NUS National University of Singapore

Yong Loo Lin School of Medicine

MASTER OF SCIENCE IN MEDICAL PHARMACOLOGY

Drive Pharmacological Innovation, Transform Medicine, Impact Lives

WELCOME TO THE MASTER OF SCIENCE IN MEDICAL PHARMACOLOGY

This programme represents our strategic response to the growing needs of the biotech and pharmaceutical sectors in Singapore and the Asia-Pacific region.

Singapore is emerging as a leading biotech innovation hub, yet talent shortages in key areas including pharmacology, toxicology, clinical development, and regulatory affairs threaten the sustainability of this growth. Our MSc programme addresses these gaps by equipping professionals with a comprehensive understanding of the drug development lifecycle.

Unique among pharmacology programmes, we offer three specialisations, Clinical Pharmacology, Translational Pharmacology, and Pharmacology Education. The Education track, in particular, answers a pressing need for pharmacology trainers to sustain excellence in teaching and workforce development across healthcare, academia, and industry.

At the core of our curriculum is interdisciplinary learning, hands-on experience, and innovation. Students will learn from leading faculty and industry experts, access cutting-edge facilities, and collaborate on capstone projects tailored to real-world challenges. With a strong focus on ethical practices and leadership, graduates will be ready to drive meaningful change in their chosen fields.

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.

Associate Professor Gavin Dawe

Programme Director,
MSc in Medical Pharmacology

Head of Department, Department of Pharmacology,
NUS Yong Loo Lin School of Medicine

Associate Professor Judy Sng Chia Ghee

Co-Director,
MSc in Medical Pharmacology

Education Lead,
Department of Pharmacology,
NUS Yong Loo Lin School of Medicine

PROGRAMME AT A GLANCE

The Master of Science in Medical Pharmacology at the NUS Yong Loo Lin School of Medicine is a coursework-based programme designed with industry input to equip you with expertise in pharmacology, toxicology, regulatory sciences, and pharmacology education.

You'll have the opportunity to specialise in Clinical Pharmacology, Translational Pharmacology, or Pharmacology Education, tailoring your learning to your interests and career goals.

Through a rigorous curriculum that combines academic training with hands-on experience, you'll gain the knowledge and practical skills needed to advance the development of safe, effective, and innovative medicines in a rapidly evolving therapeutic landscape.

Graduates will be equipped for impactful roles across pharmaceutical and biotech industries, healthcare, contract research organisations, regulatory bodies, academia, and professional education.

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 post-marketing surveillance.

Engage with Industry Leaders

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

Internationally Recognised Master's Degree

Earn a master's degree from Asia's leading medical school, opening doors to advanced education and global opportunities.

STUDY MODE

Full-time 1 year

Part-time 2 years

TUITION FEES

For AY 2026/2027:

S$65,400 (incl. GST)

PROGRAMME STRUCTURE

Core Courses		
Complete 5 - 6 Core Courses		
CLINICAL	**TRANSLATION**	**EDUCATION**
PHC5003 Effective Scientific Communication	PHC5003 Effective Scientific Communication	PHC5003 Effective Scientific Communication
PHC5004 Ethics & Good Practice in Medicinal Research	PHC5004 Ethics & Good Practice in Medicinal Research	PHC5005 Principles and Praxis of Pharmacology
PHC5006 Clinical Pharmacology I	PHC5005 Principles and Praxis of Pharmacology	PHC5201 Quantitative Research in Medical Education
PHC5007 Clinical Pharmacology II	ABM5001 Leadership in Applied Biomedicine	PHC5202 Curriculum Design for Pharmacology
ABM5001 Leadership in Applied Biomedicine	ABM5002 Advanced Biostatistics for Research	ABM5001 Leadership in Applied Biomedicine
ABM5002 Advanced Biostatistics for Research		
16 units in total	**12 units in total**	**14 units in total**
Capstone Courses		
Complete 1 Capstone Course		
PHC5001 Capstone Project	PHC5001 Capstone Project	PHC5002 Capstone Project
6 units in total	**6 units in total**	**6 units in total**
Elective Courses		
Choose a combination of 5 - 6 elective courses	Choose a combination of 6 - 7 elective courses	Choose a combination of 5 - 6 elective courses
18 units in total	**22 units in total**	**20 units in total**
Total: 40 Units To Graduate		

Explore the programme curriculum, study plan, and other details on our programme webpage.

CORE AND ELECTIVE COURSES

Discover key core and elective courses offered across the specialisations:

CORE

PHC5005

Principles and Praxis of Pharmacology

- Explore how drugs work and apply pharmacokinetics and pharmacodynamics for effective use of drugs
- Understand drug interactions, safety profiles, and adverse effects to optimise drug safety

ELECTIVE

PHC5104

Pharmacovigilance and Regulatory Affairs

- Dive into global principles governing pharmacovigilance and regulatory compliance
- Learn how to detect, assess, and mitigate drug-related risks using real-world cases
- Develop critical insight into maintaining safety and public trust throughout a drug's lifecycle

CORE

PHC5006/5007

Clinical Pharmacology I/II

- Determine how pharmacokinetics and pharmacodynamics shape patient care and therapeutic decisions
- Master the pharmacological principles behind key drug classes across major body systems and diseases

ELECTIVE

PHC5106

Toxicology and Safety Assessment

- Build a strong foundation in toxicological science and safety evaluation
- Gain industry-ready insights into global safety assurance from discovery to market approval
- Engage in interactive case studies, workshops, and field visits for practical insights

ELECTIVE

PHC5101

Clinical Trial Design and Management

- Gain a deep understanding of the drug development journey from Phase I to III trials
- Design robust, ethical clinical studies from protocol development to execution
- Develop competencies in project management, stakeholder communication, and data interpretation

ELECTIVE

PHC5107

Next Generation Medicines: From Bench to Bedside

- Delve into cutting-edge therapeutic innovations including cell and gene therapy, next-generation antibodies, and advanced nanoparticle delivery systems
- Journey through the drug discovery lifecycle from target discovery (bench), through preclinical development, to clinical evaluation in patients
- Learn to navigate the scientific and business landscape shaping the future of therapeutics

ELECTIVE

PHC5102

N-of-1 Pharmacology

- Explore how N-of-1 trials are revolutionising personalised therapy and treatment optimisation
- Discover how artificial intelligence is reshaping precision pharmacology and individualised medicine

ELECTIVE

PHC5211

Transforming your Teaching using Technology

- Reimagine education through technology-enhanced learning for both classroom and online settings
- Harness gamification, simulation, and AI to create an engaging, learner-centred medical education experience

For the full breakdown of core and elective courses, visit our programme webpage.

CAREER POSSIBILITIES

- Clinical Investigator
- Clinical Pharmacologist
- Drug Discovery Scientist
- Pharmaceuticals Patient Educator
- Clinical Trial Coordinator/ Research Associate/ Manager
- Industry Trainer
- IP and Patent Manager
- Regulatory Affairs Specialist
- Toxicologist

TRUSTED VOICES

"I offer my strong and enthusiastic support for the MSc in Medical Pharmacology at NUS Medicine... (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... "

- 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

WHO SHOULD APPLY?

The programme welcomes **local and international** applicants from healthcare, academic, pharmaceutical, and biotechnology backgrounds. It is ideal for:

Recent graduates

in biomedical sciences, pharmacology, life sciences, or related disciplines

Working professionals with experience

in healthcare, pharma, biotech, or research organisations

Specialists and educators

seeking to advance in pharmacology, drug development, or regulatory affairs

KEY ADMISSION REQUIREMENTS

Academic and Professional Background

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

Other qualifications with relevant industry experience may be considered on a case-by-case basis

Language Proficiency

International applicants whose undergraduate education was not conducted in English must demonstrate proficiency with a minimum TOEFL score of 85 (Internet-based) or an IELTS Academic score of 6.0

Interviews will be requested for selected applications

Please note that admission is competitive, and meeting the minimum criteria does not guarantee entry into the programme.

REQUIRED DOCUMENTS FOR APPLICATION

- Statement of Intent showcasing academic strength, reasearch interests, motivation to study, and long-term development goals
- Personal Statement highlighting your personal jouney and values that have shaped your interest in pharmacology
- Curriculum Vitae (CV) providing an overview of relevant experience, skills and qualifications, and accomplishments
- Degree Certificate and University Transcripts
- TOEFL / IELTS Scoresheet (if applicable)
- Financial Support Documents

Visit our programme webpage for the full list of supporting documents required for your application.

UPCOMING INTAKE

August 2026

APPLICATION PERIOD

- 1 August 2025 - 31 May 2026 (International Applicants)
- 1 August 2025 - 30 June 2026 (Local Applicants)

FEE REBATES AND FUNDING

- Singaporeans and Singapore PRs: 40% tuition fee rebate
- NUS Alumni: 20% tuition fee rebate
- Tuition fees may be offset using SkillsFuture Credit

For the most up-to-date information on tuition fees, payment schedule, and available grants or funding support, please visit our programme webpage.

DEPARTMENT OF PHARMACOLOGY

Established in 1959, the Department of Pharmacology boasts a distinguished history in pharmacology education and research. Housed within the National University of Singapore — ranked 1st in Asia and 8th globally for Pharmacy and Pharmacology by QS World University Rankings 2025, and 8th globally in Pharmacology and Toxicology by U.S. News — the department is supported by a committed team of academics, laboratory technologists, and research personnel.

Alongside educating medical and health profession students, as well as undergraduate life sciences students, the department provides Master's degree programmes and postgraduate training, in addition to continuing education and training opportunities for professionals and learners within the broader community. Staff members are exceptionally qualified, with many possessing advanced training in medical and health professions education. The department is at the forefront of innovation in teaching

Learn more about the Department of Pharmacology at https://medicine.nus.edu.sg/medphc

For updates and news, follow @medphc on and @nuspharmacology on

NUS National University of Singapore | Department Of Pharmacology Yong Loo Lin School Of Medicine

THE NUS MEDICINE ADVANTAGE

1st — QS Medicine (Asia)

17th — THE (World)

18th — QS Medicine (World)

At the National University of Singapore (NUS), students receive a world-class education at one of the top global universities. The Yong Loo Lin School of Medicine, is Asia's leading medical school, offering an exceptional opportunity to pursue advanced medical education.

Known for producing healthcare professionals who are innovators and leaders, its global reputation, paired with its focus on fostering critical thinking and innovation, makes its graduates highly sought after in both research and clinical settings. A master's degree from NUS Medicine is an investment in a future of leadership, expertise, and meaningful impact in the healthcare industry.

Statistics Source: Times Higher Education (THE) World University Rankings and Quacquarelli Symonds (QS) World University Rankings 2025

NUS National University of Singapore | Yong Loo Lin School of Medicine

SCAN QR TO START YOUR APPLICATION

Master of Science in Medical Pharmacology (MSc PHC)

For general enquiries, please email **dgsmarketing@nus.edu.sg**
For programme-specific enquiries, please contact **mscphc@nus.edu.sg**

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