dr Priya Paranthaman
Yong Loo Lin School of Medicine



Research Asst Prof
Alan Prem Kumar
Yong Loo Lin School of Medicine



Dr David Fann Yang-Wei
Yong Loo Lin School of Medicine



A/Prof Seok (Soga) Kwon
Industry Lead
Yong Loo Lin School of Medicine



A/Prof Danny Soon
Chief Executive Officer, Consortium
for Clinical Research and Innovation
Executive Director, Singapore Clinical
Research Institute
Interim Executive Director, Advanced
Cell Therapy and Research Institute



A/Prof Dorothy Toh
Asst Group Director, Health
Products Regulation Group,
Medicinal Products Pre-Market
Cluster, Health Sciences Authority



A/Prof Kelly Ronan Philip
Vice President (Medical),
Eli Lilly & Company



Dr Eugene Ho Wanxing
Director, Research and Intellectual
Property, Mengniu Dairy (China)



A/Prof Zou Bin
Founder and Chief Executive Officer,
Axcynsis Therapeutics

For more faculty see: <https://medicine.nus.edu.sg/medphc/about-us/academic-staff/>

ADMISSION REQUIREMENTS

To be eligible for enrolment, applicants must meet the following requirements. However, please note that selection of candidates is based on a competitive basis and candidates with relevant industry experience will be considered favourably. Meeting the minimum requirements does not guarantee admission into the programme.

MINIMUM REQUIREMENTS

A medical degree such as M.B.B.S., or a relevant Bachelor's degree (preferably with Honours) in Life Sciences (e.g. Biochemistry, Biology, Pharmacology), Nursing, Bioengineering, Bioinformatics, Computational Biology, Health Sciences or related disciplines.

Candidates with other qualifications or relevant industrial experience will be evaluated on a case-by-case basis, subject to approval of the Programme Committee.

International applicants from non-English speaking universities must demonstrate English proficiency with a minimum TOEFL score of 85 (Internet-based) or a minimum IELTS Academic score of 6.0. Scores must be valid for two years from the test date and should not have expired at the time of application. Expired scores will not be considered.

HOW TO APPLY

Only online applications are accepted. Please download and read the "Applicant Guide to the Graduate Admission System (GDA3)" and "Application Checklist" first before submitting your application.

Step 1

[Click here](#) for the Applicant Guide to the Graduate Admission System (GDA3).

Step 2

[Click here](#) for the Application Checklist.

Step 3

Once you are ready to submit your application, [click here](#).

TUITION FEES

Tuition Fees and Rebates (GST inclusive):

S\$65,400

Standard Fee

S\$39,240

Singapore Citizens and
PRs [40% rebate]

S\$52,230

NUS International
Alumni [20% rebate]

Upon acceptance of offer, an acceptance fee of S\$5,450.00 (GST inclusive) will be charged. Acceptance fee is non-refundable, non-transferable and will be credited towards the tuition fee once the programme starts.



TESTIMONIALS



Professor Harvey F. Lodish

Professor of Biology and Professor of Biological Engineering at MIT, Founding Member of the Whitehead Institute
Whitehead Institute for Biomedical Research,
Massachusetts Institute of Technology

"I offer my strong and enthusiastic support of the Masters programme in Medical Pharmacology at the NUS Yong Loo Lin School of Medicine. The development of totally new types of courses in pharmacology - interdisciplinary in nature - that explain the entire cycle of development of these new biotherapeutics, ranging from laboratory discoveries through the multiple pre-clinical and clinical development stages...(these) courses are essential to training the new generation of pharmacological scientists who will work in both the industry and academic sectors... should be very attractive to talented students throughout Asia and beyond..."



Professor Jörg Kreuzer

Head of Medicine, Human Pharma, ASEAN, Korea, Australia & New Zealand (ASKAN), Boehringer Ingelheim
Boehringer Ingelheim Singapore

"I find the concept, the content and the focus of this new course very useful and suitable for the students aiming at a career in the pharmaceutical industry or in a CRO working in respective areas....."

FAQs

Please [click here](#) for a list of frequently asked questions (FAQs).

If you are unable to find the answer to your query in the list of FAQs, you can email us at mscphc@nus.edu.sg and we will reply to you within 3 working days.

GET IN TOUCH WITH US

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