

## Course Detail

### **Master of Science in Pharmacy Program in Clinical Pharmacy (International Program)**

<b>Course Title:</b>	Master of Science in Pharmacy Program in Clinical Pharmacy (International Program)
<b>Master Degree:</b>	Master of Science in Pharmacy (Clinical Pharmacy)
<b>Academic Institution:</b>	Faculty of Pharmacy, Departments of Pharmacy
<b>Duration:</b>	1 - 2 years B.E. 2563-2565

#### **Background and Rational:**

Current circumstances or economic development that are taken into account for curriculum planning are derived from a framework of Economics and Social Development Plan No. 12 (2017-2022). It is under the management philosophy of sufficient economy to accommodate the changes that have affected both positive and negative aspects for Thailand. This strengthens and utilizes existing potentials to be beneficial for country development by giving priority to local economy focusing on the solidification of the production base in agriculture and adaptation to link with global and regional economy. Thailand has an obligation under the framework of multiple co-operations to take an appropriate step towards the ASEAN Economics Community (AEC) in 2015. Therefore, the establishment of human development and wisdom and learning society are in need. In addition, the strategic goals of the national policy on drug strategy 2011 and the development of national drug policy 2011-2016 aim for prevention and the improvement of healthcare standards to the public. Those embrace quality assurance, safety and effectiveness of drugs, promoting the rational use of drugs, promoting equitable access to medicines sustainably and promptly, creating pharmacovigilance system, and developing pharmaceutical industry for long self-sustainable. The National Health Security Office (NHSO), an organization under the supervision of the Ministry of Public Health, has main responsibility in the effective management of the National Health Security Fund. NHSO developed health service systems to assure that the public can access to the qualified services to accomplish the vision, said "Everyone who lives in Thailand is under the Universal Healthcare Coverage Scheme". A mission related to public health is to improve healthcare services under various health insurance schemes for quality standards that are accessible to everyone and satisfy to citizens and service providers.

However, considering the high cost of healthcare including the cost of medicines and medical supplies in Thailand, this could be caused by irrational drug use or the patient's non-adherence to treatments. Consequently, patients do not gain treatment benefits as it should be, or need to change treatment modalities or medications that commonly lead to higher medical expenses. Moreover, Thailand is entering to an aging society which this population needs cautions in drug use. Such problems can be prevented by health professional co-operation as multidisciplinary team. Fulfilling of this co-operation can improve the overall healthcare

standards in the public. The pharmacist, a key mechanism as drug expert in a multidisciplinary team, can take the role of clinical pharmacy into action.

Currently, the operational benchmarks for professional hospital pharmacy has been established for use as a guidance in pharmaceutical care or clinical pharmacy services for both governmental and private hospitals. Clinical pharmacy services have been designated as one of the standard professional pharmacist operations to support the roles of hospital pharmacists in patient care, which require skills and knowledges of clinical pharmacy-related activities. This was conducted in parallel with the development of hospital accreditation, one of the indicators used to certify hospital pharmacy services across the country. In order to comply with the philosophy of Mahidol University said, “True success is not in the learning, but in its application to the benefit of mankind”, the operations to achieve these objectives require skillful staff who can integrate knowledges in healthcare and social sciences effectively. Pharmacist who expertises in clinical pharmacy is considered as the priority, which is preferred by both the public and private organizations to foster success as mentioned above.

As a result of less skillful clinical pharmacists and low rate of pharmacists pursuing continuing education in clinical pharmacy, Faculty of Pharmacy Mahidol University, as the main entity responsible for administration of clinical pharmacy program, has updated its curriculum for Master of Science (M.Sc.) Program in Clinical Pharmacy (International program) according to the 12th National Economics and Social Development Plan (2017-2022), the national strategic plan on drug policy (2011), and the national drug system development strategy (2011-2016) with the aims to develop personnel working in both government and private healthcare organizations with high-level competency, proficiency, creativity, morality and ethics in pharmaceutical care, excellent communication skill and health-related technology, and be capable of developing applicable knowledge through clinical research that satisfy the users. In addition, such personnel can be able to prevent and solve healthcare problems by assuring quality, safety, and effectiveness of drugs, promoting rational drug use and equal, sustainable and timely access to essential medicine, creating effective surveillance mechanisms for drug utilization and facilitating development of pharmaceutical industry for sustainable self-reliance of the nation. Faculty of Pharmacy Mahidol University is ready in terms of faculty members, research materials and facilities, laboratory for clinical research, buildings and academic partners to support the M.Sc. program which in turn gear up national economics and help maximize the benefit of knowledge in clinical pharmacy for developing the country in the future.

### **Objectives:**

After completion their study, students will have characteristics which comply with Thailand Quality Framework standard as follows:

1. Possess moral, ethics and professional ethics, including ethics for human research and research code of conduct
2. Possess knowledge that is relevant to clinical pharmacy research and practice

3. Possess cognitive skills in searching, analyzing, synthesizing relevant information and effectively conducting research, and advance clinical pharmacy research and practice
4. Express opinions, be academic and professional leader, possess creative ideas, social responsibility, interpersonal and interactive skills
5. Possess appropriate communication skill and informative technology utilization for various groups in both academic and professional sectors along with ability to use information technology to analyze and present research data effectively

### Expected Learning Outcomes

On successful completion of the program students will be able to:

1. Apply knowledge on characteristics of diseases and pharmacotherapy principle.
2. Inter-relate pharmacotherapy principles to practice.
3. Analyze drug-related problems or disease problems, develop solutions and justify professional decisions.
4. Demonstrate moral, ethics and professional ethics in accordance to social norm and professional standard along with personal accountability in executing professional decisions, leadership, communication and application of knowledge and skills.
5. Appraise and critically evaluate published information and present it in written or oral format using appropriate information technology technique.
6. Conduct clinical pharmacy research.

### Course Synopsis & Methodology:

#### 1. Study plan:

Year	Semester 1			Semester 2		
1	PYCP 666	Pharmaceutical Care I Research	3(3-0-6)	PYCP 668	Clinical Pharmacy and Clerkship I	3(2-3-5)
	PYID 685	Methodology in Pharmacy I	2(2-0-4)	PYCP 648	Seminar in Clinical Pharmacy I	1(1-0-2)
		Elective Courses	6 credits		Elective Courses	6 credits
		<b>Total</b>	11 credits		<b>Total</b>	10 credits
2	PYCP 649	Seminar in Clinical Pharmacy II	1(1-0-2)	PYID 698	Thesis (continued)	6(0-18-0)
	PYCP 670	Special Problems in Clinical Pharmacy	2(0-6-2)			
	PYID 698	Thesis	6(0-18-0)			
	<b>Total</b>	9 credits		<b>Total</b>	6 credits	

## 2. Course Content/Study Topic: Program Structure

### *Credit Requirements*

Credit requirements of the program were set according to the Ministry of Education Announcement titled “Standard Criteria for Graduate Studies 2005,” with specified plan 2 curriculum.

1. Required Courses	12 credits
2. Elective Courses (at least)	12 credits
3. Thesis	12 credits
<b>Total no less than</b>	<b>36 credits</b>

### *Required Courses*

<u>Course ID</u>	<u>Course Name</u>	<u>Credit(s)</u>
PYID 685	Research Methodology in Pharmacy I	2 (2-0-4)
PYCP 648	Seminar in Clinical Pharmacy I	1 (1-0-2)
PYCP 649	Seminar in Clinical Pharmacy II	1 (1-0-2)
PYCP 666	Pharmaceutical Care I	3 (3-0-6)
PYCP 668	Clinical Pharmacy and Clerkship I	3 (2-3-5)
PYCP 670	Special Problems in Clinical Pharmacy	2 (0-6-2)

### *Elective Courses*

Elective courses can be any graduate-level courses offered within Mahidol University or other universities with approval from the program director, major advisor, or program administrative committee. Listed below are examples of elective courses offered by the Faculty of Pharmacy, Mahidol University.

<u>Course ID</u>	<u>Course Name</u>	<u>Credit(s)</u>
GRID 603	Biostatistics	3 (3-0-6)
PYCP 627	Therapeutic Drug Monitoring	3 (3-0-6)
PYCP 644	Drug Information Service	2 (2-0-3)
PYCP 667	Pharmaceutical Care II	3 (3-0-6)
PYCP 669	Clinical Pharmacy and Clerkship II	3 (2-3-5)
PYCP 704	Rational Drug Use	2 (2-0-4)
PYCP 689	Pharmacotherapeutics in Geriatrics	2 (2-0-4)
PYCP 703	Pharmacovigilance	3 (3-0-6)

### *Thesis*

<u>Course ID</u>	<u>Course Name</u>	<u>Credit(s)</u>
PYCP 698	Thesis	12 (0-36-0)

**Applicants Qualifications:**

1. Degree holding and cumulative GPA
  - Graduated with a Bachelor Degree in Pharmacy or Doctor of Pharmacy (Pharm.D.) from programs accredited by the Office of Higher Education Commission (OHEC) with GPA of at least 3.50
2. Have an English proficiency test score as the requirement of Faculty of Graduate Studies
3. Other exceptions will be considered by the Program Director and the Dean of Faculty of Graduate Studies, Mahidol University.

**Document Required:**

1. Application form
2. Transcript
3. Certificate of English of proficiency
4. Statement of purpose and draft of thesis proposal

**Contacts:**

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\*\*\*The application procedure will complete when TICA has received the hard copy of the application form and other related documents through the Royal Thai Embassy/Permanent Mission of Thailand to the United Nations/Royal Thai Consulate – General accredited to eligible countries/territories.