MINISTRY OF EDUCATION & TRAINING
NAM CAN THO UNIVERSITY

SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness

MASTER TRAINING PROGRAM
PHARMACOLOGY- CLINICAL PHARMACY
RESEARCH-ORIENTED
CODE: 8.72.02.05

(Issued under Decision No. 07/QD-ĐHNCT, January 14, 2023
Of Rector of Nam Can Tho University)

1	**Name of Training**	**Pharmacology and Clinical Pharmacy**
2	**Code**	**8.72.02.05**
3	**Management unit**	**Faculty of Pharmacy, Nam Can Tho University**
4	**Input standard**	
4.1		**Pharmacist**
4.2	Suitable sector	**Bachelor of Pharma-Chemistry** **Doctor of Medicine**
4.3	**General Requirements**	University degree (or equivalent or higher) in a relevant discipline; decent grade. Have a foreign language level B1 (level 3/6) according to the 6-level Foreign Language Competency Framework for Vietnam or equivalent.
5	**Objective**	**General objective** Training at the master's level of Pharmacology-Clinical Pharmacology to help students be equipped to supplement, update and improve specialized knowledge, enhance interdisciplinary knowledge; have in-depth knowledge in a specialized scientific field or skills to apply in professional practice; have the ability to work independently, think creatively and have the ability to detect and solve problems in the trained industry or major; can continue to study at the Ph.D. level. **Detail Goal** a. Applying specialized knowledge to build detailed outlines of scientific research topics. b. Accurately perform laboratory skills in experimental and subclinical and clinical pharmacology c. Proficient in searching for drug information, scientific research databases, and writing scientific reports
6	**Output Standard**	*Output standards in knowledge, skills, attitudes/degrees of self-control and personal responsibility, foreign languages*
6.1	**Knowledge**	a. General knowledge: Applying knowledge of Philosophy and English in practice. b. Basic knowledge of the industry: Mastering and applying advanced basic knowledge to apply to the

		specialty, being able to update technological advances in such fields as biopharmaceuticals of new drugs, pharmaceutical equivalents, bioequivalence, therapeutic equivalence; molecular pharmacology, biofilm receptors, and drug effects; applying pharmacokinetics to explain drug effects and interactions; understand diseases at the molecular level applied to treatment. a. General knowledge: Applying knowledge of Philosophy and English in practice. b. Basic knowledge of the industry: Mastering and applying advanced basic knowledge to apply to the specialty, being able to update technological advances in such fields as biopharmaceuticals of new drugs, pharmaceutical equivalents, bioequivalence, therapeutic equivalence; molecular pharmacology, biofilm receptors, and drug effects; applying pharmacokinetics to explain drug effects and interactions; understand diseases at the molecular level applied to treatment. c. Specialized knowledge: - Having in-depth knowledge of Pharmacology- Clinical Pharmacology; - Analyze treatment guidelines for disease groups; - Analyze and discuss the rationality of drug use in prescriptions and medical records; -Understand and apply medical ethics well in medicine-pharmaceutical-biology; - Organize and operate the drug information unit. d. Scientific knowledge: - Capable of carrying out independent scientific research projects; -Designing research outlines on pharmacology, and evaluating drug use in clinical and clinical trials; -Synthesize and compile the results of pharmacological research, and assessment of drug use in clinical and clinical trials.
6.2	**Skills**	a. Standard Skills: Advanced skill: - Exploiting patient information from which to understand and advise on drug use; - Analyze and evaluate drug interactions in prescriptions and medical records; - Prepare and present drug information; - Synthesize reference sources for drug information and design research protocols on pharmacology, assessment of drug use, and clinical trials; - Organize and implement research on pharmacology and clinical pharmacy. - Coordinate with colleagues (doctors, nurses, pharmacists ...) to implement treatment and care plans for patients. b. Soft Skills:

		- Read and understand English drug manuals; - Proficient in drafting documents, calculating and processing data using statistical software; - Good presentation skills; - Effective teamwork skills.
6.3	**Degree Autonomy and Professional Responsibilities**	Show responsibility, confidence, and dynamism at work - Strictly comply with 12 ethical rules of medical staff and 10 ethics of pharmacy practitioners promulgated by the Ministry of Health; - Have responsibility and professional responsibility in the field of operation; - Respect for patients and sincerity, have the ability to cooperate and share with colleagues; - Honesty, objectivity, and self-study spirit to improve qualifications.
6.4	**Output English Level**	. *Self-study students achieve a B2 certificate (level 4/6) according to the 6-level Foreign Language Competency Framework for Vietnam or equivalent.*
7	**Structure of the Training Program**	- General knowledge: 07 credits (Philosophy, Specialized Foreign Languages, and Scientific Research Methods in Pharmacy) - Basic knowledge of the industry (advanced): 08 credits - Specialized knowledge (advanced): 30 credits - Graduation thesis: 15 credits
8	**Additional knowledge for the required fields in Section 4.2**	- Number of courses: 4; total credit: 12 - Names of courses (name, HP code, number of credits) 1. Pharmaceutical chemistry (University of Science): 3 2. Pharmacology : 3 credit 3. Clinical Pharmacology : 3 credit 4. Pharmacovigilance: 3 credit
9	**Entrance Exam** (if you choose the form of examination)	1. English (foreign language 1); achieved level 3/6 (B1) according to the National 6-level Competency Framework of Vietnam (Decision No. 1982/QD-CP). 2. Specialized subjects (Pharmacy; Clinical pharmacy)
10	**Admission conditions** (if you choose the form of admission)	- *Graduated from a relevant university with a good ranking.* - *Have a foreign language level 3/6 (B1) according to the Level 6 Competency Framework for Vietnam or equivalent*

CURRICULUM PROGRAM

Total Credits: 60

Training Time: 2 years

TT	Code of Term	Name of Term	No. of credits	Obligatory	Elective	No. theory	No. discuss	Term	Semester
I. General knowledge section (07 credits)									
1	DHTH	Philosophy	2			30	30		I

TT	Code of Term	Name of Term	No. of credits	Obligatory	Elective	No. theory	No. discuss	Term	Semester
2	DHNN	English for Pharmacy	2			30	30		I
3	DHPP	Medical-Pharmaceutical Research Methods	3(2/1)			30	30		I
4	DHNN	Foreign language: English							
Sum 07 (07 C; 0 C)									
II. Basic knowledge section (10 credits)									
4	DHCS	Pathophysiology-Immune	2			30	30		I
5	DHSD	Biopharmaceuticals	2			30	30		I
6	DHDĐ	Pharmacokinetics in clinical applications	2			30	30		I
7	DHPT	Molecular pharmacology	2			30	30		I
8	DHHS	Clinical biochemistry	2			30	30		I
Sum: 10 C (10 C; 0 C)									
III. Specialized knowledge section (28 credits)									
Compulsory module (20 credits)									
9	DH CG	*Theory*. Drug information and pharmacovigilance	2			30			II
		Practice. Drug information and Pharmacovigilance	2				60		II
10	DHĐG	*Theory*. Evaluation and management of drug interactions	2			30			II

TT	Code of Term	Name of Term	No. of credits	Obligatory	Elective	No. theory	No. discuss	Term	Semester
		Practice. Evaluation and management of drug interactions	2				60		II
11	DHKS	Pharmacokinetics and pharmacodynamics in antibiotic use	2			30			II
		Pharmacokinetics and pharmacodynamics in antibiotic use	2				60		II
12	DHĐT	Using drugs in the treatment	2			30			III
		Using drugs in the treatment	2				60		III
13	DHNT	Nosocomial infections and prophylactic antibiotics in surgery	2			30			III
		Nosocomial infections and prophylactic antibiotics in surgery	2				60		III
Elective course: 08 credits/ out of 12 credits									
14	DHCS	Theory. Pharmaceutical care	2			30			III
15	DHQL	Theory. Hospital pharmacy management	2			30			
16	DHDL	Theory. Pharmaceutical Medicine	2			30			III
17	DH SS	Theory. Errors in drug use	2			30			III

TT	Code of Term	Name of Term	No. of credits	Obligatory	Elective	No. theory	No. discuss	Term	Semester
18	HĐT	Theory. Clinical drug toxicity	2			30			III
19	DHBV	Theory. Clinical pharmacy at the Hospital	2		TC	30	60		III
Plus: 28 credits (Required: 20 credits; Optional: 08 credits)									
IV. THESIS OF GRADUATION (15 credits)									
20	DHLV	**Graduation essay**	15			250	200		IV
Add 15TC									
		Total	**60**	**52**	**08**	**730**	**800**		*

MATRIX OF RELATIONSHIP BETWEEN GOALS AND OUTPUT STANDARDS

Training Objective	Output Standards															English
	Knowledge				Skill						Aut. &Professional Responsibilities					
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PO 13	PO 14	PO 15	
M1	X	X	X	X							X	X	X	X	X	x
M2					X	X	X	X	X	X	X	X	X	X	X	
M3					X		X								X	
M4															X	

MATRIX OF RELATIONSHIP BETWEEN MODULES WITH OUTPUT STANDARD

Name of Terms			Output Standards														
			Knowledge				Skill						Auto.& Professional Responsibilities				English
			PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO11	PO 12	PO 13	PO 14	
No.	MS																
1	DH TH		**x**								**x**					**x**	
2	DH NN		**x**			**x**			**x**		**x**						
3	DH NC		**x**								**x**						
4	DHS L			**x**	**x**		**x**	**x**			**x**		**x**	**x**	**x**	**x**	
5	DHS D			**x**	**x**		**x**	x			**x**		**x**	**x**	**x**	**x**	
6	DH DĐ			**x**	**x**		**x**	x			**x**		**x**	**x**	**x**	**x**	

7	DH DL			**x**	**x**		**x**	x			**x**		**x**	**x**	**x**	**x**	
8	HD HS																
9	DH TT			**x**	**x**		**x**	x			**x**		**x**	**x**	**x**	**x**	
10	DH ĐG			**x**	**x**		**x**	x			**x**		**x**	**x**	**x**	**x**	
11	DH KS			**x**	**x**		**x**	x			**x**		**x**	**x**	**x**	**x**	
12	DH DT			**x**	**x**		**x**	x			**x**		**x**	**x**	**x**	**x**	
13	DH NT			**x**	**x**		**x**	x			**x**		**x**	**x**	**x**	**x**	
14	DH CS			**x**	**x**		**x**	x			**x**		**x**	**x**	**x**	**x**	
15	DH QL			**x**	**x**		**x**	x			**x**		**x**	**x**	**x**	**x**	
16	DH DL			**x**	**x**		**x**	x			**x**		**x**	**x**	**x**	**x**	
17	DH SS			**x**	**x**		**x**	x			**x**		**x**	**x**	**x**	**x**	
18	DH TO			**x**	**x**		**x**	x			**x**		**x**	**x**	**x**	**x**	
19	DH BV			**x**	**x**		**x**	x			**x**		**x**	**x**	**x**	**x**	
20	DH TN			**x**	**x**		**x**				**x**		**x**	**x**	**x**	**x**	

EVALUATION OF HOSPITAL PRACTICE RESULTS

1. Learners who have accumulated at least 30 credits of modules in a master's program (research-oriented) can register for hospital practice outside the training institution. Learners themselves contact the practice place that is suitable for the training industry. The school supports learners in administrative procedures to contact the practice. Hospital practice is considered a required component of the master's program in Clinical Pharmacology-Pharmacy (research-oriented).

2. The assessment for the part of the hospital practice learning volume is done through the practice diary marking to evaluate the attendance score (weighted 30%); grade and present internship reports to evaluate professional results in practical activities of learners (70% weight). The assessment of the students' practice results on the subject matter of the specialty is carried out by the Faculty of Science.

GRADUATION THESIS REVIEW

The evaluation of the graduation thesis is carried out by the Graduate Thesis Evaluation Council established by the University in accordance with the current Regulation on enrollment and training at the master's level.

Students have accumulated enough credits within the specified time in the specialized training program of Pharmacology and Clinical Pharmacology and successfully defended the graduation thesis and met the requirements for graduation of the master's degree. The Ministry of Education and Training according to Circular No. 23/2021/TT-BGD&DT dated August 30, 2021, of the Ministry of Education and Training on promulgating the Regulation on training

master's level, will be granted the following degrees: Master The Degree of Master of Pharmacology and Clinical Pharmacy.

DEAN OF PHARMACY

Assoc. Prof. Manh Hung Vu, PhD.