PROGRAM SPECIFICATION								
1. Admissions/Management Information								
Title of the program	-							
Bachelor of Pharmacy								
Vietnam National Qualific	ation Framework							
Bachelor (Level 7)								
The following information is provided to students admitted to the training program:								
Awarding institution		T	eaching place					
Tra Vinh University		<b>T</b> 1	ra Vinh University					
Faculty								
School of Medicine and Ph	narmacy							
Name of degree awarded								
Bachelor of Pharmacy								
Program code								
7720201								
Admissions criteria								
Method 1: Conside	ering the results of	the National High School Exa	mination, which is the plus po	int of 03 subjects according				
to the combination	of examination s	ubject reaching the minimur	n quality assurance threshold	for university entrance as				
prescribed by the M	linistry of Educatio	n and Training (Ground score	$\mathbf{P}_{\mathbf{r}}$ , usually the total score of 3 su	bjects in the exam is $\geq 15$ ).				
Examination subject	ct combinations: A	<b>JU</b> (Maths, Physics, Chemistr	y), <b>BOO</b> (Mains, Physics, Cher	nistry).				
Method 2: Direct r	ecruitment of stude	ents who won prizes in nation	ai and international competitio	ons for excellent students.				
2. Length and status	I an ath (years)	Status (full time/part time)	Start datas/months for	Mada				
Programme	Length (years)	Status (Tun-time/part-time)	start dates/months for programs (if applicable)	Mode				
Bachelor of Pharmacy	5 0 years	Full_time	September	Face-to-face campus-				
Daenelor of Finannaey	5,0 years	1 un-time	September	hased				
Language(s) of study				bused				
Vietnamese								
Language(s) of assessment	-							
Vietnamese								
3. Program accredite	ed by profession, l	aw or regulation						
According to the provision	s of the Education	Law						

4. Pr	ogram leader								
Trinh Thi	Thanh Le								
5. Jo	b profiles								
Graduates	s can take up the following positions:								
• Te	eaching staff, research staff of universities, colleges, research institutes								
• M	Medical facilities, community pharmacy								
• Ph	narmaceutical company								
• M	anagement agencies								
• Se	elf-organizing pharmaceutical business								
6. Pi	irpose and learning outcomes of the programs								
6a. Educa	ational philosophy and teaching/ learning strategy								
Education	al philosophy of Tra Vinh University and the program								
The unive	ersity has an educational philosophy: "Based on the practical, ethical and responsible training competencies, learners will								
develop in	nto better individuals to serve a better society"								
The educa	ational philosophy of the program is "Responsibility - Competence - Adaptability". "Responsibility": Pharmacy students								
fully know	w their personal and professional responsibilities to the pharmaceutical industry and society to practice good public health								
protection	a. "Capability": Students are trained according to a program that is continuously improved to meet the professional								
requireme	ents of society. "Adaptive": Students have the knowledge, skills, and mindset to adapt to the ever-changing environment								
and require	rements.								
6b. Progr	am objectives								
<b>PO1</b>	Apply knowledge of natural science, social science, law, information technology, foreign languages, and medical								
	fundamentals; with deeply professional knowledge and skills in pharmacy.								
PO2	Apply knowledge and skills in reality for professional practice in specialized areas of pharmacy (Medicine management								
	and supply, Clinical pharmacy, Medicines and Traditional medicines, Medicine development and manufacture).								
PO3	Debate, analyze, integrate and evaluate advanced and scientific data on pharmaceutical field; skills for communication,								
	working independently or in group, solving problem to perform well professional tasks in pharmaceutical entities.								
PO4	Research, apply scientific achievements; contributions on the pharmaceutical development and the cause of caring,								
	protecting and improving people's health; active lifelong learning.								
PO5	Disseminate, popularize the knowledge in pharmacy specialized area and ability to self-direct, adapt to a changing career								
	environment.								
PO6	Guide other people for task fulfilments and competences on management, evaluation, and improvement to enhance the								
	efficiency of professional performance.								
PO7	Demonstrate career ethics and social responsibilities.								

6c. Expec	ted learning outcomes of the program
ELO1	Apply basic knowledge of natural, social and political science, national defense education and relevant legislation
	documents for proper awareness and action in life, study and professional work.
ELO2	Apply basic medical and pharmaceutical knowledge to deal with health and medicine relevant problems.
ELO3	Combine specialized and interdisciplinary knowledge to perform professional tasks in pharmaceutical industry.
ELO4	Manage production, preparation, testing and quality assurance of medicines and medicinal ingredients (including
	medicines from herbal ingredients), cosmetics, functional foods according to principles and standards of good practices
	(GPs).
ELO5	Appraise medicine indications, consultancy and medicine usage instructions under safe, effective and reasonable rules.
ELO6	Organize preservation, supple and management activities of medicine, medicinal ingredients, cosmetics and functional
	foods.
ELO7	Perform scientific research activities in pharmacy.
ELO8	Use effectively basic information technology, foreign languages at level 4 under the 6-level foreign language proficiency
	framework for Vietnam.
ELO9	Coordinate skills of debate, communication, independent or in-group working, problem solution and management for the
	well professional task performance.
ELO10	Comply with legislation and industry regulations, professional ethics in career working and social responsibility
	implementation.
ELO11	Demonstrate capacity of adaptation, self-orientation, learning for professional development and mentoring others.
6d. Other	program information
i)	Learning about
The progr	am aims to equip students with the skills to work in the pharmaceutical industry to meet the requirements of the labor
market.	
ii)	Organization to participate in training
The progr	am provides learning opportunities for all students regardless of ethnicity, gender or disability status.
7. Re	eference points and program regulations
iii)	Internationalization
The progr	am aims to equip students with the skills to work in the pharmaceutical industry to meet the requirements of the domestic
and foreig	n labor market, compatible with regional and international standards. The program has students from the ASEAN region
participati	ng in the study. The school has international exchange activities to create a multicultural communication environment.
iv)	The potential students
The progr	am provides learning opportunities for all students regardless of ethnicity, gender, or disability
8. Pr	ogram structure and requirements including levels, courses, credits, etc.

8a. Progr	am Structure					
No	Codo	Course nome		Cradita		Domont
110.	Coue	Course name	Total	Theory	Practice	Kemark
		SEMESTER 1	10141	Псогу	Tractice	
1.	191.00	<i>Physical education</i> 1*	1	0	1	
2.	190081 - 84	National Defense and Security Education*		periods (8 crea	lits)	
3.	410291	Non-Major English 1	3	2	1	
4.	180050	The basic principles of Marxism – Leninism	3	3	0	
5.	450015	Fundamentals of Law	2	1	1	
6.	220220	Informatics	3	1	2	
7.	650563	Biology and genetics	3	2	1	
	•	Total	14	9	5	
			Physical educe			
			and Security E			
		SEMESTER 2				
8.	192.08	Physical education 2*	1	0	1	
9.	410302	Non-Major English 2	4	2	2	
10.	180051	Political economics of Marxism and Leninism	2	2	0	
11.	651142	Mathematics - Pharmaceutical Medicine Statistics	3	2	1	
12.	650550	Basic Laboratory Skills in Pharmaceutical	2	2	0	
13.	650005	Human anatomy	2	1	1	
14.	150002	Soft-skills	2	1	1	
		Elective courses (choose 5 credits	5)	1		
15.	650942	Inorganic chemistry	3	2	1	
16.	641143	Fundamentals of Logic	3	2	1	
17.	120004	General physics	2	1	1	
18.	651144	Law and intellectual property	2	1	1	
		Total	20	13	7	
			Physical educe	tion is not inc	luded	
	1	SEMESTER 3		1		
19.	193.	Physical education 3*	1	0	1	

20.	410303	Non-Major English 3	3	2	1	
21.	180052	Scientific socialism	2	2	0	
22.	650710	Organic chemistry	4	3	1	
23.	650711	Physical chemistry of pharmacy	3	2	1	
24.	65181	Pharmaceutical botany	3	2	1	
25.	650110	Microbiology	3	2	1	
		Total	18	13	5	
			Physical educa	ition is not inc	luded	
	1	SEMESTER 4			1	
26.	410304	Non-Major English 4	3	2	1	
27.	180001	Ho Chi Minh Ideology	2	2	0	
28.	650071	Physiology	3	2	1	
29.	650011	Parasitology	2	1	1	
30.	650215	Biochemistry	3	2	1	
31.	650714	Analytical chemistry: fundamentals of analytical methods for pharmaceutical products	2	2	0	
32.	650713	Pharmaceutical chemistry: chemotherapy drugs	2	2	0	
33.	650715	Pharmacognosy: glycoside compounds	3	2	1	
	·	Total	20	15	5	
		SEMESTER 5				
34.	180053	History of Vietnamese communist party	2	2	0	
35.	650547	Pathophysiology- Immunology	2	2	0	
36.	650718	Analytical chemistry: instrumental analytical methods for pharmaceuticals	3	2	1	
37.	650717	Pharmaceutical chemistry: drugs by target organ system	3	2	1	
38.	650716	Pharmacognosy: alkaloids, essential oils and lipids	2	1	1	
39.	650719	Pharmacokinetics	2	2	0	
40.	650720	Pharmaceutics and biopharmaceutics: liquid dosage forms	2	1	1	

41.	650231	Pharmaceutical legistation	3	3	0	
	•	Total	19	15	4	
		SEMESTER 6			·	
42.	650130	Clinical biochemistry	2	2	0	
43.	650365	Traditional pharmacy	2	2	0	
44.	650722	Pharmacology: chemotheraphy drugs	2	2	0	
45.	650723	Pharmaceutics and biopharmaceutics: solid and semi-solid dosage forms	2	1	1	
46.	650724	Quality control of pharmaceuticals	3	2	1	
47.	650721	Pharmaceutical management	3	3	0	
48.	650731	Pharmaceutical Informatics	3	2	1	
		Total	17	14	3	
		SEMESTER 7				
49.	650725	Internal medicine for pharmacy	3	3	0	
50.	650726	Pharmacology: drugs by target organ system	3	2	1	
51.	650549	Introductory Clinical Pharmacology	3	3	0	
52.	650216	Toxicology	2	2	0	
53.	650953	Fundamentals of drug quality assurance	2	2	0	
54.	651147	Research methods for Pharmacy	4	2	2	
55.	650104	Health education and communication	2	2	0	
		Total	20	16	4	
		SEMESTER 8				
56.	650728	Clinical Pharmacy and Therapeutics	3	2	1	
57.	650729	Pharmaceutical GP's group (GPP, GSP, GDP, GMP, GLP)	3	2	1	
58.	650730	Drug information and Pharmacovigilance	2	2	0	
59.	651148	Infection control	1	1	0	
60.	650542	Socialization in Pharmacy	2	2	0	

61.	650546	Pharmacy Practice	3	0	3	
	•	Elective courses (choose 4 credits	)	-	-	
62.	650237	Novel dosage forms	2	2	0	
63.	650542	Communication skills in pharmaceutical sales	2	2	0	
64.	650130	Molecular biochemistry	2	2	0	
65.	650733	Pharmacoepidemiology	2	2	0	
66.	651150	Biological test methods in pharmaceuticals	2	2	0	
67.	651151	Medicinal plants and natural antioxidant compounds	2	2	0	
		Total	18	13	5	
		SEMESTER 9		•		
68.	650734	English for Pharmacy	3	3	0	
69.	650735	Hospital Pharmacy	3	3	0	
70.	650736	Hospital Pharmacy Practice	2	0	2	
71.	650540	Functional products – Cosmetic – Herbal medicine	2	2	0	
		Elective courses (choose 1 group – 7 cr	redits)			
72.	650737	Business management	3	2	1	Group A
73.	650738	Business economics	2	2	0	
74.	650251	Pharmaceutical marketing	2	2	0	
75.	650739	Drug usage in treatment	3	2	1	Group B
76.	650740	Pharmacoeconomics	2	2	0	
77.	650741	Application of pharmacokinetics	2	2	0	
78.	651152	Research methods for medicinal plant	3	2	1	Group C
79.	651153	Medicinal plant resources	2	2	0	
80.	651154	Pharmacology for medicinal plants	2	2	0	
81.	651155	Pharmaceutical manufacturing technology	3	2	1	Group D
82.	651156	Application of drug quality assurance	2	2	0	
83.	651157	Biopharmaceutics	2	2	0	
		Total	17	14	3	
		SEMESTER 10				

84.	650742	Final internship	4	0	4					
85.	000004	Thesis/ Capstone project	7	0	7					
		Total	11	0	11					
8b. Elect	ive course list									
NI-	Cala	<b>C</b>		C l'A	L					
INO.	Code	Course name	Total		IS	Draatiaa				
1	650942	Inorganic chemistry	<u>10tai</u> 3	2	l' <b>y</b>	1				
2	6/11/3	Fundamentals of logic	3	2		1				
3	120004	General physics	2	1		1				
4	120008	Law and intellectual property	2	1		1				
5	650237	Novel dosage forms	2	2		0				
6	650542	Communication skills in pharmaceutical sales	2	2		0				
7.	650732	Molecular biochemistry	2	2		0				
8.	650733	Pharmacoepidemiology	2	2		0				
9.	651150	Biological test methods in pharmaceuticals	2	2		0				
10.	651151	Medicinal plants and natural antioxidant compounds	2	2		0				
11.	650737	Business management	3	2		1				
12.	650738	Business economics	2	2		0				
13.	650251	Pharmaceutical marketing	2	2		0				
14.	650739	Drug usage in treatment	3	2		1				
15.	650740	Pharmacoeconomics	2	2		0				
16.	650741	Application of pharmacokinetics	2	2		0				
17.	651152	Research methods for medicinal plant	3	2		1				
18.	651153	Medicinal plant resources	2	2		0				
19.	651154	Pharmacology for medicinal plants	2	2		0				
20.	651155	Pharmaceutical manufacturing technology	3	2		1				
21.	651156	Application of drug quality assurance	2	2		0				

22.	651157	Biopharmaceutics	2	2	0
8c. Progra	am evaluation	n design			
i)	Contact the	lecturer			
The Bache	elor of Pharma	cy program is designed with 174 credits, 120 theories	s, and 54 practices.	Theoretically, best	ides having
classroom	lessons, stude	nts also self-study and self-research through e-learning	ng, homework, grou	up discussions, and	presentation. In
addition, s	students also le	earn from the project. Regarding practice, besides practice	cticing at the labs a	and simulation room	n under direct
guidance f	from teachers,	the program has internship courses at hospitals, pharm	naceutical compan	ies, and communit	y pharmacies
inside and	outside the pr	ovince so that students have the opportunity to apply	theory into practic	e and learn through	n experience.
ii)	Students' sel	f-study and research			
Regarding	g online e-learn	ing resources, students can take the initiative in their	study time and stu	dy anytime, anywł	here. There is an
online lea	rning exchange	e environment, with direct supervision and feedback f	rom lecturers. In a	ddition, students ca	an actively search
for docum	ents, self-stud	y, and research at the University's Learning Resource	Center. Modules t	hat include practic	e skills,
simulation	n rooms, and he	ospitals in and outside the province, with the supervis	ion and teaching o	f experienced clini	cal instructors,
provide st	udents with the	e opportunity to improve their professional competend	ce, communication	skills, and experie	ence in diverse
settings.	Evolution				
Types of I	Evaluation Process assess	nent: short questions, reflection paper, small group di	scussion tutorials	and students' inte	grated seminars
web-based	l learning (e-le	parning) personal study plan professional portfolios	Types of End-of-ter	rm assessment (Fir	al evaluation).
multiple-c	choice exam es	ssav test oral exam practice exam long clinical case	seminar report	thi assessment (i h	
9. Co	ontribution of	casual teaching staff and/or staff external to the U	niversity		
The Pharn	nacy program	ne of Tra Vinh University engages the participation o	f experts from hos	pitals and profession	onal associations
and health	science traini	ng universities in Vietnam. Experts from many different	ent units, such as T	ra Vinh province (	Tra Vinh
General H	lospital, Pedia	trics Hospital, Hospital of Tuberculosis and Lung Dis	ease, Traditional N	Medicine Hospital,	Cang Long
District M	ledical Center,	General Hospital of Tieu Can area; outside Tra Vinh	province (Ben Tre	Psychiatric Hospi	tal, Nguyen Dinh
Chieu Hos	spital, Tien Gia	ang Central General Hospital) and the Vietnam Nursi	ng Teachers Assoc	iation. Based on th	e needs of the
training pr	rogram, the Sci	hool of Medicine - Pharmacy has effectively impleme	ented the combined	l training model of	School -

Hospital; The lecturers involved in teaching theory and clinical practice in the BSN program come from hospitals and universities, all of whom have clinical teaching experience and have practice certificates at medical facilities across the country more than 3 years. Annually, the School of Medicine and Pharmacy regularly opens classes to update medical knowledge continuously and organizes training courses on clinical teaching methods for clinical instructors. They actively teach and evaluate student learning outcomes based on regulations such as grades, rubrics, products,...

**10. Learning through experience** 

10a. The program requires students to learn through experience at medical facilities

The program provides learning opportunities through clinical internships in medical facilities under the guidance of experienced clinical faculty with good ethics and dedication to the profession. The course has 12 compulsory specialized subjects and 2 groups of elective subjects, clinical practice at general and specialized hospitals inside and outside the province, district health centers (practice of public health care) and professional practice.

10b. Supporting students in experiential learning

Practical clinical learning through practice of comprehensive patient care, effective team collaboration in interdisciplinary to achieve goals set out in medical facilities is required. Students must complete these modules in order to study further modules

10c. Brief details on the nature of work-based learning

1. Pre-clinical practice (basic nursing, communication – health education in nursing practice, infection control), simulation practice

2. Professional clinical practice

3. Final internship: Graduation internship

10d. Who will be responsible for sourcing and placement?

The School is in charge of establishing relationships with medical facilities inside and outside the province, to establish and cooperate with medical facilities in the training process. The Faculty has a study plan for students in medical facilities and sends it to students before entering the internship semester. Based on a network of more than 40 hospitals from level III to level I, Departments of Health and Universities and Colleges providing training in Health Sciences in and outside the province. In particular, students have the opportunity to choose and experience learning clinical internships and summer semester experiences through cooperation and student exchange programs studying in Japan, Taiwan, Philippines according to the needs of students. The team of full-time teaching faculty, community internships and clinical internships are considered based on the standards prescribed by the Training Industry, all have certificates, have clinical teaching methods, most of them on 3 years of experience and passion for the profession. The department selects the clinical faculty at the medical facilities in accordance with the internship content and practice facility conditions as prescribed by the Ministry of Health. Every day, students must report activities at the medical facility to the clinical instructor; Every week, clinical instructors must report progress and activities at the medical facility to the clinical internship module, the student submits a complete report on the subject content and presents the results to the panel. **10e. What is work-based learning time?** 

Duration of learning through clinical practice in a medical facility is at least 3 months per module

10f. How will work-based learning be assessed?

In addition to becoming an intern at clinical departments in medical institutions, students must also undertake practical topics given by professionals at the medical facility. The outcome of these modules is the involvement of the facility instructor, the instructor and the 3- 11 member panel. The score is the average of over 5 points, according to the components: Score of internship in medical facility, score of work with instructor, product score and topic report

11. Students participate in program development How are current and/or alumni involved in the development of this proposal/program?

Students are allowed to contribute ideas for program improvement through surveys and regular and ad hoc meetings of the Department with students. Student feedback on the quality of the instructors' teaching in each subject is collected through face-toface or online assessments at the end of each course. Feedback on teaching methods is provided through an annual survey and exit survey.

## **12. Change the program**

Transfer to the program will be? (please select Y/N)	Y-Yes
Moving out of the program will be? (please select Y/N)	N- No

## 13. Quality and standards

The school has a framework in place to ensure that the standards of its programs are maintained and that the quality of the learning experience is enhanced. Quality assurance and enhancement processes include:

- The academic supervisor of the program of training in the departments of the Council of Science and Education , including student representatives

- The monitoring program of the external examiners, who ensure that standards at Tra Vinh University is equivalent to other programs in the industry

- Managing monitoring and annual periodic assessment of programs and acquiring feedback from the faculty and students through the National Student Survey.

14. Date on which this program specification was written or revised

Feb 28, 2022

15. Matrix showing how the program learning outcomes are achieved through the courses

Note: "I"=Introduced; "R"=reinforced and opportunity to practice; "M"=mastery at the senior or exit level

**Course Contribution Matrix for ELOs** 

No		EXPECTED LEARNING OUTCOMES										
•	Course	ELO	ELO	ELO	ELO	ELO	ELO	ELO 7	ELO	ELO	ELO 10	ELO
		1	2	3	4	Э	0	/	ð	9	10	11
<b>A. C</b>	A. GENERAL EDUCATION COURSES											
I. C	ourses in Political theory											
1	The basic principles of Marxism – Leninism	Ι									Ι	
2	Political economics of Marxism and Leninism	Ι									Ι	
3	Scientific socialism	Ι									Ι	
4	History of Vietnamese communist party	Ι									Ι	
5	Ho Chi Minh Ideology	Ι									Ι	
II. C	Courses in Social sciences and hun	nanities	1		1	L		L	I	L	L	<u></u>
6	Fundamental of Law	Ι									Ι	
7	Research methods for Pharmacy			R				М			R	R
III.	Foreign Language Courses			•			•					
8	Non-Major English 1								R			
9	Non-Major English 2								R			
10	Non-Major English 3								R			
11	Non-Major English 4								М			

No					EXPEC'	TED LE	CARNIN	GOUT	COMES	5		
•	Course	ELO	ELO	ELO	ELO	ELO	ELO	ELO	ELO	ELO	ELO	ELO
		1	2	3	4	5	6	7	8	9	10	11
IV.	Courses in Natural science											
12	Inorganic chemistry	Ι			Ι					Ι		
13	Biology and genetics	Ι								Ι		
14	Informatics								R			R
15	Organic chemistry	R			R					R		
16	General physics	Ι			Ι					Ι		
17	Mathematics-Pharmaceutical Medicine	R						R				R
	Statistics											
V. E	xtracurricular activity skills											
18	Soft-skills									М		М
VI.	Conditional Courses (Physical ed	ucation a	and Nati	ional De	fense an	d Secur	ity Educ	cation)	1	1	1	
19	Physical education 1*									Ι		
20	Physical education 2*									Ι		
21	Physical education 3*									Ι		
22	National Defense and Security Education *	Ι								Ι	Ι	
<b>B. P</b>	ROFESSIONAL COURSES			<b>.</b>		1	1		1	1	1	

No					EXPEC'	TED LF	ARNIN	G OUT	COMES	OMIES   ELO ELO ELO   8 9 10   I I I   R I I   I I I   I I I   I I I   I I I   I I I   I R I   I R I   I R I   I R I		
•	Course	ELO 1	ELO	ELO	ELO	ELO 5	ELO	ELO 7	ELO °	ELO	ELO 10	ELO
		1	2	3	4	5	0	/	ð	9	10	11
I. Fu	I. Fundamental courses in Health and Pharmacy											
23	Human anatomy		Ι	Ι						Ι		
24	Physiology		R	R						R		
25	Microbiology		R	R				R		R		
26	Parasitology		Ι	Ι						Ι		
27	Basic Laboratory Skills in Pharmaceutical			Ι	Ι					Ι	Ι	
28	Physical chemistry of pharmacy		Ι	Ι	Ι					Ι		Ι
29	Analytical chemistry: fundamentals of analytical methods for pharmaceutical products		Ι	Ι	Ι					Ι		Ι
30	Analytical chemistry: instrumental analytical methods for pharmaceuticals		R	R	R			Ι	Ι	R		R
31	Pharmaceutical botany		R					Ι		R		R
32	Biochemistry		R							R		Ι
33	Clinical biochemistry		R	Ι		Ι				R		Ι
34	Pathophysiology- Immunology		R	Ι		Ι				R		Ι

No		EXPECTED LEARNING OUTCOMES										
•	Course	ELO 1	ELO 2	ELO 3	ELO 4	ELO 5	ELO 6	ELO 7	ELO 8	ELO 9	ELO 10	ELO 11
35	Internal medicine for pharmacy		R	Ι		Ι				R		Ι
36	English for Pharmacy		R					R	М			R
II. S	II. Specialized courses in Pharmacy											
37	Pharmaceutical chemistry: chemotherapy drugs			R	R			Ι		R		R
38	Pharmaceutical chemistry: drugs by target organ system			R	R			R		R		R
39	Pharmacognosy: glycoside compounds			R	R			Ι		R		R
40	Pharmacognosy: alkaloids, essential oils and lipids			R	R			R		R		R
41	Pharmacokinetics			R		R				R	R	R
42	Pharmacology: general principles and chemotherapies.			R		R				R	R	R
43	Pharmacology: drugs acting on different body systems			R		R				R	R	R
44	Traditional pharmacy			R						R	R	
45	Pharmaceutics and biopharmaceutics: liquid dosage forms			R	R			R		R	R	R

No			EXPECTED LEARNING OUTCOMES										
•	Course	ELO 1	ELO 2	ELO 3	ELO 4	ELO 5	ELO 6	ELO 7	ELO 8	ELO 9	ELO 10	ELO 11	
46	Pharmaceutics and biopharmaceutics: solid and semi-solid dosage forms			М	М			М		М	М	М	
47	Introductory Clinical Pharmacology			R		R				R	R	R	
48	Clinical Pharmacy and Therapeutics			М		М				М	М	М	
49	Quality control of pharmaceuticals			М	М				R	М	М	М	
50	Toxicology			R	R	R				R	R	R	
51	Pharmaceutical legistation			R	R		R				М	R	
52	Infection control					R				R	R		
53	Hospital Pharmacy			R		R	R		R	R	R	R	
54	Hospital Pharmacy Practice			М		М	М		Ι	М	М	М	
55	Pharmaceutical GP's group (GPP, GSP, GDP, GMP, GLP)			R	R	Ι	R			R	R	R	
56	Pharmaceutical management			R			R			R	R	R	
57	Fundamentals of drug quality assurance			R	R					R	R	R	

No					EXPEC'	TED LE	CARNIN	GOUT	COMES	MES					
•	Course	ELO 1	ELO 2	ELO 3	ELO 4	ELO 5	ELO 6	ELO 7	ELO 8	ELO 9	ELO 10	ELO 11			
58	Pharmaceutical Informatics			R				М	М			М			
59	Pharmacy Practice			М	М	М	М			М	М	М			
60	Drug information and Pharmacovigilance			М		М				М	М	М			
61	Functional products – Cosmetic – Herbal medicine			М	М		М			М	М	М			
62	Health education and communication			R		R				R	R	R			
63	Socialization in Pharmacy			R		R	R	Ι			М	Ι			
64	Novel dosage forms			М	М			R				М			
65	Communication skills in pharmaceutical sales			R		R	R			R	R	R			
66	Molecular biology			R				R		R		R			
67	Pharmacoepidemiology			М		М				М	М	М			
68	Biological test methods in pharmaceuticals				М			М		М	М	М			
69	Medicinal plants and natural antioxidant compounds			R	R			М	М	R	R	М			
70	Business management			R			R			R	R	R			

No		EXPECTED LEARNING OUTCOMES											
	Course	ELO	ELO	ELO	ELO	ELO	ELO	ELO	ELO	ELO	ELO	ELO	
		1	2	3	4	5	6	7	8	9	10	11	
71	Business economics			R			R			R	R	R	
72	Pharmaceutical marketing			R			R			R	R	R	
73	Drug usage in treatment			М		М				М	М	М	
74	Pharmacoeconomics			R			R			R	R	R	
75	Application of pharmacokinetics			М		М				М	М	М	
76	Research methods for medicinal plant			R	М			М	М	R	R	М	
77	Medicinal plant resources			R				R			R	R	
78	Pharmacology of medicinal plants			R	R			М	М	R	R	М	
79	Pharmaceutical manufacturing technology			М	М					М	М	М	
80	Application of drug quality assurance			М	М					М	М	М	
81	Biopharmaceutics			М	М			М		М			
III.	Graduation	•										-	
82	Final internship			М	М	М	М				М	М	
83	Thesis/ Capstone project			М	М	М	М	М	М	М	М	М	

16. 0	16. Course Description								
No.	COURSE DESCRIPTION	CREDITS							
	SEMESTER 1								
1.	Physical education 1*	1							
	The goal of the subject program Physical Education is to impart knowledge and fundamental motor skills, create healthy exercise and sports habits, develop physical strength, stature, and a perfect personality, and enhance learning ability and social skills with a positive attitude, all of which help students achieve their overall educational objectives.								
	National Defense and Security Education*								
2.	Students who have completed the National Defense and Security education program have a basic comprehension of the Party and State's guidelines and national defense and security guidelines on developing all-people national defense and people's security. I adore socialism. In the new environment, basic defense and security understanding is required. Each member has a gun and is familiar with the unit's team; has a broad awareness of the armed forces in the Vietnamese people's army; has a beginning understanding of military maps; and understands how to prevent the enemy from assaulting with high-tech weaponry. Employ fundamental infantry fighting methods, individual tactics in assault, defense, and guard duties, and knowledge of AK submachine guns and grenades. (According to Circular No. 05/2020/TT-BGDĐT dated March 18, 2020 of the Minister of Education and Training)	165 periods (8 credits)							
	Non-Major English 1								
3.	In this course, students begin to familiarize themselves with English according to the European Framework of Reference (CEFR) competency assessment at A1 and pre-A2 levels. Students have the opportunity to familiarize themselves with all language skills such as Listening, Speaking, Reading and Writing. These skills are developed through topics such as: friends, shopping, food and drinks, leisure and hobbies, clothes, travel, sport, family, books and studying, language and communication At the same time, students are also acquainted with exam types at the A2 level.	3							
	The basic principles of Marxism – Leninism								
4.	The Marxist-Leninist Philosophy module provides students with fundamental knowledge of Marxist-Leninist philosophy, the basic and most common concepts and laws of the movement of world development in general, the social development in particular, which are expressed in dialectical materialism, dialectics, and historical materialism. On that basic, learners step by step	3							

	build up and practice the scientific and dialectical thinking method; to correctly understand the reform and development of Vietnam in accordance with the socialist orientation of the Vietnam Communist Party; at the same time, know how to flexibly, creatively, and effectively solve problems that arise in life and business.	
	Fundamentals of Law	2
5.	The subject provides students with basic and fundamental knowledge about the state and law in general, the state and law of Vietnam in particular. This course is a basis for learners to perfect their knowledge of the law so that they can protect their legal rights and at the same time educate learners from illegal acts affecting society.	
	Informatics	
6.	The course helps students know how use the Microsoft Windows operating system; office applications in the Microsoft Office suite including Word, Excel and PowerPoint; be able to use basic services of the Internet; know some specific applications of information and communication technology; In addition, students also understand some basic issues related to law in the field of information technology.	3
	Biology and genetics	
7.	The course helps students present their knowledge of molecular biology, cell biology, developmental biology; knowledge of the role of medical genetics, the characteristics of the main groups of genetic diseases.	3
	SEMESTER 2	
8.	Physical education 2*	1
	The goal of the subject program Physical Education is to impart knowledge and fundamental motor skills, create healthy exercise and sports habits, develop physical strength, stature, and a perfect personality, and enhance learning ability and social skills with a positive attitude, all of which help students achieve their overall educational objectives.	
	Non-Major English 2	
9.	Students in this module continue to become acquainted with the A2 test structure while also developing the four language skills introduced in Non-Special English module 1 at the A2 and pre-B1 levels according to the European Framework of Reference (CEFR). These abilities are	4

	cultivated through communication patterns as well as daily brief messages and emails on themes			
	such as sports, friendly people, occupations, outdoor activities, vacation, previous activities,			
	facts and figures, celebration, learning			
	Political economics of Marxism and Leninism			
	Theories on market oriented economy such as: competition, monopoly, the relation between			
	competition and monopoly, state monopoly as well and laws related.Market oriented economy in			
10.	case of Vietnam- the Socialist oriented economy: benefits and benefits distribution,	2		
	industrialization- modernization in the Industry 4.0 context in general and international economic			
	integration in particular			
	Mathematics - Pharmaceutical Medicine Statistics			
	Basic probability and medical statistics knowledge and abilities are covered throughout the			
11.	course: Definition, theory, and formula for computing probability; sample selection and sample	3		
	size; Can work with statistics; Using the most relevant statistical tests for each research; Using			
	software to handle medical data in order to assist with statistics, reporting, and scientific study.			
	Basic Laboratory Skills in Pharmaceutical			
	The course is divided into the following sections: Apothecary techniques: Prepare a few basic			
12	dosage forms; Identify popular both dried and fresh medicinal plants to practice your	2		
12.	identification skills; Recognize and utilize instruments and equipment in the lab correctly by	2		
	practicing; Experience putting together equipment for synthesis and refinement of			
	pharmaceutical chemical raw materials.			
	Human anatomy			
13.	The course helps learners about the general anatomical features of the body's components and	2		
	organs, as well as about how clinical symptoms relate to organ function and functioning.			
	Soft-skills			
	The course provides students with fundamental understanding about the value of soft skills as			
	well as methods for practicing and developing them. At the same time, the course strives to			
	provide students with the soft skills required for study and job. The curriculum also assists			
14.	students in developing the proper mindset and understanding about the importance of equipping	2		
	and applying soft skills in study, job, and life.			
	Students must enrol for and finish 05 modules subjects, including one mandatory subject			
	(building an electronic portfolio, or E-Portfolio). 04 elective subjects (among the remaining			
	topics of the module: negotiation, communication, problem solving, stress management,			

	teamwork, change management, personal financial management, time management, work organization, finding documents, reading comprehension, and memorizing documents, critical	
	thinking, and creative thinking).	
	Inorganic chemistry	
15.	The fundamentals of quantum mechanics provide the foundation for the structure and characteristics of matter systems (atoms, elements, molecules; complexes, objects). thermodynamic quantities, rules, and laws, such as internal energy, enthalpy, and entropy, in chemical processes. Mechanisms and circumstances for reactions. elements' classification, characteristics, and functions. Inorganic chemicals and elements are important to medicine and pharmacy	3
	Fundamentals of Logic	
16.	Students who complete the module will be better equipped with an understanding of the fundamental rules of thought. Students who complete the course will be better prepared for jobs in science, as well as for life in general.	3
	<b>General physics</b>	
17.	Students learn the fundamentals of thermomechanical, electrical, and optical systems as well as how they apply to the pharmaceutical sector in general physics.	2
	Law and intellectual property	
18.	Learners will get primary and fundamental information about the state and law in general and the state and law of Vietnam in particular through this course. It serves as a foundation for students to hone their legal knowledge, preserve their legal rights, and educate themselves about criminal activities that negatively impact society.	2
	SEMESTER 3	
19.	Physical education 3*	1
	The goal of the subject program Physical Education is to impart knowledge and fundamental motor skills, create healthy exercise and sports habits, develop physical strength, stature, and a perfect personality, and enhance learning ability and social skills with a positive attitude, all of which help students achieve their overall educational objectives.	
	Non-Major English 3	
20.	With the aid of this module, students may continue to get acquainted with the pre-B1 level of the European Framework of Reference (CEFR) language competence evaluation while also improving their language and vocabulary. During conversations on subjects including fashion,	3

	danger, leisure activities, entertainment episodes, movies, content families, aptitudes, and	
	discoveries, students continue to improve their listening, speaking, reading, and writing adulties.	
21.	Students will learn fundamental and comprehensive information on Marxism-Leninism, Ho Chi Minh's ideas, and Vietnam's journey to socialism in this subject; Arm yourself with historical thinking strategies that are based on science, with knowledge of how to select research sources and study topics, with the ability to apply historical awareness to real-world tasks, and with the capacity to critique communist myths. nurturing and increasing pride and belief in the party's leadership via the study of scientific socialism; establishing a respect for the truth as it is and in the party's leadership in Vietnam	2
22.	Organic chemistry General: organic compound structure, electric effects, isomerism, different chemical processes, and structure determination techniques Nomenclature, primary preparation techniques, fundamental chemical characteristics of straight-chain hydrocarbons, aromatic hydrocarbons, cyclins, halogenated derivatives, organometallic compounds, sulphuration, nitrification of aromatic hydrocarbons, alcohols, phenols, aldehydes, ketones, quinones, monomeric, multifunctional carboxylic acids and derivatives, amines, diazoic and azoic compounds, dyes, lipids.	4
23.	<b>Physical chemistry of pharmacy</b> Students who complete the course will be knowledgeable with the fundamental ideas and physicochemical principles used in the pharmaceutical sector. Phase equilibrium and solution qualities in relation to the basic thermodynamic quantities Introduction to electrochemistry, dispersion systems, the kinetics of chemical reactions, diffusion, dissolution, surface forms, and surface phenomena	3
24.	<b>Pharmaceutical botany</b> The module aids in giving students a foundational and in-depth understanding of general botany, morphological traits, microanatomy, taxonomy, the variety of medicinal plant families, and the significance of medicinal plant conservation. Also, the course seeks to provide students with the knowledge and abilities needed to identify medicinal plants by analyzing their morphological and microscopic properties, as well as to serve as the foundation for future research and study in pharmacy. The course aids students in forming the right mindset and understanding regarding the use of plants in medicine.	3
25.	Microbiology	3

	Students who take this course will learn about common bacteria and viruses, as well as the	
	general, structural, biochemical, physiological, and genetic features of microorganisms.	
	SEMESTER 4	
26.	Non-Major English 4 This course helps students develop their language knowledge and language experience at level B1 according to the European Framework of Reference (CEFR). Students demonstrate their language ability through topics such as friends, self-discoveries, persuading people, travelers' tales, celebrities, eating out and choices. At the same time, students will also get acquainted with the format of the competency assessment test according to the European Framework of Reference (CEFR).	3
27.	Ho Chi Minh Ideology The course presents the basic contents of Ho Chi Minh's thought, providing systematic understanding of Ho Chi Minh's ideology, morality and cultural values. Besides, the subject provides an understanding of the ideological foundation, lodestar actions of the party and national revolutionary, continue to provide the basic knowledge about Marxism-Leninism, contributing to a build up a new human moral foundation	2
28.	PhysiologyBasic information about the functions and activities of organs and organ systems in the humanbody, as well as functional control in the most consistent link between them and the body and theenvironment, is included in the curriculum.	3
29.	ParasitologyThe course provides students with understanding of parasites' general, biochemical, physiological, and genetic properties Several common parasites' characteristics and virulence	2
30.	<b>Biochemistry</b> The module provides students with fundamental and systematic understanding of biochemistry, including main biological chemicals and their metabolism in live organisms' cells, as well as the concepts, definitions, and relevance of various frequent clinical biochemistry tests. At the same time, the course seeks to teach students how to conduct fundamental qualitative and quantitative studies on various substances.	3
31.	Analytical chemistry: fundamentals of analytical methods for pharmaceutical products	2

	Students will learn about qualitative and quantitative analysis using volumetric and gravimetric measures, including the acid-base technique, complexation, oxidation-reduction, precipitation, and mass. UV-VIS, infrared, fluorescence, atomic absorption, certain chromatographic methods, some electrochemical methods (pH measurement, potentiometric titration, etc.), and sample processing procedures: principles and applications.	
	Pharmaceutical chemistry: chemotherapy drugs	
32.	The module provides students with fundamental understanding of preparation principles, structural formulae, the structure-effects relationship (QSAR), and the primary physicochemical attributes used in testing, preparation, and preservation. and pharmacological features of certain major medications from the following drug classes: antibiotics, antiparasitic, antivirals, and anticancer treatments. The training also aids in the development of students' scientific manners, careful, exact, and painstaking attitudes, and accurate awareness in professional activity.	2
	Pharmacognosy: glycoside compounds	
33.	The course teaches students about the following topics: the collection and processing of medicinal herbs; methods for ensuring their quality; their origin, traits, and distribution; their primary chemical composition; and the effects of medicinal herbs that contain the natural substances carbohydrates, essential oils, resins, and fats. The idea, chemical composition, qualitative and quantitative techniques of the aforementioned natural substance classes.	3
	SEMESTER 5	
	History of Vietnamese communist party	
34.	Understanding of the fundamental and methodical elements of the Communist Party of Vietnam's emergence (1920–1930), the Party's political conquest of the Vietnamese revolution, the fight for civil rights, the two wars of resistance against French and American imperialism, and the cause of national construction and defense during the socialist transition. Critiquing the party's historical misunderstandings using scientific thinking techniques, abilities to choose research sources and study topics, and the capacity to apply historical knowledge to practical work. By historical occurrences and experiences concerning the party's leadership, one may build and enhance pride and trust in the party's leadership as well as develop a respect for objective truths.	2
35.	Pathophysiology- Immunology	

	Basic information on illnesses, their etiologies, pathogenesis, organ dysfunctions in typical pathological processes, the function of the immune system, and mechanisms behind immune response disorders are all included in the text.	2
36.	Analytical chemistry: instrumental analytical methods for pharmaceuticals The course gives students a foundational understanding of how to operate tools and machinery to perform qualitative and quantitative analyses of active components used in the pharmaceutical business and evaluate substances utilizing analytical procedures. (current), including chromatography, optical, extraction, and electrochemical techniques. Students can next use their understanding of analytical chemistry 2 to ascertain the composition, calculate the content, and practice skills through extraction and measurement experiments of the substance(s) present in the sample to be studied at extremely low concentrations. Photometric, electrochemical titration, FT-IR measurement of functional groups, extraction, and high-performance liquid chromatography technique for substance content analysis.	3
37.	Pharmaceutical chemistry: drugs by target organ systemStudents learn about the fundamentals of preparation, structural formula, and key physicochemical characteristics for use in drug testing, preparation, and preservation. The relationship between the structure and effects (if any) of some important medications in the following drug classes: antihistamines, hormones, drugs acting on the central nervous system, autonomic nervous system, peripheral nervous system, gastrointestinal tract, and respiratory tract. Qualitative, pure testing. Quantification of some medicinal ingredients.	3
38.	Pharmacognosy: alkaloids, essential oils and lipidsStudents learn about the origin, traits, distribution, primary chemical makeup, and therapeutic benefits of medicinal plants that include many classes of natural compounds, including cardiac glycosides, saponins, anthraglycosides, flavonoids, coumarins, and alkaloids. The above- mentioned natural substance groupings' concepts, chemical structures, and qualitative and quantitative methodologies are all described.	2
39.	<b>Pharmacokinetics</b> Students who study pharmacokinetics gain information of the body's mechanisms for absorbing, distributing, metabolizing, and eliminating medications as well as the metrics used to evaluate a drug's pharmacokinetic profile. Also, the course provides information on pharmacokinetics in a number of specific areas, including renal failure, liver failure, age, pregnancy status, obesity, and pharmacokinetics in the case of a medication interaction.	2

	Pharmaceutics and biopharmaceutics: liquid dosage forms	
40.	The course teaches students how to prepare a variety of medications, including as injections, eye drops, tinctures, emulsions, and suspensions, as well as oral and topical treatments, injectable procedures, and biopharmaceuticals.	2
	Pharmaceutical legislation	
41.	The course teaches students about: Law on Pharmacy, fundamental legal rules governing the pharmaceutical industry, activities related to medication manufacture, import and export, circulation, distribution, storage, and use.	3
	SEMESTER 6	
	Clinical biochemistry	
42.	The course equips students with the knowledge of hematological, parasitic, microbiological, and biochemical assays essential for examining organ function and determining the clinical relevance of these indicators.	2
	Traditional pharmacy	
43.	Students will learn about general traditional medicine, how to analyze and create certain traditional treatments, and how to process and prepare a variety of herbs and traditional medications.	2
	Pharmacology: chemotherapy drugs	
44.	Students learn about drug pharmacokinetics, mechanisms of action, and variables influencing drug effects from this topic. fundamentals of medication therapy Drugs working on the nervous system: Classification of certain fundamental drug categories, their effects, modes of action, unwanted effects, indications, contraindications, doses, and usage of specific substances (botanical, central nervous system, analgesic, antipyretic, anti-inflammatory, respiratory, and digestive systems).	2
	Pharmaceutics and biopharmaceutics: solid and semi-solid dosage forms	
45.	Students will gain understanding of biopharmaceuticals and preparation methods for a variety of medication forms, including tablets, capsules, sprays, suppositories, powders, tablets, and ointments. They will also learn about comparable antagonistic interactions and innovative preparations.	2
	Quality control of pharmaceuticals	
46.	The module provides students with in-depth knowledge of the drug quality assurance system, the role of testing in the system, the criteria to be applied to the appraisal of an analytical procedure as well as the testing contents of some dosage forms of the drug, and fundamental knowledge of	3

	analytical techniques frequently used in the analysis and quality control of drugs and medicinal ingredients. Foreign pharmacopoeias are allowed to be used in Vietnam. The module also aims to teach students how to prepare analytical samples, analyze samples using analytical equipment, test raw materials and finished pharmaceutical products in accordance with fundamental standards or pharmacopoeia standards, report on analysis results, and create and assess quality standards for pharmaceuticals.	
	Pharmaceutical management	
47.	Students learn about state rules governing pharmaceutical practice management, management structures, and the function of pharmacists in a drug manufacturing firm through the course of pharmaceutical economics and management (drug distribution company, pharmacy, hospital pharmacy).	3
	Pharmaceutical Informatics	
48.	For those studying in pharmacy, the course teaches students how to use information technology to perform statistical analysis in scientific research.	3
	SEMESTER 7	
	Internal medicine for pharmacy	
49.	Students who take this course will have understanding of illness etiology and pathophysiology, clinical and subclinical symptoms, and approaches to treatment and prevention.	3
	Pharmacology: drugs by target organ system	3
50.	Classification, pharmacokinetics, mechanisms of action, effects, undesirable effects, indications, determination, contraindications, dosage, and usage of common drug groups are just a few of the topics covered in the course that equip students with the knowledge they need to use medications sensibly, safely, and effectively for patients (drugs for cardiovascular disease, drugs used in chemotherapy, drugs acting on the digestive system, blood drugs, and toxicants).	
	Introductory Clinical Pharmacology	
51.	Students who study clinical pharmacy get information about the usage of drugs, including pharmacokinetics, adverse medication responses, drug allergies, and drug interactions. Also, the ability to analyze and assess the outcomes of a variety of standard clinical tests is taught to students, enabling them to advise patients on the choice and administration of medications.	3
52.	Toxicology	2

	The module gives students understanding of the toxicological and chemical characteristics of poisons, as well as the ability to identify poisons in analytical samples and manage some acute poisoning situations. Students' scientific demeanor, careful, exact, and painstaking attitudes, as well as accurate awareness in professional activity, are also fostered by the course.	
53.	<b>Fundamentals of drug quality assurance</b> Students will learn the fundamentals of general drug quality, generic drug quality, drug quality assurance (QA), and drug quality management, as well as the WHO and ICH Q10 Drug Quality System (PQS), global pharmaceutical quality assurance tools, the Quality Materials Management method, and the Annual Quality Review. Students who take the course will also have a better understanding of the state's involvement in managing drug quality in Vietnam as well as the functions of drug testing, inspection, and state drug quality oversight.	3
	Research methods for Pharmacy	
54.	Students leave the course with a basic understanding of technique and procedures for carrying out scientific research. Knowledge of research, study subjects, sample size estimation, data collecting, analysis, and processing techniques, and bias control in research Medical ethical concerns in scientific study and medicine Reports, scientific research papers, and presentation strategies for scientific material should all be discussed and evaluated.	4
	Health education and communication	
55.	The subject provides students with knowledge of: methods and media; determinants of health; health behavior; primary health care; and the theory of health and wellness. behavior, health education, and health promotion approaches and strategies.	2
	SEMESTER 8	
	Clinical Pharmacy and Therapeutics	
56.	Clinical pharmacy 2 is a specialized subject that helps students have basic knowledge about the principles of drug use: the principles of using antibiotics, vitamins and minerals, glucocorticoids, analgesics, drugs in the treatment of hypertension, high blood pressure, diabetes, heart failure, peptic ulcer disease, helminthiasis, and hyperlipidemia. At the same time, the course also aims to train students in the skills necessary to apply some principles of use. Using drugs in treatment to analyze the rationality of prescriptions, analyze cases, and guide drug use to patients	3
57.	Pharmaceutical GP's group (GPP, GSP, GDP, GMP, GLP)	3

	The GPs Group (GMP, GSP, GDP, GPP, GLP, GACP) provides students with knowledge of	
	good manufacturing practice, good storage practice (GSP), good distribution practice (GDP),	
	good pharmacy practice (GPP), good practice in drug testing, and good practice in cultivating	
	and collecting medicinal herbs.	
	Drug information and Pharmacovigilance	
	Students who complete the course will have a better understanding of drug information sources,	
58.	drug interaction analysis, and ADR reporting. Students' understanding of the validity of	2
	pharmacological information sources is also increased, and they gain effective communication	
	skills via presentation and report writing.	
	Infection control	
	The purpose of the course is to familiarize students with the theory and practice of infection	
59.	control. Also, the course teaches students infection control awareness, skills, and attitudes.	1
	Students learn how to analyze, assess, and use infection control and preventive methods in	
	patient care in this course.	
	Socialization in Pharmacy	
	The subject provides students with knowledge of sociopharmacology, including the position and	
	role of the pharmacist in society, the policies related to pharmaceutical care of the FIP (World	
60.	Federation of Pharmacy), with special emphasis on the implementation of pharmacy practice,	2
	and Vietnam's national policies related to pharmaceuticals. In addition, students also provide	
	knowledge related to rational and responsible use of drugs and basic ethical principles in	
	pharmacy practice.	
	Pharmacy Practice	
61	Students who complete this course will have a better grasp of the GPP principles as well as the	3
01.	procedures used while buying, selling, storing, dispensing, and administering pharmaceuticals in	5
	a GPP-compliant pharmacy.	
-	Novel dosage forms	2
62.	This course teaches students the GPP concepts and the procedures for buying, selling, storing,	
	dispensing, and administering drugs in a GPP-compliant pharmacy.	
	Communication skills in pharmaceutical sales	
63.	Students who complete the module will have a foundational understanding of general psychology,	2
	medical psychology, many forms of health behavior and how to modify such behaviors, as well	

	as the influences on children's behavior. People. Students hone their customer service and health consulting abilities.	
	Molecular biochemistry	
64.	The course gives students a fundamental grasp of the molecular processes that take place in organisms, including as DNA transcription and self-replication, protein production, and high level mutational mechanisms. Molecular biology applications in the creation of biological products like vaccines, antibiotics, and therapeutic proteins are also covered in the course, as well as current molecular biology tools for diagnosis and treatment.	2
	Pharmacoepidemiology	
65.	In order to create health plans for the community's successful treatment and prevention of illnesses, the module gives students knowledge about the elements influencing health and disease in communities. The subject also discusses epidemiological study designs.	2
	Biological test methods in pharmaceuticals	
66.	The module aids in giving students a foundational and in-depth understanding of assessing the biological activities of substances with natural origin on animals and microorganisms. Methods for isolating, cultivating microorganisms, monitoring their biological activity, and assessing the experiment's outcomes are all included in the testing material, as are techniques for modeling illness in animals. The curriculum also seeks to teach students analytical abilities and identify the elements that must be taken into account while conducting drug testing on biological things.	2
	Medicinal plants and natural antioxidant compounds	
67.	Students who complete the module will have a foundational understanding of free radicals, antioxidant activity tests, chemicals, and medicinal plants with antioxidant properties. The course also seeks to develop and train students to have a disciplined attitude and conduct by teaching them how to assess the antioxidant activity of a medicinal plant or a pure chemical of natural origin. Throughout your investigation and study, exercise extreme caution.	2
	SEMESTER 9	
	English for Pharmacy	
68.	The course provides information on: English vocabulary used in pharmacy aids students in reading and comprehending foreign publications for research, study, and career development.	3
69.	Hospital Pharmacy	3

	Students benefit from learning about the operations that take place in a hospital pharmacy department, including how to effectively, safely, and efficiently handle and distribute medications to patients. monetary, in compliance with the law; Understanding of the primary responsibilities of a pharmacist in employment with a hospital pharmacy department and the hospital drug council: collaboration with other hospital departments.	
	Hospital Pharmacy Practice	
70.	The course gives students practical understanding about how to manage and provide hospital pharmacy pharmaceuticals in an efficient, safe, and cost-effective manner while adhering to regulatory requirements. the legislation; on the primary responsibilities of pharmacists in jobs with hospital pharmacies and the hospital drug council; and on their interactions with other hospital departments.	2
	Functional products – Cosmetic – Herbal medicine	
71.	The course equips students with pertinent background information, such as: Definition and differentiation of cosmetics, cosmeceuticals, and dermatological medications; Techniques for Evaluating Cosmetic Quality Functional foods: description; how to tell them apart from regular foods; therapeutic herbs and spices The module also discusses the rules and legislation governing information, advertising, and consultation about the use of cosmetics and functional foods in the Vietnamese health sector.	2
72.	Business management Providing the fundamentals of strategic management in businesses, the best ways to manage and use production variables, and the management of human resources in organizations	3
	Business economics	
73.	Business economics provides to students the fundamentals of business economics, including how to analyze production, consumption, business outcomes, determine product costs, and calculate costs. operations of the company.	2
	Pharmaceutical marketing	
74.	Students get a foundational understanding of business marketing as well as other topics in this course. Concept, object scope, research methodologies, history of formation and evolution, demands, market, market segmentation, product positioning, life cycle products, and the Marketing Mix are all clarified by fundamental marketing (four basic strategies: product, price, distribution, and promotion).	2
75.	Drug usage in treatment	3

	The course helps in educating students on the concepts and application of medication in the	
	treatment of a variety of illnesses, including pneumonia, childhood diarrhea, uti infections,	
	malaria, TB, asthma, and heart conditions. Vascular, hormonal, parkinsonian, epileptic, bone and	
	joint, dermatological The course also seeks to teach students how to use treatment principles,	
	integrate knowledge of medication usage in the treatment of various diseases, and apply the	
	pharmacokinetics and pharmacodynamics of pharmaceuticals.	
	Pharmacoeconomics	
76.	The course imparts fundamental understanding of pharmaceutical economics, analytical	2
	techniques for studying pharmaceutical economics, and research-planning abilities.	
	Application of pharmacokinetics	
	In particular, the problem of drug concentration monitoring throughout therapy and the use of	
	systems for monitoring drug levels in patients' blood are covered in this course's coverage of	
77.	applications of pharmacokinetics in clinical practice. Some medicines have limited therapeutic	2
	uses. The course also seeks to teach students analytical abilities, such as estimating medication	
	concentrations in the blood and figuring out the initial dose and maintenance dose for each	
	patient.	
	Research methods for medicinal plant	
	The subject gives students a foundational understanding of chromatographic and isolation	
78.	methods, reactions used to assess phytochemical components, and microbiological testing of	3
	medicinal plants. The course also seeks to teach students how to evaluate medicinal plants and	
	extract and isolate natural chemicals using a variety of techniques.	
	Medicinal plant resources	
	The module gives students knowledge about the function of medicinal herbs as well as the state	
79.	of research and exploitation of resources for medicinal plants in Vietnam and other countries.	2
	Analyses of risks to resources from medicinal plants. Guidelines for producing and caring for	
	medicinal plants; strategies for the growth and protection of medicinal plant resources	
	Pharmacology for medicinal plants	
	The module helps to provide students with a foundational understanding of the therapeutic needs	
80	for naturally derived medications in medicine, as well as therapy using naturally derived	2
00.	pharmaceuticals in traditional and modern medicine. Drugs with a natural origin act on illness	Δ
	and succe for stars in model and stars. A distance the second side in formation and a departies	
	and organ function in modern medicine. Additionally, the course aids in forming and educating	

	how to apply learned information to recognize the names, components used, chemical makeup,	
	and effects of drugs with natural origins on illnesses and organ functions.	
81.	Pharmaceutical manufacturing technology The module provides students with knowledge and experience in the principles of operation, application ranges, and industrial-scale pharmaceutical manufacturing processes of typical apparatus and equipment used in pharmaceutical production. Moreover, the course seeks to give students training in reading comprehension, practical skills in medication manufacture, and career guidance for after graduation. Also, the training aids in instilling in the pupils the proper mindset and understanding of the standards of excellence in the pharmacy. A specialist module of the training curriculum, the pharmaceutical preparation technology module gives university pharmacy students information and abilities in drug manufacture, research, and production.	3
82.	Application of drug quality assurance The module helps equip students with knowledge about some common tools such as the simple tree diagram, the simple familiar diagram, the cause-effect diagram, the Pareto diagram, the 5 Whys method, the FME(C)A, the production process performance indicator, and the control symbol. In addition, students are also equipped with knowledge about some proactive approaches to serve the implementation of drug quality assurance activities such as QTSX analysis and control, lot profiling, production, sanitary appraisal, quality inspection, and evaluation; consider product quality definition, deviation management, change management, data integrity, and remedial and preventive action (CAPA). At the same time, the course also aims to train students in drug quality control skills during production development at GMP factories. The module also helps to form students' attitudes and deep awareness about the role of drug quality management in production activities to create quality medicinal products.	2
83.	<b>Biopharmaceutics</b> Students who complete the module will have a foundational understanding of the scientific basis for drug quality, the relationship and impact of pharmacological and biological factors on the therapeutic effect of drugs, the standards for product evaluation at the preclinical and clinical research stages, etc. This knowledge will serve as a foundation for formulating drugs, conducting tests, and using them effectively. Moreover, the curriculum instructs students in scientific research, reading comprehension, and creating research design methodologies for biopharmaceuticals. Students who take the module are also better equipped to handle, utilize, and produce pharmaceuticals with the proper attitude and understanding of pharmaceutical quality criteria.	2

SEMESTER 10		
	Final internship	
01	Students who have picked the wrong major are given knowledge about practice and the	4
04.	application of knowledge and skills obtained in practice in the course, which gives them greater	4
	confidence when they join the working world.	
	Thesis/ Capstone project	
	Thesis	
	The course assists students in putting their newly acquired information, abilities, and techniques	
	of scientific research to use in analysis, hypothesis development, tool selection, experiment	
	design, and data collection and processing. To finish a study subject in a specialized academic	
	discipline, one must collect data, analyze findings, form conclusions, and assess them in light of	
85.	previous studies.	7
	Capstone project	
	In order to identify a problem, study documents, conduct background analysis, compare with	
	related projects, and examine the most effective methods for delivering technical, business, or	
	scientific solutions that specifically address existing problems in real-world professional settings,	
	the module assists students in applying the knowledge, skills, and methods of scientific research	
	they have learned. Each student must finish their graduation projects on their own.	