

## Doctor of Pharmacy Program

### Program Curriculum

(1) Total credits requirement	at least	225	credits
<b>(2) Curriculum structure</b>			
<b>A. General education courses</b>		<b>30</b>	<b>credits</b>
1. Required courses by university		16	credits
- Humanities and social science		7	credits
- Languages		9	credits
2. Required courses by program		14	credits
- Science and mathematics		8	credits
- Pharmacy and professional courses		6	credits
<b>B. Pharmacy courses</b>		<b>189</b>	<b>credits</b>
1. Basic sciences		17	credits
2. Professional courses		157	credits
		<b>Patient track</b>	<b>Product track</b>
		(credits)	(credits)
- Social and administrative pharmacy courses		14	14
- Basic courses		29	29
- Patient track courses		74	43
- Product track courses		37	68
- Special project		3	3
3. Elective courses			
- Professional practice courses		12	credits
- Professional elective courses		3	credits
<b>C. Free elective courses</b>	<b>at least</b>	<b>6</b>	<b>credits</b>

## Study Plan

### Doctor of Pharmacy Program

1 <sup>st</sup> Year
----------------------

#### First Semester

Numbers of Credits (Lecture-Lab-Self Study)

AREN 103-105	English Level 1-3 <sup>@</sup>	3 (2-2-5)
MUGE 101	General Education for Human Development <sup>@@</sup>	2 (1-2-3)
MUGE 102	Social Studies for Human Development <sup>@@</sup>	3 (2-2-5)
MUGE 103	Arts and Sciences for Human Development <sup>@@@</sup>	2 (1-2-3)
SCBI 102	Biology Laboratory I	1 (0-3-1)
SCBI 113	Essential Biology	2 (2-0-4)
SCCH 111	General Chemistry	3 (3-0-6)
SCCH 119	Chemistry Laboratory <sup>@@@</sup>	1 (0-3-1)
SCMA 164	Calculus and Systems of Ordinary Differential Equations	3 (3-0-6)
SCPY 110	General Physics Laboratory	1 (0-3-1)
SCPY 153	Basic Physics for Medical Science	2 (2-0-4)
XXXX xxx	Free Elective (music/sport)	2 (2-0-0)
<b>Total credits</b>		<b>22 Credits</b>

<sup>@</sup> For English level 1-6, (AREN 103-108), students may register according to his/her level of language skills.

<sup>@@</sup> These courses are continuous courses that will be taught throughout both semesters but the number of credit hours will be counted only for the first semester.

<sup>@@@</sup> These courses are continuous courses that will be taught throughout both semesters but the number of credit hours will be counted only for the second semester.

<b>1<sup>st</sup> Year</b>
----------------------------

**Second Semester**

Numbers of Credits (Lecture-Lab-Self Study)

AREN 106-108	English Level 4-6 <sup>@</sup>	3 (2-2-5)
ARTH 100	Art of Using Thai Language in Communication	3 (2-2-5)
MUGE 101	General Education for Human Development <sup>@@</sup>	2 (1-2-3)
MUGE 102	Social Studies for Human Development <sup>@@</sup>	3 (2-2-5)
MUGE 103	Arts and Sciences for Human Development <sup>@@@</sup>	2 (1-2-3)
SCBI 104	Biology Laboratory II	1 (0-3-1)
SCBI 123	Process of Life	3 (3-0-6)
SCCH 119	Chemistry Laboratory <sup>@@@</sup>	1 (0-3-1)
SCCH 122	Organic Chemistry	3 (3-0-6)
SCMA 181	Statistics for Medical Science	2 (2-0-4)
SCPY 154	Physics for Medical Science	3 (3-0-6)
XXXX xxx	Free Elective (music/sport)	1 (0-3-0)
<b>Total credits</b>		<b>22 Credits</b>

<sup>@</sup> For English level 1-6, (AREN 103-108), students may register according to his/her level of language skills.

<sup>@@</sup> These courses are continuous courses that will be taught throughout both semesters but the number of credit hours will be counted only for the first semester.

<sup>@@@</sup> These courses are continuous courses that will be taught throughout both semesters but the number of credit hours will be counted only for the second semester.

<b>2<sup>nd</sup> Year</b>
----------------------------

**First Semester**

Numbers of Credits (Lecture-Lab-Self Study)

PYAI 201	Introduction to Pharmacy Profession	2 (2-0-4)
PYAI 202	Social and Behavioral Pharmacy	2 (2-0-4)
PYBA 201	Biochemistry	4 (4-0-8)
PYBA 211	Biochemistry Laboratory	1 (0-3-1)
PYBF 201	Basis of Medicinal Chemistry	3 (3-0-6)
PYBJ 201	Human Anatomy and Physiology I	3 (3-0-6)
PYBJ 211	Human Anatomy and Physiology Laboratory I	1 (0-3-1)
PYBZ 201	Fundamental Genetics	2 (2-0-4)
PYDF 202	Principle of Chemistry in Pharmaceutical Sciences	2 (2-0-4)
PYDF 212	Principle of Chemistry in Pharmaceutical Sciences Laboratory	1 (0-3-1)

**Total credits**

**21 Credits**

<b>2<sup>nd</sup> Year</b>
----------------------------

**Second Semester**

Numbers of Credits (Lecture-Lab-Self Study)

PYBD 201	General Microbiology	2 (2-0-4)
PYBD 211	General Microbiology Laboratory	1 (0-3-1)
PYBD 202	Immunology for Pharmacy	1 (1-0-2)
PYBJ 202	Human Anatomy and Physiology II	3 (3-0-6)
PYBJ 212	Human Anatomy and Physiology Laboratory II	1 (0-3-1)
PYCA 201	Human Biochemistry and Diseases	2 (2-0-4)
PYDC 201	Pharmaceutics I	3 (3-0-6)
PYDC 211	Pharmaceutics Laboratory I	1 (0-3-1)
PYDF 201	Pharmaceutical Analysis I	3 (3-0-6)
PYDF 211	Pharmaceutical Analysis Laboratory I	1 (0-3-1)

**Total credits**

**18 Credits**

<b>3<sup>rd</sup> Year</b>
----------------------------

**First Semester**

Numbers of Credits (Lecture-Lab-Self Study)

PYBD 302	Pharmaceutical Microbiology	2 (2-0-4)
PYBD 312	Pharmaceutical Microbiology Laboratory	1 (0-3-1)
PYBE 301	Pharmaceutical Botany	3 (3-0-6)
PYBE 311	Pharmaceutical Botany Laboratory	1 (0-3-1)
PYBF 301	Medicinal Chemistry I	2 (2-0-4)
PYCH 301	Pharmacology I	2 (2-0-4)
PYDF 302	Pharmaceutical Analysis II	2 (2-0-4)
PYDF 312	Pharmaceutical Analysis Laboratory II	1 (0-3-1)
PYDI 302	Pharmaceutics II	3 (3-0-6)
PYDI 312	Pharmaceutics Laboratory II	1 (0-3-1)
<b>Total credits</b>		<b>18 Credits</b>

<b>3<sup>rd</sup> Year</b>
----------------------------

**Second Semester**

Numbers of Credits (Lecture-Lab-Self Study)

PYCF 302	Medicinal Chemistry II	3 (3-0-6)
PYCH 302	Pharmacology II	2 (2-0-4)
PYCH 311	Pharmacology Laboratory	1 (0-3-1)
PYCH 303	Pharmacology III	2 (2-0-4)
PYCI 301	Biopharmaceutics and Pharmacokinetics	2 (2-0-4)
PYDG 301	Pharmacognosy	3 (3-0-6)
PYDG 311	Pharmacognosy Laboratory	1 (0-3-1)
PYDI 303	Pharmaceutics III	3 (3-0-6)
PYDI 313	Pharmaceutics Laboratory III	1 (0-3-1)
<b>Total credits</b>		<b>18 Credits</b>

<b>4<sup>th</sup> Year</b>
----------------------------

**First Semester**

Numbers of Credits (Lecture-Lab-Self Study)

PYAI 401	Health System and Pharmacy	2 (2-0-4)
PYCD 401	Clinical Microbiology	1 (1-0-2)
PYCH 404	Pharmacology IV	2 (2-0-4)
PYCI 411	Pharmacy Practice Skills I	1 (0-3-1)
PYCZ 401	Clinical Pharmacy and Therapeutics I	3 (3-0-6)
PYCZ 402	Clinical Pharmacy and Therapeutics II	3 (3-0-6)
PYCZ 405	Clinical Toxicology	1 (1-0-2)
PYDC 404	Pharmaceutics IV	3 (3-0-6)
PYDC 414	Pharmaceutics Laboratory IV	1 (0-3-1)
PYXX xxx	Free Elective	2 (2-0-4)
<b>Total credits</b>		<b>19 Credits</b>

<b>4<sup>th</sup> Year</b>
----------------------------

**Second Semester**

Numbers of Credits (Lecture-Lab-Self Study)

PYAI 402	Pharmacy Laws and Ethics	2 (2-0-4)
PYAI 403	Quantitative Methodology and Statistics in Pharmacy	2 (2-0-4)
PYAI 404	Pharmacoepidemiology	2 (2-0-4)
PYAI 411	Professional Communication	1 (0-3-1)
PYCB 401	Diet Therapy	2 (2-0-4)
PYCI 412	Pharmacy Practice Skills II	1 (0-3-1)
PYCJ 401	Pathophysiology	2 (2-0-4)
PYCZ 403	Clinical Pharmacy and Therapeutics III	3 (3-0-6)
PYCZ 404	Clinical Pharmacy and Therapeutics IV	2 (2-0-4)
PYDB 401	Food Chemistry	2 (2-0-4)
PYDB 411	Food and Nutrition Laboratory	1 (0-3-1)
<b>Total credits</b>		<b>20 Credits</b>

<b>5<sup>th</sup> Year (Patient Track)</b>
--

**First Semester**

Numbers of Credits (Lecture-Lab-Self Study)

PYAI 501	Pharmacoeconomics	2 (2-0-4)
PYCI 513	Pharmacy Practice Skills III	1 (0-3-1)
PYCZ 505	Clinical Pharmacy and Therapeutics V	3 (3-0-6)
PYCZ 541	Professional Practice I	4 (0-14-4)
PYCZ 542	Professional Practice II	4 (0-14-4)
PYDI 501	Extemporaneous Compounding in Pharmacy	2 (1-3-3)
PYSZ 591	Special Project	3 (0-9-3)
PYXX xxx	Free Elective	1 (1-0-2)
<b>Total credits</b>		<b>20 Credits</b>

<b>5<sup>th</sup> Year (Patient Track)</b>
--

**Second Semester**

Numbers of Credits (Lecture-Lab-Self Study)

PYAI 502	Pharmacy Administration	3 (3-0-6)
PYCI 501	Introduction to Pharmaceutical Care Clerkship	2 (1-3-3)
PYCI 502	Clinical Pharmacokinetics	3 (2-3-5)
PYCI 511	Drug Information Round	1 (0-3-1)
PYCZ 501	Drug Product Quality Assessment in Practice	2 (2-0-4)
PYCZ 502	Evidence-based Phytotherapy	3 (3-0-6)
PYDD 501	Biological Products	2 (2-0-4)
PYXX xxx	Professional Elective	3 (3-0-6)
<b>Total credits</b>		<b>19 Credits</b>

<b>5<sup>th</sup> Year (Product Track)</b>
--

**First Semester**

		Numbers of Credits (Lecture-Lab-Self Study)
PYAI 501	Pharmacoeconomics	2 (2-0-4)
PYCZ 541	Professional Practice I	4 (0-14-4)
PYCZ 542	Professional Practice II	4 (0-14-4)
PYDF 501	Analytical Method Development	2 (1-3-3)
PYDI 501	Extemporaneous Compounding in Pharmacy	2 (1-3-3)
PYDZ 502	Drug Discovery, Design and Development	2 (2-0-4)
PYDZ 503	Phytopharmaceutical Science	2 (1-3-3)
PYSZ 591	Special Project	3 (0-9-3)
PYXX xxx	Free Elective	1 (1-0-2)
<b>Total credits</b>		<b>22 Credits</b>

<b>5<sup>th</sup> Year (Product Track)</b>
--

**Second Semester**

		Numbers of Credits (Lecture-Lab-Self Study)
PYAI 502	Pharmacy Administration	3 (3-0-6)
PYDC 501	Pharmaceutical Engineering	2 (2-0-4)
PYDD 501	Biological Products	2 (2-0-4)
PYDI 502	Pharmaceutical Product Development	2 (2-0-4)
PYDI 512	Pharmaceutical Product Development Laboratory	1 (0-3-1)
PYDI 503	Controlled-Release Drug Delivery System	2 (2-0-4)
PYDZ 501	Quality Assurance of Pharmaceuticals	2 (2-0-4)
PYXX xxx	Professional Elective	3 (3-0-6)
<b>Total credits</b>		<b>17 Credits</b>



<b>6<sup>th</sup> Year (Patient Track)</b>
--

Numbers of Credits (Lecture-Lab-Self Study)

PYCI 651	Pharmaceutical Care Clerkship in Internal Medicine I	4 (0-16-4)
PYCI 652	Pharmaceutical Care Clerkship in Ambulatory Care	4 (0-16-4)
PYCI 653	Pharmaceutical Care Clerkship in Drug Information Service	4 (0-16-4)
PYCI 654	Pharmaceutical Care Clerkship in Pediatrics	4 (0-16-4)
<b>Total credits</b>		<b>16 Credits</b>

<b>6<sup>th</sup> Year (Patient Track)</b>
--

**Second Semester**

Numbers of Credits (Lecture-Lab-Self Study)

PYXX xxx	Elective Clerkship / Professional Practice I	4 (0-16-4)
PYXX xxx	Elective Clerkship / Professional Practice II	4 (0-16-4)
PYXX xxx	Elective Clerkship / Professional Practice III	4 (0-16-4)
<b>Total credits</b>		<b>12 Credits</b>

<b>6<sup>th</sup> Year (Product Track)</b>
--

**First Semester**

Numbers of Credits (Lecture-Lab-Self Study)

PYDC 671	Professional Practice in Production of Non-sterile Dosage Forms I	4 (0-16-4)
PYDC 672	Professional Practice in Production of Sterile Dosage Forms I	4 (0-16-4)
PYDF 671	Professional Practice in Pharmaceutical Quality Control and Quality Assurance I	4 (0-16-4)
PYDZ 671	Professional Practice in Drug Research and Development I	4 (0-16-4)
<b>Total credits</b>		<b>16 Credits</b>

<b>6<sup>th</sup> Year (Product Track)</b>
--

**Second Semester**

Numbers of Credits (Lecture-Lab-Self Study)

PYXX xxx	Elective Professional Practice I	4 (0-16-4)
PYXX xxx	Elective Professional Practice II	4 (0-16-4)
PYXX xxx	Elective Professional Practice III	4 (0-16-4)
<b>Total credits</b>		<b>12 Credits</b>