

**Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
Accreditation Department**



Academic Program and Course Description Guide

2026–2025

Academic Program Description Form

University Name: University of Mosul

Faculty/Institute: College of Pharmacy

Scientific Department: .-

Academic or Professional Program Name: Bachelor in Pharmacy

Final Certificate Name: Bachelor in Pharmacy

Academic System: Courses

Description Preparation Date: 3/2/2026

File Completion Date: 7/3/2026

Signature:



Head of Department Name:

Prof. Dr Yasser F. Mustafa

Date: 17/ 3 /2026

Signature:



Scientific Associate Name:

Assistant Prof. Dr. Muhannad Emad

Date: 17/ 3 /2026

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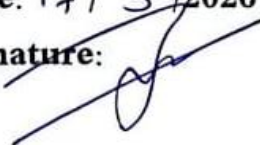
Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Assistant Prof. Dr. Zahraa Amer Hashim

Date: 17/ 3 /2026

Signature:



Approval of the Dean

1. Program Vision

Leadership in preparing specialized pharmaceutical competencies equipped with the scientific and practical skills necessary to excel in the public and private sectors, while elevating the professional standards of pharmacy.

2. Program Mission

Preparing pioneering pharmaceutical competencies that combine scientific excellence with leadership capabilities to contribute to enriching scientific research and serving the community locally and internationally. We are committed to honing students' cognitive skills and developing their applied abilities, while instilling professional and social values to ensure an effective and sustainable response to labor market requirements.

3. Program Objectives

1. Keeping Pace with Modern Pharmaceutical Technologies: Empowering students to utilize digital technologies and specialized software in pharmaceutical practices, particularly in drug interaction analysis and computer applications for drug discovery and design.

2. Professional and Applied Qualification: Preparing pharmaceutical cadres who possess the necessary cognitive and skillful competencies to practice the profession professionally, with an emphasis on linking theoretical aspects to practical applications across various fields of specialization.

3. Enhancing the Quality of Educational Outcomes: Ensuring the delivery of high-quality educational outcomes that provide the health, academic, and industrial sectors with qualified pharmacists capable of competing and excelling in diverse work environments.

4. Stimulating Creativity and Scientific Innovation: Developing graduates' capacities for innovation and keeping pace with rapid scientific and technical

developments, ensuring the sustainability of learning and development across all pharmaceutical sciences.

4. Program Accreditation

Local (National Accreditation Standards for Classification) (Under revision)

5. Other external influences

The scientific library of the college and university, the international information network (Internet), and field visits and practices to health institutions, pharmaceutical factories, and private sector pharmacies

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	11	17	9.5	
College Requirements	53	166	90	
Department Requirements	-	-	-	-
Summer Training	Yes			
Other	Graduation project	1	0.5	

* This can include notes whether the course is basic or optional.

7. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			Theoretical	Practical
First Year-First Semester	Phpch25_111	Analytical Chemistry	3	2
	Phcls25_112	Human Anatomy & Histology	3	2
	Phcls25_113	Biostatistics	2	----
	Phcls25_114	Medical Terminology	1	----
	Phcls25_115	Medical Physics	1	2
	Phcls25_116	Democracy & Human Rights	2	----

Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			Theoretical	Practical
First Year-Second Semester	Phpht25_128	Physiology I	3	2
	Phpht25_129	Organic Chemistry I	3	2
	Phind25_1210	Pharmaceutical Calculation	3	2
	Phcls25_1211	Computer Sciences I	1	2
	Phcls25_1212	Arabic Language	2	----

Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			Theoretical	Practical
	Phcls25_211	Crimes of the Baath	2	----

Second Year– First Semester		Regime in Iraq		
	Phcls25_212	Medical Microbiology I	3	2
	Phpch25_213	Organic Chemistry II	3	2
	Phind25_214	Physical Pharmacy I	3	2
	Phpht25_215	Physiology I	3	2
	Phcls25_216	Computer Sciences II	1	2
	-	Arabic Language	2	----

Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			Theoretical	Practical
Second Year- Second Semester	Phcls25_227	Medical Microbiology II	3	2
	Phpch25_228	Organic Chemistry III	2	2
	Phcog25_229	Pharmacognosy I	3	2
	Phind25_2210	Physical Pharmacy II	3	2
	Phpht25_2211	Physiology II	3	2
	Phcls25_2213	Arabic Language	2	----

Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			Theoretical	Practical
	Phcls25_311	Biochemistry I	3	2

Third Year- First Semester	Phpch25_312	Inorganic Pharmaceutical Chemistry	2	2
	Phcls25_313	Pathophysiology	3	2
	Phind25_314	Pharmaceutical Technology	3	2
	Phcog25_315	Pharmacognosy II	2	2

Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			Theoretical	Practical
Third Year- Second Semester	Phcls25_326	Biochemistry II	3	2
	Phclp25_327	Pharmacy Ethics	1	----
	Phpch25_328	Organic Pharm. Chemistry I	3	2
	Phind25_329	Pharmaceutical and Cosmetic Preparations	3	2
	Phcog25_3210	Pharmacognosy III	2	2
	Phpht25_3211	Pharmacology I	3	----

Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			Theoretical	Practical
Fourth Year- First Semester	Phind25_411	Biopharmaceutics	2	2
	Phclp25_412	Clinical Pharmacy I	2	2
	Phpch25_413	Organic Pharm.Chemistry II	3	2
	Phpht25_414	Pharmacology II	3	2
	Phcls25_415	Public Health	2	----

Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			Theoretical	Practical

Fourth Year-Second Semester	Phclp25_426	Communication Skills	2	----
	Phclp25_427	Clinical Pharmacy II	2	2
	Phpht25_428	General Toxicology	2	2
	Phind25_429	Industrial Pharmacy I	3	2
	Phpch25_4210	Organic Pharm. Chemistry III	3	2
	Phpht25_4211	Pharmacology III	2	----

Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			Theoretical	Practical
Fifth Year- First Semester	Phclp25_511	Applied Therapeutics- I	3	----
	Phcls25_512	Clinical Chemistry	3	2
	Phclp25_513	Clinical Lab Training	----	4
	Phpht25_514	Clinical Toxicology	2	2
	Phind25_515	Industrial Pharmacy- II	3	2
	Phpch25_516	Org. Pharm. Chem. IV	2	----
	-----	Graduation project	1	----

Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			Theoretical	Practical
Fifth Year- Second Semester	Phpch25_528	Advanced Pharmaceutical Analysis	3	2
	Phclp25_529	Applied Therapeutics- II	2	----
	Phind25_5210	Drug Delivery Systems Design (Dosage Form Design)	2	----
	Phcls25_5211	Hospital Training	----	4
	Phclp25_5212	Pharmacoeconomic	2	----
	Phclp25_5213	Therapeutic Drug Monitoring (TDM)	2	2

	Phind25_5214	Pharmaceutical Biotechnology	1	----
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8. Expected learning outcomes of the program

Knowledge

AI: Comprehending the basic concepts of medical sciences (anatomy, histology, physiology, and microbiology) and the pathophysiology associated with the human body.

AI: Understanding the chemical and physical principles of drugs and their applications in organic, analytical, and pharmaceutical chemistry.

AIII: Familiarity with the foundations of pharmacognosy, natural products, and both biochemistry and clinical chemistry.

AIV: Knowledge of the principles of biopharmaceutics, pharmacokinetics, pharmacology, and both general and clinical toxicology.

AV: Understanding pharmaceutical manufacturing strategies, drug delivery system design, and pharmaceutical biotechnology.

AVI: Comprehending the concepts of biostatistics, pharmacoinformatics, pharmacoeconomics, and therapeutic drug monitoring.

AVII: Knowledge of pharmaceutical laws and legislations, professional ethics, and the principles of human rights and democracy

Skills

BI: The ability to perform advanced chemical and pharmaceutical analyses and operate specialized laboratory equipment.

BII: Proficiency in pharmaceutical calculations and the accurate dispensing of prescriptions in accordance with professional standards.

BIII: Skill in preparing and designing pharmaceutical and cosmetic dosage forms, preparations, and industrial products.

BIV: The ability to provide pharmaceutical counseling and apply clinical pharmacy care within clinical and hospital environments.

BV: Effective communication skills with patients and the healthcare team, along with the management of drug interactions.

BVI: The ability to design and develop scientific research and successfully complete graduation projects.

BVII: Utilizing computers and specialized software in pharmaceutical, research, and medical fields.

Ethics

CI: Commitment to high ethical and professional conduct in the practice of the profession and in dealing with patients and colleagues.

CII: Enhancing the spirit of citizenship, legal awareness, and social responsibility in maintaining public health.

9. Teaching and Learning Strategies

Explain the scientific material to students in detail.

Discussion and dialogue on topical vocabulary and brain storming.

Theoretical, practical and practical lectures, in site visit, daily assignments and discussions.

10. Evaluation methods

Exams: Mixed theoretical questions consisting of explaining the choice of the correct answer and filling in the blanks.

Daily tasks and duties (classroom or classroom).

Discussions Laboratory reports on applied trials or clinical cases Graduation project (for the fifth stage).

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professors	Pharmacy	Pharmaceutical Chemistry	Teaching Theoretical		1	
		Pharmacology	Teaching Theoretical		1	
		Clinical Pharmacy	Teaching Theoretical	Clinical Training		
Assistant Professors	Pharmacy	Pharmaceutical Chemistry	Teaching Theoretical	Teaching Practical	4	
		Biochemistry	Teaching Theoretical	Teaching Practical	2	
		Clinical Pharmacy	Teaching Theoretical	Teaching Practical	2	
		Pharmacology	Teaching Theoretical	Teaching Practical	12	
		Microbiology	Teaching Theoretical	Teaching Practical	3	
		Physiology	Teaching Theoretical	Teaching Practical	2	

		Pharmaceutics	Teaching Theoretical	Teaching Practical	1	
Lecturer	Pharmacy	Physiology	Teaching Theoretical	Teaching Practical	1	
		Pharmacology	Teaching Theoretical	Teaching Practical	8	
		Clinical Pharmacy	Teaching Theoretical	Teaching Practical	7	
		Pharmaceutics	Teaching Theoretical	Teaching Practical	6	
		Pharmaceutical Chemistry	Teaching Theoretical	Teaching Practical	2	
		Biochemistry	Teaching Theoretical	Teaching Practical	6	
		Microbiology	Teaching Theoretical	Teaching Practical	1	
Assistant Lecturer	Pharmacy	Pharmacology	Teaching Theoretical	Teaching Practical	5	
		Physiology	Teaching Theoretical	Teaching Practical	5	
		Pharmaceutical Chemistry	Teaching Theoretical	Teaching Practical	6	

		Pharmaceutics	Teaching Theoretical	Teaching Practical	12	
		Biochemistry	Teaching Theoretical	Teaching Practical	3	
		Clinical Pharmacy	Teaching Theoretical	Teaching Practical	4	
		Microbiology	Teaching Theoretical	Teaching Practical	1	
Assistant Professors	Life Science	Biochemistry	Teaching Theoretical	Teaching Practical	1	
		Microbiology	Teaching Theoretical	Teaching Practical	4	
		Physiology	Teaching Theoretical	Teaching Practical	1	
Lecturer	Life Science	Microbiology	Teaching Theoretical	Teaching Practical	2	
		Chemistry	Teaching Theoretical	Teaching Practical	6	
		Biochemistry	Teaching Theoretical	Teaching Practical	2	
Assistant Lecturer	Life Science	Chemistry	Teaching Theoretical	Teaching Practical	3	

		Microbiology	Teaching Theoretical	Teaching Practical	3	
Lecturer	Medicine	Hematology	Teaching Theoretical	Teaching Practical	1	
Assistant Lecturer	Veterinary Medicine	Biochemistry	Teaching Theoretical	Teaching Practical	1	
Lecturer	Engineering	Computer Science	Teaching Theoretical	Teaching Practical	1	
Assistant Lecturer	Engineering	Computer Science	Teaching Theoretical	Teaching Practical	1	
Assistant Lecturer	Finance and Administration	Finance	Teaching Theoretical	Teaching Practical	4	

Professional Development

Mentoring new faculty members

The presence of the Capacity Development Center (Continuing Education Center) at the university and college of Pharmacy.

Holding workshops and seminars (4–6 workshops and seminars annually)

Delivering seminars by the staff and external lecturers.

Professional development of faculty members

The presence of the Capacity Development Center (Continuing Education Center) at the university

Holding workshops and seminars (4–6 workshops and seminars annually)

Delivering seminars by the staff and external lecturers.

12. Acceptance Criterion

Central Admission + Health status check

13. The most important sources of information about the program

University Central Library (Book based and Electronic Library)

College Library (Book based and Electronic Library)

Textbooks for pharmacy faculties

Websites

YouTube Movies

14. Program Development Plan

1. Digital and Educational Modernization:

- Integrating modern pharmaceutical concepts and utilizing interactive presentation techniques to simplify complex drug-related issues.
- Activating **Blended Learning** by enriching electronic platforms with updated international scientific resources and websites.

2. Development of Intellectual and Research Skills:

- Organizing periodic student debates and seminars to enhance critical thinking and scientific dialogue skills.
- Adopting the "**Research Groups**" methodology to develop teamwork skills and applied research using modern laboratory equipment.

3. Alignment with the Labor Market:

- Focusing on the quality of educational outcomes to ensure the competence of graduates in the health, industrial, and academic sectors.

Outline Program Skills																			
Required program Learning outcomes																			
Year /Level	Course Code	Course Name	Basic or optional	Knowledge							Skills							Ethics	
				AI	AII	AIII	AIV	AV	AVI	AVII	BI	BII	BIII	BIV	BV	BVI	BVII	CI	CII
First Year- First semester	Phpch25_111	Analytical Chemistry	Basic		*							*							
	Phcls25_112	Human Anatomy & Histology	Basic	*															
	Phcls25_113	Biostatistics	Basic						*										
	Phcls25_114	Medical Terminology	Basic	*															
	Phcls25_115	Medical Physics	Basic		*														
	Phcls25_116	Democracy & Human Rights	Basic								*								*
	Phpht25_128	Physiology I	Basic	*															

First Year- Second semester	Phpht25_129	Organic Chemistry I	Basic		*														
	Phind25_1210	Pharmaceutical Calculation	Basic									*							
	Phcls25_1211	Computer Sciences I	Basic												*				
	Phcls25_1212	Arabic Language	Basic										*						
				AI	AII	AIII	AIV	AV	AVI	AVII	BI	BII	BIII	BIV	BV	BVI	BVII	CI	CII
Second Year- First semester	Phcls25_211	Crimes of the Baath Regime in Iraq	Basic																*
	Phcls25_212	Medical Microbiology I	Basic	*							*								
	Phpch25_213	Organic Chemistry II	Basic		*														
	Phind25_214	Physical Pharmacy I	Basic		*								*						

	_2155Phpht2	Physiology I	Basic	*														
	Phcls25_216	Computer Sciences II	Basic													*		
Second Year- Second semester	-	Arabic Language	Basic									*						
	Phcls25_227	Medical Microbiology II	Basic	*						*								
	Phpch25_228	Organic Chemistry III	Basic		*													
	Phcog25_229	Pharmacognosy I	Basic			*												
	Phind25_2210	Physical Pharmacy II	Basic		*													
	Phpht25_2211	Physiology II	Basic	*														
	Phcls25_2213	Arabic Language	Basic										*					

				AI	AII	AIII	AIV	AV	AVI	AVII	BI	BII	BIII	BIV	BV	BVI	BVII	CI	CII
Third Year- First semester	Phcls25_311	Biochemistry I	Basic			*					*								
	Phpch25_312	Inorganic Pharmaceutical Chemistry	Basic		*						*								
	Phcls25_313	Pathophysiology	Basic	*															
	Phind25_314	Pharmaceutical Technology	Basic					*					*						
	Phcog25_315	Pharmacognosy II	Basic			*													
Third Year- Second semester	Phcls25_326	Biochemistry II	Basic			*					*								
	Phclp25_327	Pharmacy Ethics	Basic							*								*	
	Phpch25_328	Organic Pharm. Chemistry I	Basic	*									*						

	Phind25_329	Pharmaceutical and Cosmetic Preparations	Basic					*					*						
	Phcog25_3210	Pharmacognosy III	Basic			*													
	Phpht25_3211	Pharmacology I	Basic				*						*						
				AI	AII	AIII	AIV	AV	AVI	AVII	BI	BII	BIII	BIV	BV	BVI	BVII	CI	CII
Fourth Year - First semester	Phind25_411	Biopharmaceutics	Basic				*	*											
	Phclp25_412	Clinical Pharmacy I	Basic				*						*						
	Phpch25_413	Organic Pharm.Chemistry II	Basic	*								*							
	Phpht25_414	Pharmacology II	Basic				*						*						
	Phels25_415	Public Health	Basic				*												*

				AI	AII	AIII	AIV	AV	AVI	AVII	BI	BII	BIII	BIV	BV	BVI	BVII	CI	CII
Fourth Year - Second semester	Phelp25_426	Communication Skills	Basic												*			*	
	Phelp25_427	Clinical Pharmacy II	Basic				*							*					
	Phpht25_428	General Toxicology	Basic				*												
	Phind25_429	Industrial Pharmacy I	Basic					*					*						
	Phpch25_4210	Organic Pharm. Chemistry III	Basic	*									*						
	Phpht25_4211	Pharmacology III	Basic				*							*					
				AI	AII	AIII	AIV	AV	AVI	AVII	BI	BII	BIII	BIV	BV	BVI	BVII	CI	CII
	Phelp25_511	Applied Therapeutics- I	Basic				*							*					
	Phcls25_512	Clinical Chemistry	Basic			*					*								
	Phelp25_513	Clinical Lab Training	Basic											*	*				

Fifth Year- First semester	Phpht25_514	Clinical Toxicology	Basic				*						*					
	Phind25_515	Industrial Pharmacy- II	Basic					*				*						
	Phpch25_516	Org. Pharm. Chem. IV	Basic	*								*						
	-----	Graduation project	Basic												*			
Fifth Year- Second semester	Phpch25_528	Advanced Pharmaceutical Analysis	Basic		*					*								
	Phclp25_529	Applied Therapeutics- II	Basic				*					*						
	Phind25_5210	Drug Delivery Systems Design (Dosage Form Design)	Basic					*				*						
	Phcls25_5211	Hospital Training	Basic									*	*				*	
	Phclp25_5212	Pharmacoeconomic	Basic						*									

	Phelp25_521 3	Therapeutic Drug Monitoring (TDM)	Basic						*						*				
	Phind25_521 4	Pharmaceutical Biotechnology	Basic					*				*							

Please tick the boxes corresponding to the individual program learning outcomes under evaluation

