Educational Philosophy of Silpakorn University (ปรัชญาการศึกษาของมหาวิทยาลัยศิลปากร)

" To provide educational achievement for learners through Outcome-Based Education (OBE), leading to graduates with the ability to integrate art and sciences, and create value to the society"

"จัดการศึกษาให้ผู้เรียนเกิดผลสัมฤทธิ์ทางการเรียน โดยใช้การศึกษาที่เน้นผลลัพธ์การเรียนรู้ โดยบัณฑิตเป็นผู้นำผสานศาสตร์และศิลป์ สร้างสรรค์คุณค่าสู่สังคม"

Philosophy of Pharmaceutical Engineering Program (ปรัชญาการศึกษาของหลักสูตร)

"To produce graduates with creativity and ability to apply knowledge and technology from interdisciplinary fields of pharmaceutical technology and engineering, and also create new body of knowledge from integrating these interdisciplinary subjects"

Life-Long Learning of Our Program (ทักษะการเรียนรู้ตลอดชีวิต)

Research skills

"ทักษะการทำวิจัย"

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PLOs			generic	specific
1 Ethics and morality: On successful completion of the program, graduates will be able to				
	1.1	Performs self-discipline and punctuality	✓	
	1.2	Adhere to code of ethic for researcher of National Research Council of Thailand	✓	
2 Knowledge in pharmaceutical engineering: On successful completion of the program, graduates will be able to				
	2.1	integrate the interdisciplinary knowledge including pharmaceutical, and engineering for solving the research problems		✓
	2.2	design a novel mean for solving the research problems in industries or create the novel knowledge in pharmaceutical engineering (creativity)		✓
3 Competency and cognitive skills in working on research or solving problems in pharmaceutical engineering: On successful completion of the program, graduates will be able to				
	3.1	search, analyze, summarize and/or evaluate information in pharmaceutical engineering		✓
	3.2	apply knowledge and skills for solving problems		✓
	3.3	systematically develop a good research question/topic and select instruments and tools for conducting research works		✓
	3.4	demonstrate ability to draw logical conclusion and implication from the analysis of an issue or research problem		✓
4 Interpersonal skills, able to work with people from different cultural backgrounds and responsibility: On successful completion of the program, graduates will be able to				

	4.1	demonstrate communication skills to convey information to public	✓	
	4.2	Demonstrate responsibility for assigned work	✓	
5 Information technology, numerical analytical skill and communication including speaking, listening, reading and writing skills in English: On successful completion of the program, graduates will be able to				
	5.1	apply mathematic and statistic for evaluating research data	✓	
	5.2	analyze and interpret data both quantitatively and qualitatively	✓	
	5.3	use a wide range of available numerical, information, and communication technologies	✓	
	5.4	demonstrate ability to communicate with academic audiences through speaking, listening, and writing research report including thesis and journal publication	✓	
	5.5	demonstrate presentation through the use of body language, tone of voice and presentation slide or visual aid	✓	

Curriculum mapping and skill matrix for coursework and co-curricular activity

Coursework

Program 1.1

ปี	Courses	generic	specific	Revised PLO (TQF)													
				1.1 (1.1)	1.2 (1.2)	2.1 (2.1, 2.2, 2.4)	2.2 (2.3,)	3.1 (3.1)	3.2 (3.1)	3.3 (3.2)	3.4 (3.1)	4.1 (4.1)	4.2 (4.2)	5.1 (5.1)	5.2 (5.1)	5.3 (5.1)	5.4 (5.2)	5.5 (5.2)
1	551 742 Basic Theory in Industrial Pharmacy (วิชาปรับพื้นฐาน non-pharmacist)		✓	✓		✓		✓	✓		✓		✓				✓	✓
1	551 708 Principles of Pharmaceutical Engineering (วิชาปรับพื้นฐาน pharmacist)		✓	✓		✓	✓	✓	✓		✓		✓				✓	✓
1	550 535 Research Methodology in Pharmaceutical Engineering	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

1	551 743 Equipments in Pharmaceutical Technology	✓		✓		✓		✓		✓			✓	✓	✓		✓	
1	551 681 Seminar in Pharmaceutical Engineering I	✓		✓	✓	✓		✓				✓	✓			✓	✓	✓
1	551 682 Seminar in Pharmaceutical Engineering II	✓		✓	✓	✓		✓				✓	✓			✓	✓	✓
2	551 683 Special Problem in Pharmaceutical Engineering I		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
2	551 684 Special Problem in Pharmaceutical Engineering II		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
3	550 911 Thesis		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Program 1.2

ปี	Courses	generic	specific	Revised PLO (TQF)

				1.1 (1.1)	1.2 (1.2)	2.1 (2.1, 2.2, 2.4)	2.2 (2.3,)	3.1 (3.1)	3.2 (3.1)	3.3 (3.2)	3.4 (3.1)	4.1 (4.1)	4.2 (4.2)	5.1 (5.1)	5.2 (5.1)	5.3 (5.1)	5.4 (5.2)	5.5 (5.2)
1	551 742 Basic Theory in Industrial Pharmacy (วิชาปรับพื้นฐาน non-pharmacist)		✓	✓		✓		✓	✓		✓		✓				✓	✓
1	551 708 Principles of Pharmaceutical Engineering (วิชาปรับพื้นฐาน pharmacist)		✓	✓		✓	✓	✓	✓		✓		✓				✓	✓
1	550 535 Research Methodology in Pharmaceutical Engineering	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1	551 743 Equipments in Pharmaceutical Technology	✓		✓		✓		✓		✓			✓	✓	✓		✓	

1	551 681 Seminar in Pharmaceutical Engineering I	✓		✓	✓	✓		✓				✓	✓			✓	✓	✓
1	551 682 Seminar in Pharmaceutical Engineering II	✓		✓	✓	✓		✓				✓	✓			✓	✓	✓
2	551 683 Special Problem in Pharmaceutical Engineering I		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
2	551 684 Special Problem in Pharmaceutical Engineering II		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
3	550 912 Thesis		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Program 2.1

ปี	Courses	generic	specific	Revised PLO (TQF)														
				1.1 (1.1)	1.2 (1.2)	2.1 (2.1, 2.2, 2.4)	2.2 (2.3,)	3.1 (3.1)	3.2 (3.1)	3.3 (3.2)	3.4 (3.1)	4.1 (4.1)	4.2 (4.2)	5.1 (5.1)	5.2 (5.1)	5.3 (5.1)	5.4 (5.2)	5.5 (5.2)
1	550 535 Research Methodology in Pharmaceutical Engineering	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1	551 681 Seminar in Pharmaceutical Engineering I	✓		✓	✓	✓		✓				✓	✓			✓	✓	✓
1	551 682 Seminar in Pharmaceutical Engineering II	✓		✓	✓	✓		✓				✓	✓			✓	✓	✓
2	551 683 Special Problem in Pharmaceutical Engineering I		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
2	551 684 Special Problem in Pharmaceutical Engineering II		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓

1, 2	551 704 Colloidal Sciences and Nanotechnology		✓	✓		✓		✓					✓	✓	✓	✓		
1, 2	551 706 Hygiene and Safety in Pharmaceutical Manufacturing		✓	✓		✓		✓									✓	
1	551 708 Principles of Pharmaceutical Engineering (วิชาปรับพื้นฐาน pharmacist)		✓	✓		✓	✓	✓	✓		✓		✓				✓	✓
1, 2	551 716 Biomaterials in Drug Delivery System		✓	✓		✓		✓		✓								
1, 2	551 726 Pharmaceutical Material Science		✓	✓		✓		✓	✓									
1, 2	551 727 Advanced Pharmaceutical Engineering		✓	✓		✓		✓	✓		✓		✓				✓	
1, 2	551 729 Design and		✓	✓		✓		✓	✓	✓	✓		✓	✓	✓	✓		

	Development of Pharmaceutical Process																	
1, 2	551 731 Statistical Modeling and Analysis		✓	✓		✓		✓	✓		✓							✓
1, 2	551 735 Current Topics in Pharmaceutical Engineering		✓	✓		✓		✓	✓		✓						✓	✓
1, 2	551 739 Manufacturing Resource Management		✓	✓		✓		✓	✓		✓		✓				✓	
1	551 743 Equipments in Pharmaceutical Technology		✓	✓		✓		✓		✓			✓	✓	✓		✓	
1, 2	551 745 Regulatory Affairs in Industrial Pharmacy		✓	✓		✓		✓	✓								✓	
1, 2	551 746 Sterile Pharmaceutical and		✓	✓		✓		✓	✓								✓	

	Biopharmaceutical Product																	
1, 2	551 747 Material Sciences for Pharmaceutical Industry		✓	✓		✓		✓	✓								✓	
1, 2	551 748 Computer Simulation in Pharmaceutical Engineering		✓	✓		✓		✓	✓	✓	✓							✓
3	550 910 Thesis		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Program 2.2

ปี	Courses	generic	specific	Revised PLO (TQF)														
				1.1 (1.1)	1.2 (1.2)	2.1 (2.1, 2.2, 2.4)	2.2 (2.3,)	3.1 (3.1)	3.2 (3.1)	3.3 (3.2)	3.4 (3.1)	4.1 (4.1)	4.2 (4.2)	5.1 (5.1)	5.2 (5.1)	5.3 (5.1)	5.4 (5.2)	5.5 (5.2)
1	550 535 Research Methodology in Pharmaceutical Engineering	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1	551 681 Seminar in Pharmaceutical Engineering I	✓		✓	✓	✓		✓				✓	✓			✓	✓	✓
1	551 682 Seminar in Pharmaceutical Engineering II	✓		✓	✓	✓		✓				✓	✓			✓	✓	✓
2	551 683 Special Problem in Pharmaceutical Engineering I		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
2	551 684 Special Problem in Pharmaceutical Engineering II		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓

1, 2	551 704 Colloidal Sciences and Nanotechnology		✓	✓		✓		✓					✓	✓	✓	✓		
1, 2	551 706 Hygiene and Safety in Pharmaceutical Manufacturing		✓	✓		✓		✓									✓	
1	551 708 Principles of Pharmaceutical Engineering (วิชาปรับพื้นฐาน pharmacist)		✓	✓		✓	✓	✓	✓		✓		✓				✓	✓
1, 2	551 716 Biomaterials in Drug Delivery System		✓	✓		✓		✓		✓								
1, 2	551 726 Pharmaceutical Material Science		✓	✓		✓		✓	✓									
1, 2	551 727 Advanced Pharmaceutical Engineering		✓	✓		✓		✓	✓		✓		✓				✓	
1, 2	551 729 Design and		✓	✓		✓		✓	✓	✓	✓		✓	✓	✓	✓		

	Development of Pharmaceutical Process																	
1, 2	551 731 Statistical Modeling and Analysis		✓	✓		✓		✓	✓		✓							✓
1, 2	551 735 Current Topics in Pharmaceutical Engineering		✓	✓		✓		✓	✓		✓						✓	✓
1, 2	551 739 Manufacturing Resource Management		✓	✓		✓		✓	✓		✓		✓				✓	
1	551 743 Equipments in Pharmaceutical Technology		✓	✓		✓		✓		✓			✓	✓	✓		✓	
1, 2	551 745 Regulatory Affairs in Industrial Pharmacy		✓	✓		✓		✓	✓								✓	
1, 2	551 746 Sterile Pharmaceutical and		✓	✓		✓		✓	✓								✓	

	Biopharmaceutical Product																	
1, 2	551 747 Material Sciences for Pharmaceutical Industry		✓	✓		✓		✓	✓								✓	
1, 2	551 748 Computer Simulation in Pharmaceutical Engineering		✓	✓		✓		✓	✓	✓	✓							✓
3	550 910 Thesis		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Co-curricular activity (for all program)

ปี	Courses	generic	specific	Revised PLO (TQF)														
				1.1 (1.1)	1.2 (1.2)	2.1 (2.1, 2.2, 2.4)	2.2 (2.3,)	3.1 (3.1)	3.2 (3.1)	3.3 (3.2)	3.4 (3.1)	4.1 (4.1)	4.2 (4.2)	5.1 (5.1)	5.2 (5.1)	5.3 (5.1)	5.4 (5.2)	5.5 (5.2)
1	Sit in*		✓	✓		✓												
1, 2, 3	Lab meeting		✓	✓	✓	✓			✓		✓	✓					✓	✓
1,2	Site visit**	✓		✓		✓												
3	Poster or oral presentation in the International conference	✓		✓										✓	✓	✓	✓	✓

*sit in undergraduate student's course e.g. pharmaceutical engineering or other seminar, webinar related with pharmaceutical engineering and thesis work

**Site visit, e.g. factory, university, research center

**Site visit, e.g. factory, university, research center