Ministry of Higher Education and Scientific Research Al-Kitab University College of Pharmacy Academic program description



# Academic Program and Course

2024

## The introduction

The educational program is considered as a coordinated and organized package of academic courses that includes procedures and experiences organized in the form of academic vocabulary, the main purpose of which is to build and refine the skills of graduates, making them qualified to meet the requirements of the labor market. It is reviewed and evaluated annually through internal or external audit procedures and programs such as the external examiner program.

The description of the academic program provides a brief summary of the main features of the program and its courses, indicating the skills that students are working to acquire based on the objectives of the academic program. The importance of this description is evident because it represents the cornerstone of obtaining program accreditation, and the teaching staff participates in writing it under the supervision of the scientific committees in the scientific departments.

This guide, in its second edition, includes a description of the academic program after updating the vocabulary and paragraphs of the previous guide in light of the latest developments in the educational system in Iraq, which included a description of the academic program in its traditional form (annual, quarterly), in addition to adopting the description of the academic program circulated according to the book of the Department of Studies, T.M.3 on 5/3/2023 regarding programs that adopt the Bologna 2906 .3/ Process as a basis for their work.

In this area, we can only emphasize the importance of writing descriptions of academic programs and courses to ensure the .smooth conduct of the educational process

## **Concepts and terminology**

**Description of the academic program:** The description of the academic

program provides a concise summary of its vision, mission, and goals, including an accurate description of the targeted learning outcomes according to specific learning strategies

<u>Course description</u>: Provides a necessary summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he or she has made the most of the available learning opportunities. It is derived from the program description

**<u>Program vision:</u>** An ambitious picture for the future of the academic program to be a developed, inspiring, motivating, realistic and applicable program

explains the objectives and activities necessary

**Program message:** It brieflyto achieve them, and also identifies the program's development paths and

.directions

**<u>Program objectives:</u>** These are statements that describe what the academic program intends to achieve within a specific period of time and are .measurable and observable

**Curriculum structure:** All courses/study subjects included in the academic program according to the approved learning system (semester, annual, Bologna track), whether it is a requirement (ministry, university, college, or .scientific department), along with the number of study units that

Learning outcomes: A consistent set of knowledge, skills, and values the student has acquired after the successful completion of the academic program. The learning outcomes for each course must be determined in a .way that achieves the program objectives

Learning strategies: They are the strategies used by a faculty member and they are plans that are , and learning to develop student teaching

followed to reach learning goals. That is, it describes all classroom activities .and extracurricular to achieve the learning outcomes of the programme

## Form of Academic program description

University name: Al-Kitab University College /Institute: College of Pharmacy Name of the academic or professional program: Bachelor of Pharmacy Name of final degree: Bachelor of Pharmacy



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#### 1. Program vision

In Al- Kitab Pharmacy, we strive to provide optimal and best education inorder to graduate competent pharmacists capable of providing appropriate health care to improve the health condition in government medical institutions and private medical institutions in Iraq and abroad.

We look forward to being among the pioneers at the local and global levels in the field of developing pharmaceutical education and scientificresearch, and seeking a bright future in enhancing medical and humanitarian services.

#### 2. Program message

The College of Pharmacy at Al-Kitab University is an educational institution whose goal is to improve human health by graduating qualifiedpharmacists who are able to be leaders in any environment as pharmacists and pharmacy scientists. The college provides a high-qualitycurriculum that develops thinking in critical times and problem solving.

The goal of our college is to provide the best pharmaceutical information and the latest educational methods and train pharmacists to participate effectively in providing health services to the community.

#### 3. Program Goals

The Faculty of Pharmacy at Al-Kitab University aims to train students to be leaders in any environment as pharmacists and pharmaceutical scientists. The college provides a high-quality curriculum that develops thinking in critical times, problem solving, and effective leadership skills. The main meaning of our college's mission is pharmaceutical and social research

and clinical, as well as transferring the outputs of this research to the health care , : service. The Faculty of Pharmacy program at our university also aims to

- 1. Providing the highest levels of knowledge, skills, and encouragement to students .the College of Pharmacy using the latest educational methods In
- 2. Providing the basics of pharmacy and pharmaceutical information to students through academic courses
- 3. Demonstrate knowledge of medications focusing on correcting their prescription. How it works , ways to take it, doses, and side effects
- 4. Preparing a generation of qualified pharmacists They are qualified to work in government health institutions, private health institutions, community pharmacies, pharmaceutical laboratories, and pharmaceutical factories. In

addition to companies that market medicines.

- 5. Encouraging and developing the role of the pharmacist to be a vital and effective part of the health care team
- 6. We seek to improve the quality of education, scientific research, and pharmaceutical practice to achieve the best standards
- 7. We seek to make the College of Pharmacy at Al-Kitab University distinguished among local and international colleges.
- 8. Effective contribution to spreading health awareness and culture in society
- 9. Providing a suitable training environment for students by the difficulties and obstacles facing students and also overcoming by forming committees to follow up on students' training to ensure that they obtain the correct information and evaluate their dealings with patients
- 10. Conducting scientific research in various pharmaceutical sciences to graduate students
- 11. Holding conferences, seminars, and discussion panels, and working to link university education to reality and application to meet the needs of society and plans for development and development in the country

## 4. Program accreditation

The program does not have program accreditation

## 5. Other external influences

There is no body supporting the program

6. Program	structure			
* comments	percentage	Study unit	Number of courses	Program structure
Basic	12%	18	5	Enterprise requirements
Basic	% 88	130	64	College requirements
Yes, there stage	summer training			
				Other

Notes may include whether the course is core or elective \*

7. Prog	7. Program description					
Credit hours		Name of the course or course	Course or course	Year/level		
Practical	theoretical		code			
18	24	Analytical chemistry Computer Science Life science Mathematics and	111 112 113 114	First year/ first		
		biostatistics medical terminology Principles of pharmacy practice English	115 116	semester		
		Anatomy Histology human rights Medical physics Medicinal Chemistry 1 Pharmaceutical accounts Computer Science 2	127 128 129 1210 1211 1212	First year/ second semester		
22	31	Democracy Microbiology 1 Organic Chemistry 2 Physical pharmacy 1 Faslja 1 Computer Science 3	211 212 213 214 215	Second year/ first semester		
		Microbiology 2 Organic chemistry 3 Pharmacology 1 Physical pharmacy 2 Faslja 2 Arabic Computer Science 4	227 228 229 2210 2211	Second year/ semester second		
18	31	Biochemistry 1 Organic pharmaceutical chemistry	311 312			

	1			
		History of diseases	313	Third year/ first
		Pharmaceuticals 1	314	semester
		Pharmacology 2	315	
		Biochemistry 2	326	
		Pharmacy ethics	327	
		Pharmaceutical organic	328	
		chemistry 1		Third year/
		Pharmaceuticals 2	329	semester second
		Pharmacology 3	3210	
		Pharmaceuticals 1	3211	
16	28	Biopharmaceuticals	411	
		Clinical pharmacy	412	
		Organic pharmaceutical	413	Fourth year/ first
		chemistry 2		semester
		Pharmaceuticals 2	414	
		Public Health	415	
		Clinical pharmacy 2	426	
		General toxicology	427	
		Industrial pharmacy 1	428	Fourth year/
		Organic pharmaceutical	429	semester second
		chemistry 3		
		Pharmaceuticals 3	4210	-
		communication skills	4211	
		English		-
18	26	Applied therapeutics 1	511	
		Clinical chemistry	512	
		Clinical training	513	Fifth vear/ first
		Clinical toxicology	514	semester
		Industrial pharmacy 2	515	-
		Organic pharmaceutical	516	-
		chemistry 4	510	
		Graduation Project	517	-
		Advanced pharmaceutical	528	
		analysis	520	
		Applied therapeutics 2	529	Fifth year/ second
		Drug dosage design	5210	semester
		Hospital training	5210	
		Pharmacoutical aconomics	5212	-
		Monitoring therepeutie	5212	-
		modications	5215	
		Desemanautical	5214	-
		Pharmaceutical	5214	
		biotechnology		

8. Expected learning outcomes of the programme				
Knowledge				
<ol> <li>Qualifying the student to practice the teaching profession and assume .responsibility for education</li> </ol>	<ol> <li>Knowledge, numbers of competent cadres capable of diagnosing and prescribing appropriate</li> </ol>			

<ol> <li>Enabling the student to keep up with the .methods of teaching pharmacy</li> <li>Providing the student with the special skills needed in dialogues and .discussions</li> <li>Enabling the student to prepare an analysis and evaluation of patients' conditions and the extent to which they benefit from the medications prescribed .to them</li> </ol>	<ul> <li>medications to treat medical <ul> <li>conditions In the health sector</li> </ul> </li> <li>Comprehension: Enabling the student to understand physiological diseases and the causes of their occurrence, thus identifying ways to treat them and thus being able to prepare qualified cadres for service <ul> <li>in the government sector</li> </ul> </li> <li>Application: enabling the student to translate scientific theoretical <ul> <li>concepts into practical procedures</li> </ul> </li> <li>Analysis: enabling the student to prepare an analysis and evaluation of patients' conditions and the extent to which they benefit from prescribed medications</li> </ul>
Statement of learning outcomes 2         1. Enabling the student to write scientific .research         2. Enabling the student to teach scientific .subjects	Subject-specific skills Appropriate and sufficient qualification - B1 to bear the responsibility and burdens of the profession as pharmacists, whether in government sectors, pharmacies, .teachers, or researchers B2 - Practice enables the student to apply the acquired science and pharmaceutical skills he learned during his studies .Within jurisdiction Mastery, development and - B3 . advancement of skills and abilities B4 - Creativity: The student's ability to provide medical services and advice to other colleagues from the medical staff .and patients
Statement of learning outcomes 3 Enables the student to understand the basics of .pharmacy	Learning outcomes 3 Enabling the student to conduct scientific discussions and dialogues within his .specialty
Value Statement of learning outcomes 4 Raising the student to love the profession of pharmacy and be creative in it	Learning outcomes 4 Providing the student with the principles and concepts that

	Used in the pharmacy (Honesty, loyalty, justice, caution, and keeping patients' (secrets
Statement of learning outcomes 5 Learn about pharmacy and pharmaceutical sciences	Learning outcomes 5 Providing the student with the skills and mastery of pharmacy and pharmaceutical sciences

## 9. Teaching and learning strategies

Lectures, scientific laboratories, homework, class assignments, free discussions, Visual projector and electronic whiteboard, workshops, summer training, .student seminars, scientific exhibitions and research conferences

## 10. Evaluation methods

Daily assessment, mid-term exams, practical assessment, final exam, .presentations, daily attendance, weekly reports

<b>11</b> .					
Facult	y men	nbers			
Preparing teaching staff	gthe	Special requirements/ skills (if(any	Specialization		Scientific rank
lectu rer	staff		private	general	
	staff		Drug and design pharmaceutical chemistry	the pharmacy	M. M. Qutaiba SalahJassim

staff	Pharmaceutical Technology	the pharmacy	Reem Ahmed .M .M Hussein
staff	Clinical Pharmacy	the pharmacy	M. Azad Nouri Abdullah
staff	Clinical Pharmacy	the pharmacy	M. M. Zaid Nabil AbdelQader
staff	Clinical biochemistry	the pharmacy	Mr. Dr. Shatha RaoufMustafa
staff	Medical physics	Physics	M. Qasim Ahmed Ali
staff	Pharmacology	the pharmacy	M. M. Muhammad Abdel Wahab Hassan
staff	Analytical chemistry	Chemistry Science	M.M. Sary Akram AhmedSalman
staff	Medicinal chemistry	Microbiology	M.M. Sarah Asaad AbdelKarim

staff	Clinical biochemistr y	Pharma cy	M. M. Zulfiqar Abdullah Muhammad Khadr
staff	Electrolysis	chemist ry	Prof. Dr. Fathi Ahmed Obaid Muhammad
staff	Pharmaceu ticals	Pharma cy	M.M. Ibrahim Muhammad Tayyab Abdel Baqi
staff	Clinical pharmacol ogy	Pharma cy	M.D. Barif Zahir Rashid Yahya
staff	Pharmaceu ticals	Pharma cy	M. M. Mustafa Muhammad Nouri Ismail
staff	Drugs and medicinal plants	Pharma cy	M.M. Abdul Aziz Ali Khalif Mughir
staff	Pharmaceu tical chemistry	Pharma cy	Eng. Omid Omar Darwish Rasoul
staff	Clinical biochemistr y	Pharma cy	M.M. Ahmed Tariq Jihad Abdullah
staff	Industrial pharmacy	Pharma cy	Prof. Dr. Yasser Abdel Aleem Hassan

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staff	Pediatrics	General medicin e and surgery	Dr. Warqa Naseer Saadoun Mostaqi
staff	Polymer chemistry	Chemist ry Science	A.M.D. Hani Khalil Ismail
staff	Doctorate in brain physiology	Doctor	Dr. Honor Ahmed Abdel Rahman
staff	Toxicology	Pharma cy	Mother. Dr . Ansam Naji Abboud
staff	Pharmaceu tical chemistry	Chemist ry Science	Ahmed Hasan's mom Hassan
staff	Information Technology Manageme nt	Comput er Science	M. M. Yahya Qusay Yahya
staff	Pharmaco logy	Pharma cy	M.M. Osama Abdullah Hassan
staff	Clinical pharmacy	Pharma cy	M. M. Rozkar Faisal Ahmed

staff	Pharmacolog	y Pharmacy	M. M. Elham Hassan Karim
staff	Pharmacolog	y Pharmacy	M. M. Mateen Adel Mahmoud
staff	Industrial Pharmacy	Pharmacy	M. M. Zain Al-Abidin Ghanem Ahmed
staff	Clinical pharmacy	Pharmacy	M.M. Aram Sardar Ibrahim
staff	Pharmaceuti chemistry	cal Pharmacy	M. M. Moeen Muhammad Mustafa
staff	Pharmaceuti	cals Pharmacy	M.M. Ahmed Fouad Zidan
staff	Pharmaceuti	cals Pharmacy	M.M. Fatima Qais Muhammad Ali
staff	Genetics	Biology	Dr Pashtwan Saeed Amin
staff	Pharmaceuti	cals Pharmacy	M. M. Roya Ali Haider
staff	Medical biology	Biology sciences	M.M. Dalia Dilshad Abdullah
staff	organic chemistry	chemistry	M. M. Ahmed Tahseen Bakr
staff	Pharmaceuti chemistry	cal Pharmacy	M. M. Ali Khader Ahmed
staff	Biochemistry	chemistry	M.M. Lubna Suleiman Muhammad
staff	Pharmaceuti sciences	cal Pharmacy	M. M. Muhammad Zahir Abdel Razzaq
staff	Pharmacolog	y Pharmacy	M.M. I am Abdul Hamid Saeed
staff	organic chemistry	Chemistry Science	M. Vian Johar Fares

	staff	Pharmaceuticals	Pharmacy	M.M. Karam AbdullahDarwish
lectu rer		Biochemistry	chemistry	Prof. Dr. MuhammadTalaat Abbas
lectu rer		Pharmaceutical chemistry	Pharmacy	Prof. Dana MuhammadHamad Amin
lectu rer		Immunity	Sciences	M.D. Zeina Abdel Moneim Abdel Razzaq
lectu rer		Pharmaceuticals	Pharmacy	M.M. Taha Abdel QaderBashir
lectu rer		Pharmaceutical biotechnology	Pharmacy	M.M. Oral MuhammadBakr

lecturer	organic chemistry	chemistry	M. M. Ali Iyad Mohsen
lecturer	pharmacology	Pharmacy	M. M. Shathal Khalaf Numan

#### Professional development Orienting new faculty members

Professional development for new professors takes place through training them and holding workshops to develop their educational skills and update their academic knowledge and teaching methods in the field of pharmacy. Which provides high skills ...for teaching and learning in the specialty

#### Professional development for faculty members

Professional development for faculty members is considered important to enhance their competence and improve their performance in the field of teaching. Faculty can develop their skills by attending workshops and training courses, and participating in educational seminars and conferences. They can also exchange knowledge and experiences with colleagues in the field, and use technology to improve the teaching process. This helps them innovate and improve

## 12. Acceptance standard

The student who is accepted into Iraqi universities and institutes is :required to be

.Iraqi nationality -1

Possession of an Iraqi secondary school certificate, supported by -2 certification from the General Directorate of Education in the governorate, .or an equivalent certificate

.The student must be born in 1995 onwards-3

Successful in the medical examination according to the conditions for .4 each study. The blind student who meets the conditions for applying for appropriate humanitarian studies shall be submitted through central .admission

If he is devoted to study, it is not permissible to combine work and -5 study (at the same time) in colleges and morning institutes. This includes employees of all government institutions. In order for them to continue studying, it is required that they obtain a study leave from their departments starting in accordance with the instructions in force . It is not permissible to combine two studies either and in If it is proven otherwise, he writes to the Ministry to cancel his acceptance (the student employee can postpone his studies according to the instructions in order to fulfill the condition of completing two years of satisfactory service to be entitled to obtain study leave in accordance with the instructions for granting study (leave

-: Among my graduates -.6

.A- Academic year )2019-2020(

B- The previous academic year of those who are not centrally accepted into any college or institute, and they are accepted according to the minimum limits for the year of their graduation. In the event that the student is confirmed to have been accepted into any college or institute, he will be returned to his original acceptance and it will be considered a .year of failure for him

Of the (top) students who graduate from the institutes, 10% of them -7 are accepted into the colleges corresponding to their majors, and central .admission is implemented by nominating those included

### 13. The most important sources of information about the program

Iraqi government universities, instructions of the Ministry of Higher Education and Scientific Research, twin universities, relevant .international universities

### 14. Program development plan

Analyze the current situation by evaluating the current curriculum and analyzing its strengths and weaknesses. Search for opportunities for .improvement and identify areas that need development

Setting goals: Setting the main goals for developing the academic curriculum is considered one of the most important steps in developing any program, as the goals can include increasing educational quality, improving .the student experience, and enhancing academic development

and personal development. Continuous evaluation and review by conducting periodic evaluation and review of the curriculum and teaching methods and communicating with students and professors to collect feedback and comments. Use this feedback to improve and enhance your academic curriculum

			Curriculu	ım Skills N	lap												
			Programme L	earning Ou	utcon	nes											
Year / Level	Course Code	Cour	se Title	Basic or optional	Knowledge					sk	ills		Ethics				
					A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	
First year\first semester	Phpchl 8-111	Analytica	I Chemistry	Basic	V	$\checkmark$	N	V	$\checkmark$	$\checkmark$	V	V					
	Phpchl	Compute	er Sciences I	Basic	$\checkmark$	V	$\checkmark$	$\checkmark$	$\checkmark$								
	Phpchl	Humai	n Biology	Basic		$\checkmark$		$\checkmark$	$\checkmark$	$\checkmark$			$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	
	Phpchl	Mathematics and Biostatistics		Basic	$\checkmark$	V	V	V	V	V	V	V	V	V	V	V	
	Phpchl	Medical T	erminology	Basic	V	$\checkmark$		1									
		English	Language	Basic	$\checkmark$	$\checkmark$		$\checkmark$			$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	
	Phpchl	Principle of ph	armacy practice	Basic		V	V	V					V	V	$\checkmark$	$\checkmark$	
First year\ second	Phpchl	Human	Anatomy	Basic	$\checkmark$	$\checkmark$	$\checkmark$	V									
semester	Phpchl	Human	Histology	Basic	V			$\checkmark$									
	Phpchl	Huma	n Rights	Basic	$\checkmark$	$\checkmark$		$\checkmark$									
	Phpchl	Medical physic	S	Basic	V			$\checkmark$		$\checkmark$	V						
	Phpchl	Organic	Chemistry I	Basic	$\checkmark$	V	V	V	V	$\checkmark$	V	V	$\checkmark$	V	V	V	
	Phpchl	Pharmaceutio	cal Calculations	Basic	$\checkmark$	V	V	V	V			$\checkmark$	$\checkmark$	V	$\checkmark$	$\checkmark$	
		Computer	Sciences II	Basic	V	$\checkmark$	$\checkmark$	V	V	V	V	V	$\checkmark$	$\checkmark$	V	V	
Second year\first semester	Phpchl	Medical m	icrobiology l	Basic	V	$\checkmark$	$\checkmark$	V	$\checkmark$								

	Phpchl	Organic Chemistry II	Basic	$\checkmark$	$\checkmark$		$\checkmark$								
	Phpchl	Physical Pharmacy I	Basic	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$	
	Phpchl	Physiology I	Basic	$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	V	V	$\checkmark$	$\checkmark$
		Computer Sciences III	Basic	$\checkmark$	$\checkmark$		$\checkmark$								
Second year\second	Phpchl	Medical Microbiology II	Basic	$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$		$\checkmark$		$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Schlotter	Phpchl	Organic Chemistry II	Basic	$\checkmark$	$\checkmark$		$\checkmark$								
	Phpchl	Physical pharmacy II	Basic	$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$		$\checkmark$					
	Phpchl	Pharmacognosy I	Basic		$\checkmark$		$\checkmark$		$\checkmark$						
	Phpchl	Physiology II	Basic	√	1	$\checkmark$	V		$\checkmark$	V	$\checkmark$	V	1	$\checkmark$	$\checkmark$
		Arabic Language	Basic	V	V	$\checkmark$	V			V	V	V	V	V	
		Computer Sciences III	Basic	V	V	$\checkmark$	$\checkmark$	V	V	V	V	V	$\checkmark$	V	$\checkmark$
Third year \ First	Phpchl	Biochemistry I	Basic	$\checkmark$			$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$	$\checkmark$
semester	Phpchl	Inorganic pharmaceutical Chemistry	Basic	V	V	$\checkmark$	V	$\checkmark$	V	V	V	V	V	V	V
		Pathophysiology	Basic	$\checkmark$	$\checkmark$	$\checkmark$	V	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$				
	Phpchl	Pharmaceutical Technology I	Basic	$\checkmark$	V		V			V	$\checkmark$	V	V	$\checkmark$	$\checkmark$
	Phpchl	Pharmacognosy II	Basic	$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$				
Third year \second	Phpchl	Biochemistry II	Basic				$\checkmark$	$\checkmark$					$\checkmark$	$\checkmark$	$\checkmark$
semester	Phpchl	Pharmacy Ethics	Basic	$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
	Phpchl	Organic pharmaceutical Chemistry I	Basic	$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$	$\checkmark$	V	V				
	Phpchl	Pharmaceutical Technology II	Basic	$\checkmark$	V	$\checkmark$	V		$\checkmark$	$\checkmark$	$\checkmark$	V	V	$\checkmark$	$\checkmark$

	Phpchl	Pharmacognosy III	Basic	$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$					
	Phpchl	Pharmacology I	Basic	$\checkmark$											
Fourth year\first	Phpchl	Biopharmaceutics	Basic	$\checkmark$	V	V	V	V	$\checkmark$	$\checkmark$	$\checkmark$	V	V	$\checkmark$	
semester	Phpchl	Clinical pharmacy I	Basic	$\checkmark$	V	V	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	V	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
	Phpchl	Organic pharmaceutical Chemistry II	Basic	V	V	V		V	V	V	V	V	V	$\checkmark$	$\checkmark$
	Phpchl	Pharmacology II	Basic	$\checkmark$			$\checkmark$								
	Phpchl	Public health	Basic	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$	$\checkmark$				
Fourth year\second semester	Phpchl	Clinical pharmacy II	Basic	V	$\checkmark$	V	V	V	V	V	V	V	V	V	V
	Phpchl	General Toxicology	Basic	$\checkmark$	$\checkmark$		$\checkmark$								
	Phpchl	Industrial Pharmacy I	Basic	V	V	$\checkmark$	$\checkmark$	V	V	V	$\checkmark$	V	V	$\checkmark$	V
	Phpchl	Organic pharmaceutical Chemistry III	Basic	$\checkmark$	V	V	V	$\checkmark$	V	V	V	$\checkmark$	$\checkmark$	V	$\checkmark$
	Phpchl	Pharmacology III	Basic	$\checkmark$	$\checkmark$		$\checkmark$								
		Communication skills	Basic	V	V	$\checkmark$	$\checkmark$	V	V	V	$\checkmark$	V	V	$\checkmark$	
Fifth\ second semester	Phpchl	Applied therapeutics I	Basic	$\checkmark$	$\checkmark$	V	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	V	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
	Phpchl	Clinical Chemistry	Basic	$\checkmark$	$\checkmark$		$\checkmark$								
	Phpchl	Clinical Laboratory Training	Basic	$\checkmark$	V		$\checkmark$								
	Phpchl	Clinical Toxicology	Basic	$\checkmark$	V		$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	V	V	$\checkmark$	$\checkmark$
	Phpchl	Industrial Pharmacy II	Basic	$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	V	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
	Phpchl	Organic pharmaceutical Chemistry	Basic	V	V	V	$\checkmark$	V	V	V	V	$\checkmark$	$\checkmark$	$\checkmark$	V
	Phpchl	Graduation Project	Basic	$\checkmark$											

second semester	Phpchl	Advance pharmaceutical Analysis	Basic	V		V	V	V	V	V	$\checkmark$	V	V		1
	Phpchl	Applied therapeutics II	Basic	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$		V	V	V	$\checkmark$	$\checkmark$	$\checkmark$	V
	Phpchl	Dosage Form Design	Basic	$\checkmark$											
	Phpchl	Hospital Training	Basic	$\checkmark$		$\checkmark$									
	Phpchl	Pharmacoeconomic	Basic	$\checkmark$	V	$\checkmark$									
	Phpchl	Therapeutic Drug Monitoring (TDM)	Basic	$\checkmark$	$\checkmark$	$\checkmark$	V	V	V	V	$\checkmark$	V	V	$\checkmark$	1
		Pharmaceutical Biotechnology	Basic	V	V	V	$\checkmark$	V	$\checkmark$	V	$\checkmark$	V	V	$\checkmark$	V