

Course Detail

Master of Science Program in Pharmacy and Health Innovation

1. Course Title: Master of Science Program in Pharmacy and Health Innovation (International Program)

2. Master Degree: Master of Science (Pharmacy and Health Innovation)

3. Academic Institution: School of Pharmacy, Walailak University

4. Duration: 2 Years (e.g., June 2026 – April 2028)

5. Background and Rational:

Background and Policy Links: The program is an interdisciplinary field that integrates pharmaceutical sciences, health sciences, and innovation to address complex health problems. It has undergone a systematic evolution to align with the Thailand 4.0 policy, focusing specifically on health innovation, digital technology (AI and Big Data), and entrepreneurial skills. The curriculum is meticulously designed to meet the requirements of national regulatory standards (Ministry of Higher Education, Science, Research and Innovation) and international benchmarks such as the FIP Global Advanced Development Framework.

Importance and Necessity: There is a growing need for high-level manpower capable of navigating the changing landscape of health innovation. This program is necessary to produce graduates who can apply advanced research methodologies and statistical principles to develop tangible health products or services. It addresses modern industry demands, such as the integration of AI, digital literacy, and high-level English communication proficiency required for international academic and professional settings.

Benefits and Experience: Graduates will gain expertise in applying pharmaceutical and health science theories to solve real-world problems. They will develop advanced skills in digital analytics (using tools like Python for reproducible research), international scholarly communication, and academic leadership. Furthermore, the program instills a commitment to research ethics, integrity, and intellectual property rights, ensuring graduates are prepared for roles in industry, regulatory affairs, or advanced professional practice.

Potential, Expertise, and Facilities:

Personnel Expertise: The program is supported by a highly qualified faculty, 100% of whom hold Ph.D. degrees or equivalent. Expertise spans diverse areas including Pharmaceutical Product Innovation, Natural Product Drug Discovery, Advanced Drug Delivery Systems, and Digital Health/AI Applications.

Facilities: Students have access to 150 Smart Classrooms and a robust IT infrastructure. Dedicated graduate research laboratories are provided in the B6 building, supplemented by specialized centers such as the Center for Drug and Cosmetics (CDC) and the Research Institute for Health Sciences (RIHS).

Advanced Equipment: The laboratories are equipped with state-of-the-art instrumentation, including High-Resolution Mass Spectrometry (HR-MS), LC-MS/MS, HPLC, and Real-Time PCR systems.

Digital Resources: The university library provides a fully integrated digital system with access to over 67,000 electronic journals/e-books and specialized databases like AccessPharmacy, and ScienceDirect.

6. Objectives:

1. To produce graduates capable of applying advanced theories and knowledge in pharmaceutical and health sciences to solve health science problems and develop health science innovations.
2. To equip graduates with advanced research methodologies and statistical principles to solve problems and develop health science innovations.
3. To develop graduates' skills in searching for and critically analyzing empirical evidence to support health science innovations.
4. To enable graduates to communicate academic and research information effectively at an international level through presentations and publications.
5. To train graduates in applying information technology and digital tools for research and innovation development.
6. To instill high standards of research ethics, academic integrity, and respect for intellectual property.
7. To foster professional attributes, including research management, discipline, academic leadership, and the ability to work collaboratively in teams.

7. Course Synopsis and Methodology:

7.1 Study plan

The curriculum is organized over two academic years with a clear progression from foundational to specialized learning.

Year 1 – Semester 1 (Foundational): Focuses on core disciplinary knowledge and research literacy through courses such as Research Methodology 1, Research Instruments 1, and Research Ethics.

Year 1 – Semester 2 (Intermediate): Focuses on applying methods and tools, digital capability, and innovation practice through courses like Academic Writing, Research Instruments 2 (Python-based), Innovation Creation, Product Development, and Outcome Evaluation.

Year 2 – Semester 1 (Advanced): Focuses on deepening specialized methodology and scholarly communication through the Seminar sequence.

Year 2 – Semester 2 (Integrated): Focuses on the completion of the Independent Research/Thesis.

7.2 Course Content

- Research Methodology & Instruments (PHI68-111, 112, 113): Core theories, research frameworks, fundamental and advanced research principles, and statistical selection.
- Academic Writing (PHI68-114): Standards for academic reporting and manuscript preparation.
- Research Instruments 2 (PHI68-115): Data retrieval from scientific databases and specialized software for Python-based reproducible analytics (data cleaning, modeling, and visualization).
- Innovation & Product Development (PHI68-121, 122): Design thinking, prototyping, and evaluating the feasibility of health products.
- Evidence-Based Practice (PHI68-123): Critical evaluation of the quality and relevance of retrieved data.
- Outcome Evaluation (PHI68-124): Application of IT tools for outcome evaluation and clinical/real-world endpoints.
- Seminar Series (PHI68-331 to 334): International academic presentation, manuscript drafting, and peer review skills.

8. Graduation Conditions:

Academic Performance: Must complete all required credits according to the study plan with a cumulative GPA of at least 3.00.

Thesis Requirement: Must pass the final thesis defense using the official rubric and submit the final document in the required format.

Dissemination: Must fulfill the publication requirement, such as having a paper accepted in Q2 Scopus journal or presented (as required) by the specific academic plan.

9. Applicant Qualifications

Educational Background: Applicants must hold a bachelor's degree in a relevant field.

GPA Requirements:

- Plan 1 Academic 1 (Research Only): Minimum GPA of 3.00.
- Plan 1 Academic 2 (Research and Coursework): Minimum GPA of 2.50.

English Proficiency: A valid score of TOEFL (paper-based) 500, IELTS 5, WU-TEP 63, or CEFR B1.

Research Proposal: Required for Plan 1 Academic 1 (Research Only) applicants; the proposal must align with the program's research areas and be presented during the interview.

Interview: All shortlisted applicants must undergo an interview to assess motivation, academic preparedness, and suitability for the program.

10. Document Required

In addition to the standard documents required by the Thailand International Cooperation Agency (TICA)—which include the TIPP application form, medical report, transcript, recommendation letter, and English test score—the program requires the following:

Research Proposal: Applicants for Plan 1 Academic 1 (Research Only) must submit a research proposal that aligns with the program's designated research areas.

Bachelor's Degree Certificate: Evidence of a Bachelor's degree in a relevant field is mandatory to meet academic qualifications.

English Proficiency Certification: Valid score reports for TOEFL (paper-based 500), IELTS (5), WU-TEP (63), or CEFR (B1) must be provided.

Interview Presentation: Shortlisted applicants must participate in an interview, during which Plan 1 Academic 1 candidates are required to present their research proposal.

11. Contact:

Asst.Prof.Kritamorn Jitrangsri, PhD
School of Pharmacy, Walailak University
Kritamorn.jj@wu.ac.th, Tel. +66-851-328-782

Ms.Sirinun Khongpan
School of Pharmacy, Walailak University
sirinan.kn@wu.ac.th, Tel. +66-843-982-860
