

## Doctor of Philosophy Program in Pharmacology

### Name of the degree

Full : Doctor of Philosophy (Pharmacology)

Abbreviation : Ph.D. (Pharmacology)

Type 1.1: Student with Master's Degree

Total credit 48 credits

A. Thesis 48 credits

320899 Dissertation 48 credits

B. Academic Activities

1. A student has to organize and present a seminar in English at least once every semester and has to attend seminar every semester that the course is offered.
2. A student must present his/her research data once every semester that the course is offered.
3. At least 2 dissertation work or a part of dissertation work must be published or at least accepted to publish in an international journal, and at least one of the two must be listed in ISI, Scopus, IEEE, PubMed or Web of Science database, and at least 1 dissertation work or a part of dissertation work must be presented in an international conference accepted by the field of study.
4. At least 1 main publication of the thesis work must specify the student as the first author with the affiliation of Graduate School, Chiang Mai University
5. A student has to report dissertation progression to the Graduate School every semester, for approval by the Chairman of the Graduate Study Committee.

C. Non-credit course

1. The Graduate School requirement : a foreign language
2. Program requirement : none

D. Qualifying examination

1. A student must complete a qualifying examination to evaluate his/her ability before presenting a dissertation proposal.

2. An unsuccessful examinee may take a re-examination once. The examinee must make formal request for re-examination and the re-examination must take place within the regular semester following the initial examination.
3. A student who has completed a master degree program in Pharmacology from other institutes but fails the doctoral qualifying examination may file a petition with the Graduate Program Administrative Committee in the field to make a request to the Graduate School for approval to study for a master of Science Program in Pharmacology or master degree in a related field at Chiang Mai University. If a student who has completed a master degree program in Pharmacology from Chiang Mai University but fails the doctoral qualifying examination may file a petition with the Graduate Program Administrative Committee in the field to make a request to the Graduate School for approval to study for a master degree in a related field.

E. Comprehensive examination

1. A student must complete a comprehensive examination to evaluate his/her knowledge beyond the subject of their dissertation.
2. An unsuccessful examinee may request to take a re-examination.
3. A student who has completed a master degree program in Pharmacology from other institutes but fails the a comprehensive examination may file a petition with the Graduate Program Administrative Committee in the field to make a request to the Graduate School for approval to study for a master of Science Program in Pharmacology or master degree in a related field at Chiang Mai University. If a student who has completed a master degree program in Pharmacology from Chiang Mai University but fails a comprehensive examination may file a petition with the Graduate Program Administrative Committee in the field to make a request to the Graduate School for approval to study for a master degree in a related field.

Type 2.1: Students with Master's Degree

Total credit	a minimum of	48	credits
A. Course work:	a minimum of	12	credits
1. Graduate course:	a minimum of	12	credits
1.1 Field of concentration courses	a minimum of	12	credits

1.1.1 Required courses		6 credits
320801	Molecular Pharmacology	2 credits
320802	Steps in Drug Research and Development	1 credit
320891	Ph.D. Seminar in Pharmacology I	1 credit
320892	Ph.D. Seminar in Pharmacology II	1 credit
320893	Ph.D. Seminar in Pharmacology III	1 credit
1.1.2 Elective courses:	a minimum of	6 credits
320711	Application of Pharmacology in Traditional Medicine Research	3 credits
320712	Adverse Drug Effects	3 credits
320713	New Drugs in Medical Practice	3 credits
320714	Molecular Cell Biology for Pharmacological Research	3 credits
320789	Selected Topics in Pharmacology	3 credits
320803	Experimental Methods in Pharmacology	3 credits
320811	Medical Pharmacokinetics and Therapeutic Drug Monitoring	3 credits
320812	Immunopharmacology	2 credits
320813	Clinical Pharmacology	3 credits
320895	Special Problem in Pharmacology	3 credits

Notes

1. An elective course and other courses must not be the one that he/she had already been completed for his/her Master's degree.
2. A student with Master's degree in other fields must take pharmacology courses 320701 PHCO 701 and 320702 PHCO 702 or with consent of the Graduate Program Administrative Committee. A student who has never taken the course Research Techniques in Pharmacology must take course 320803 PHCO 803.
3. A student who had completed courses 320707 PHCO 707 is not allowed to take course 320811 PHCO 811.

1.2 Other courses		None
2. Advanced Undergraduate Courses		None
B. Thesis		36 credits

## C. Academic Activities

1. A student has to organize and present a seminar in English at least once every semester for at least six semesters and has to attend seminar every semester that the course is offered.
2. A student must present his/her research data once every semester that the course is offered.
3. At least 1 dissertation work or a part of dissertation work must be published or at least accepted to publish in an international journal listed in ISI, Scopus, IEEE, PubMed or Web of Science database, and at least 1 dissertation work or a part of dissertation work must be presented in an international conference accepted by the field of study.
4. At least 1 main publication of the thesis work must specify the student as the first author with the affiliation of Graduate School, Chiang Mai University
5. A student has to report dissertation progression to the Graduate School every semester, for approval by the Chairman of the Graduate Study Committee.

## D. Non-credit course

1. The Graduate School requirement: a foreign language
2. Program requirement: none

## E. Qualifying examination

1. A student must complete a qualifying examination to evaluate his/her ability before presenting a dissertation proposal.
2. An unsuccessful examinee may take a re-examination once. The examinee must make formal request for re-examination and the re-examination must take place within the regular semester following the initial examination.
3. A student who has completed a master degree program in a field other than pharmacology but fails to pass the doctoral qualifying examination may be allowed to study for a master degree in pharmacology with the approval of the Graduate Program Administrative Committee.

## F. Comprehensive examination

1. A student must complete a comprehensive examination to evaluate his/her knowledge beyond the subject of their dissertation.

2. An unsuccessful examinee may request to take a re-examination.
3. Student must fulfill all courses required by the program with grade point average (GPA) in the field of concentration of not less than 3.00.
4. A student who has successfully completed a master program in a field other than pharmacology but fails to complete a successful comprehensive examination may be allowed to study for a master degree in pharmacology with the approval of the Graduate Program Administrative Committee.

*Note: Courses in the field of concentration are courses in Pharmacology (PHCO, 320)*

#### Type 2.2: Students with Bachelor's Degree

Total credit	a minimum of	72	credits
A. Course work:	a minimum of	24	credits
1. Graduate course:	a minimum of	24	credits
1.1 Field of concentration courses	a minimum of	24	credits
1.1.1 Required courses		19	credits
320701 Principles of Pharmacology		4	credits
320702 Advanced Pharmacology		4	credits
320703 Literature Review for Research in Pharmacology		2	credits
320801 Molecular Pharmacology		2	credits
320802 Steps in Drug Research and Development		1	credit
320803 Experimental Methods in Pharmacology		3	credits
320891 Ph.D. Seminar in Pharmacology I		1	credit
320892 Ph.D. Seminar in Pharmacology II		1	credit
320893 Ph.D. Seminar in Pharmacology III		1	credit
1.1.2 Elective courses:	a minimum of	5	credits
320711 Application of Pharmacology in Traditional Medicine Research		3	credits
320712 Adverse Drug Effects		3	credits
320713 New Drugs in Medical Practice		3	credits
320714 Molecular Cell Biology for Pharmacological Research		3	credits
320789 Selected Topics in Pharmacology		3	credits

320811	Medical Pharmacokinetics and Therapeutic Drug Monitoring	3 credits
320812	Immunopharmacology	2 credits
320813	Clinical Pharmacology	3 credits
320895	Special Problem in Pharmacology	3 credits
1.2	Other courses	None
2.	Advanced Undergraduate Courses	None
B.	Thesis	48 credits
320899	Dissertation	48 credits
C.	Academic activities	
1.	A student has to organize and present a seminar in English at least once every semester for at least eight semesters and has to attend seminar every semester that the course is offered.	
2.	A student must present his/her research data once every semester that the course is offered.	
3.	At least 2 dissertation work or a part of dissertation work must be published or at least accepted to publish in an international journal, and at least one of the two must be listed in ISI, Scopus, IEEE, PubMed or Web of Science database, and at least 1 dissertation work or a part of dissertation work must be presented in an international conference accepted by the field of study.	
4.	At least 1 main publication of the thesis work must specify the student as the first author with the affiliation of Graduate School, Chiang Mai University	
5.	A student has to report dissertation progression to the Graduate School every semester, for approval by the Chairman of the Graduate Study Committee.	
D.	Non-credit course	
1.	The Graduate School requirement: a foreign language	
2.	Program requirement: none	
E.	Qualifying examination	
1.	A student must complete a qualifying examination to evaluate his/her ability before presenting a dissertation proposal.	

2. An unsuccessful examinee may take a re-examination once. The examinee must make formal request for re-examination and the re-examination must take place within the regular semester following the initial examination.
3. An unsuccessful examinee may be transferred to Master's Degree studies with the approval of the Graduate Program Administrative Committee.

F. Comprehensive examination

1. A student must complete a comprehensive examination to evaluate his/her knowledge beyond the subject of their dissertation.
2. An unsuccessful examinee may request to take a re-examination.
3. Student must fulfill all courses required by the program with grade point average (GPA) in the field of concentration of not less than 3.00.
4. An unsuccessful examinee may be transferred to Master's Degree studies with the approval of the Graduate Program Administrative Committee.

Note: *Courses in the field of concentration are courses in Pharmacology (PHCO, 320)*

## Study plan

### Type 1.1

#### First Year

		First Semester	Credits
		Register for University Services	-
		Seminar and present	-
		Pass foreign language examination requirement	-
		Qualifying examination	-
		Total	<u>0</u>
		Second Semester	Credits
		Seminar and present	-
		Present thesis proposal	-
320899	PHCO 899	Dissertation	8
		Total	<u>8</u>

#### Second Year

		First Semester	Credits
		Seminar and present	-
320899	PHCO 899	Dissertation	10
		Total	<u>10</u>
		Second Semester	Credits
		Seminar and present	-
320899	PHCO 899	Dissertation	10
		Total	<u>10</u>



### Third Year

		First Semester	Credits
		Seminar and present	-
320899	PHCO 899	Dissertation	10
		Total	<u>10</u>

		Second Semester	Credits
		Seminar and present	-
320899	PHCO 899	Dissertation	10
		Comprehensive examination	-
		Total	<u>10</u>

### Type 2.1

#### First Year

		First Semester	Credits
		Pass foreign language examination requirement	-
320801	PHCO 801	Molecular pharmacology	2
320802	PHCO 802	Steps in drug research and development	1
320891	PHCO 891	Ph.D. Seminar in pharmacology 1	1
		Elective course	3
		Qualifying examination	-
		Total	<u>7</u>

		Second Semester	Credits
320892	PHCO 892	Ph.D. Seminar in pharmacology 2	1
320...		Elective course	3
		Present thesis proposal	-
320898	PHCO 898	Dissertation	10

Total 14

**Second Year**

<b>First Semester</b>			<b>Credits</b>
320893	PHCO 893	Ph.D. seminar in pramacology 3	1
320898	PHCO 898	Dissertation	10
Total			<u>11</u>

<b>Second Semester</b>			<b>Credits</b>
Seminar and present			-
320898	PHCO 898	Dissertation	8
Total			<u>8</u>

**Third Year**

<b>First Semester</b>			<b>Credits</b>
Seminar and present			-
320898	PHCO 898	Dissertation	8
Total			<u>8</u>

<b>Second Semester</b>			<b>Credits</b>
Seminar and present			-
Comprehensive examination			-
Total			<u>0</u>

## Type 2.2

### First Year

<b>First Semester</b>			<b>Credits</b>
		Pass foreign language examination requirement	-
320701	PHCO 701	Principles of Pharmacology	4
320802	PHCO 802	Steps in drug research and development	1
320891	PHCO 891	Ph.D. Seminar in pramacology 1	1
		Total	<u>6</u>

<b>Second Semester</b>			<b>Credits</b>
320702	PHCO 702	Advanced pharmacology	4
320703	PHCO 703	Literature review for research in pharmacology	2
320803	PHCO 803	Experimental methods in pharmacology	3
320892	PHCO 892	Ph.D. Seminar in pramacology 2	1
		Total	<u>10</u>

### Second Year

<b>First Semester</b>			<b>Credits</b>
320801	PHCO 801	Molecular pharmacology	2
320893	PHCO 893	Ph.D. Seminar in pramacology 3	1
320...		Elective course	2
		Qualifying examination	-
		Present thesis proposal	-
		Total	<u>5</u>

<b>Second Semester</b>			<b>Credits</b>
		Seminar and present	-
320899	PHCO 899	Dissertation	8
320...		Elective course	3

Total 11

**Third Year**

<b>First Semester</b>			<b>Credits</b>
		Seminar and present	-
320899	PHCO 899	Dissertation	10
Total			<u>10</u>

<b>Second Semester</b>			<b>Credits</b>
		Seminar and present	-
320899	PHCO 899	Dissertation	10
Total			<u>10</u>

**Fourth Year**

<b>First Semester</b>			<b>Credits</b>
		Seminar and present	-
320899	PHCO 899	Dissertation	10
Total			<u>10</u>

<b>Second Semester</b>			<b>Credits</b>
		Seminar and present	-
320899	PHCO 899	Dissertation	10
		Comprehensive examination	-
Total			<u>10</u>