Faculty of Pharmacy

Pharos University in Alexandria

Program Specification

Bachelor In Pharmacy Pharm D

2025

14\9\2025 إعتماد مجلس كلية

University: Pharos University in Alexandria.
Faculty: Faculty of Pharmacy

Program Specification (2025)

1. Basic Information

ProgramTitle	Bachelor In Pharmacy Pharm D
Total number of credit hours/points of the program:	175 Crs + 6 university requirements = 181 credit hours Total
Number of academic years/levels (expected program duration):	Five years + 1 academic year (9 months) internship
Department (s) Participating (if any) in teaching the program:	Department of Pharmaceutical Chemistry (PC). Department of Pharmacognosy & Natural Products (PG). Department of Pharmacology and Therapeutics (PL). Department of Microbiology and Immunology (PM). Department of Clinical Pharmacy & Pharmacy Practice (PN). Department of Pharmaceutics & Pharmaceutical Technology (PP). English Language center Arabic Language center Computer center Communication skills center Career development and entrepreneurship center
Faculty/Institute:	Pharmacy
University/Academy:	Pharos University in Alexandria
Program majors/divisions/tracks/specialties in the final year (if any):	Not applicable
Partnerships with other parties and the nature of each (if any):	Not applicable
Name of the program coordinator (attach the assignment decision):	Associate Professor. Marwa Atef
Program Specification Approval Date:	9\9\2025
Council responsible for Program Specification Approval (Attach the Decision / Minutes):	14\9\2025

2. Program Aims (Brief description of the overall purpose of the program)

The principal aim of the Pharm-D program in the faculty of Pharmacy Pharos University in Alexandria, is to graduate distinguished pharmacists who are fully qualified for roles in public and private pharmacies, pharmaceutical manufacturing and firms, drug control and food analysis labs, as well as media, marketing, research, and academia. By focusing on the pharmacist's vital role in providing optimal healthcare, we empower our students to improve therapeutic outcomes and reduce disease incidence through community education and a strict adherence to professional ethics and patient rights. We prepare them to utilize evidence-based data for delivering pharmaceutical services while mastering leadership, entrepreneurship, and effective communication. Committed to quality standards and interactive learning, the program ensures students to become lifelong learners with the regional competitiveness necessary to drive community development and provide a tangible economic return through the optimized use of medicines.

3. Program Structure (Curriculum)

Program Components

Requirement Category/Type		Number of Courses	Number of Credit Hours/Points	Percentage from the total number of hours/points
University Requirements		3	6	3.3%
Faculty/College Requirements (if applicable)		75	175	96.7%
Program Requirements	Total courses	78	181	100%
	Compulsory Courses	74	173	95.6%
	Elective Courses	4	8	4.4%
Requirements of the majors/ divisions/ tracks/ specializations in the final year		NA		
Other requirements	Field Training		100	
	Graduation Project	Graduated projects are included within the mandatory training year and considered as 1 round from the 6 rounds provided during the 9 months.		
	Mandatory training year		9 month\ 6 rounds	
	Other (to be mentioned)		NA	
Total Compulsory Courses		74	173	95.6%
Elective Courses		4	8	4.4%
Total		78	181	100%

Categories	Number of courses	Credit Hours	Percentage
Basic	9	18	10%
Pharmaceutical	32	83	46%
Medical	13	35	19.3 %
Pharmacy practice	7	17	9 %
Health and environmental	5	10	5.5%
Behavioral and social	5	5	3 %
Pharmacy management	2	3	1.7 %
Discretionary	5	10	5.5 %

- **Program courses according to the expected study plan**

Academic Level	Semester	Course Code	Course Title	Course Type (Compulsory / Elective)	Requirement Category/ Type	Credit Hours/ Points	Weekly Hours		
							Theoretical teaching	Tutorial	Practical training
الاول	خريف	PPD 101	Pharmacy Orientation	اجباري	كلية	1	1	0	0
الاول	خريف	PPD 102	Medical Terminology	اجباري	كلية	1	1	0	0
الاول	خريف	PCD 101	Pharmaceutical Analytical Chemistry I	اجباري	كلية	3	2	1	2
الاول	خريف	PCD 102	Pharmaceutical Organic Chemistry I	اجباري	كلية	3	2	1	2
الاول	خريف	PCD 103	Mathematics	اجباري	كلية	1	1	1	0
الاول	خريف	PCD 104	Information Technology I	اجباري	كلية	2	1	0	2
الاول	خريف	PGD 101	Human Rights and Fighting Corruption	اجباري	كلية	1	1	0	0
الاول	خريف	PLD 101	Cell Biology	اجباري	كلية	2	2	1	0
الاول	خريف	UGA 03	Arabic Language Skills	اجباري	جامعة	2	2	0	0
الاول	خريف	UGE 01	English (1)	اجباري	جامعة	2	0	2	2
الاول	ربيع	PPD 103	Physical Pharmacy	اجباري	كلية	3	2	0	2
الاول	ربيع	PCD 105	Pharmaceutical Analytical Chemistry II	اجباري	كلية	3	2	1	2
الاول	ربيع	PCD 106	Pharmaceutical Organic Chemistry II	اجباري	كلية	3	2	1	2
الاول	ربيع	PGD 102	Medicinal Plants	اجباري	كلية	3	2	1	2
الاول	ربيع	PLD 102	Anatomy and Histology	اجباري	كلية	3	2	0	2
الاول	ربيع	PLD 103	Psychology	اجباري	كلية	1	1	1	0
الاول	ربيع	UGE 02	English (2)	اجباري	جامعة	2	0	2	2

Academic Level	Semester	Course Code	Course Title	Course Type (Compulsory / Elective)	Requirement Category/ Type	Credit Hours/ Points	Weekly Hours		
							Theoretical teaching	Tutorial	Practical training
الثاني	خريف	PPD 201	Pharmaceutics I	اجباري	كلية	3	2	0	2
الثاني	خريف	PPD 203	Communication Skills I	اجباري	كلية	1	1	1	0
الثاني	خريف	PCD 201	Pharmaceutical Analytical Chemistry III	اجباري	كلية	2	1	1	2
الثاني	خريف	PCD 202	Pharmaceutical Organic Chemistry III	اجباري	كلية	3	2	1	2
الثاني	خريف	PGD 201	Pharmacognosy I	اجباري	كلية	3	2	1	2
الثاني	خريف	PMD 201	General Microbiology and Immunology	اجباري	كلية	3	2	0	2
الثاني	خريف	PLD 201	Physiology and Pathophysiology	اجباري	كلية	3	2	1	2
الثاني	ربيع	PPD 202	Pharmaceutics II	اجباري	كلية	3	2	0	2
الثاني	ربيع	PCD 203	Instrumental Analysis	اجباري	كلية	3	2	1	2
الثاني	ربيع	PCD 204	Electroanalytical Methods	اجباري	كلية	1	1	1	0
الثاني	ربيع	PGD 202	Pharmacognosy II	اجباري	كلية	3	2	1	2
الثاني	ربيع	PMD 202	Parasitology and Virology	اجباري	كلية	2	1	0	2
الثاني	ربيع	PLD 202	Pathology	اجباري	كلية	2	2	1	0
الثاني	ربيع	PLD 203	Biochemistry I	اجباري	كلية	3	2	0	2
الثاني	ربيع	PND 201	Biostatistics	اجباري	كلية	2	1	0	2
الثالث	خريف	PPD 301	Pharmaceutics III	اجباري	كلية	3	2	0	2
الثالث	خريف	PCD 301	Medicinal Chemistry I	اجباري	كلية	3	2	1	2
الثالث	خريف	PGD 301	Phytochemistry I	اجباري	كلية	3	2	1	2
الثالث	خريف	PMD 301	Pharmaceutical Microbiology	اجباري	كلية	3	2	0	2
الثالث	خريف	PLD 301	Biochemistry II	اجباري	كلية	3	2	0	2
الثالث	خريف	PLD 302	Pharmacology I	اجباري	كلية	3	2	0	2
الثالث	ربيع	PPD 302	Biopharmaceutics and Pharmacokinetics	اجباري	كلية	3	2	0	2
الثالث	ربيع	PPD 303	Pharmaceutics IV	اجباري	كلية	3	2	0	2
الثالث	ربيع	PCD 302	Medicinal Chemistry II	اجباري	كلية	3	2	1	2
الثالث	ربيع	PGD 302	Phytochemistry II	اجباري	كلية	3	2	1	2
الثالث	ربيع	PMD 302	Medical Microbiology	اجباري	كلية	3	2	0	2
الثالث	ربيع	PLD 303	Pharmacology II	اجباري	كلية	3	2	0	2
الرابع	خريف	PPD 401	Pharmaceutical Technology I	اجباري	كلية	3	2	0	2
الرابع	خريف	PGD 401	Applied and Forensic Pharmacognosy	اجباري	كلية	2	1	0	2
الرابع	خريف	PMD 401	Public Health	اجباري	كلية	2	2	1	0
الرابع	خريف	PLD 401	Pharmacology III	اجباري	كلية	2	2	1	0
الرابع	خريف	PLD 402	Clinical Biochemistry	اجباري	كلية	3	2	0	2
الرابع	خريف	PND 401	Drug Information	اجباري	كلية	2	1	0	2
الرابع	خريف	PND 402	Pharmaceutical Legislations and Regulatory Affairs	اجباري	كلية	1	1	0	0
الرابع	خريف	PMD 402	English (3)	اجباري	كلية	2	0	2	2

Academic Level	Semester	Course Code	Course Title	Course Type (Compulsory / Elective)	Requirement Category/ Type	Credit Hours/ Points	Weekly Hours		
							Theoretical teaching	Tutorial	Practical training
الرابع	خريف	Choose from Table 1 elective courses		اختياري	كلية	2	1	2	0
الرابع	ربيع	PPD 402	Pharmaceutical Technology II	اجباري	كلية	2	2	1	0
الرابع	ربيع	PCD 401	Drug Design	اجباري	كلية	2	1	1	2
الرابع	ربيع	PLD 403	Toxicology and Forensic chemistry	اجباري	كلية	3	2	0	2
الرابع	ربيع	PND 403	Clinical Pharmacokinetics	اجباري	كلية	3	2	0	2
الرابع	ربيع	PND 404	Hospital Pharmacy	اجباري	كلية	2	2	1	0
الرابع	ربيع	PND 405	Community Pharmacy Practice	اجباري	كلية	3	2	0	2
الرابع	ربيع	PCD 402	Information Technology II	اجباري	كلية	2	1	0	2
الرابع	ربيع	Choose from Table 1 elective courses		اختياري	كلية	2	1	2	0
الرابع	صيف	Summer training		اجباري	كلية				
الخامس	خريف	PPD 501	Good Manufacturing Practice	اجباري	كلية	2	1	0	2
الخامس	خريف	PCD 501	Analytical Quality Control of Pharmaceuticals	اجباري	كلية	3	2	1	2
الخامس	خريف	PGD 501	Phytotherapy and Aromatherapy	اجباري	كلية	3	2	0	2
الخامس	خريف	PMD 501	Biotechnology	اجباري	كلية	2	2	1	0
الخامس	خريف	PMD 502	Clinical Research, Pharmacoepidemiology and pharmacovigilance	اجباري	كلية	2	1	2	0
الخامس	خريف	PND 501	Clinical pharmacy I	اجباري	كلية	3	2	0	2
الخامس	خريف	PPD 502	Communication Skills II	اجباري	كلية	1	1	1	0
الخامس	خريف	Choose from Table 2 elective courses		اختياري	كلية	2	1	2	0
الخامس	ربيع	PPD 503	Advanced Drug Delivery Systems	اجباري	كلية	2	2	0	0
الخامس	ربيع	PLD 501	Drug interaction	اجباري	كلية	2	2	1	0
الخامس	ربيع	PLD 502	First Aid	اجباري	كلية	1	1	1	0
الخامس	ربيع	PND 502	Marketing and Pharmacoeconomics	اجباري	كلية	2	2	0	0
الخامس	ربيع	PND 503	Clinical Pharmacy II and pharmacotherpaeutics	اجباري	كلية	3	2	0	2
الخامس	ربيع	PND 504	Professional Ethics	اجباري	كلية	1	1	0	0
الخامس	ربيع	PND 505	Entrepreneurship	اجباري	كلية	1	1	1	0
الخامس	ربيع	PND 506	Scientific Writing	اجباري	كلية	2	1	0	2
الخامس	ربيع	Choose from Table 1 elective courses		اختياري	كلية	2	1	2	0

Elective Courses Table 1

No.	Course Code	Course Title	Course Type (Compulsory / Elective)	Requirement Category/ Type	CrH	Lecture	Tutorial	Lab
الرابع	PCD E01	Chromatography and Separation	اختياري	كلية	2	1	2	0
الرابع	PPD E01	Cosmetics Preparations	اختياري	كلية	2	1	2	0
الرابع	PMD E01	Environment and sustainability	اختياري	كلية	2	1	2	0
الرابع	PMD E03	Clinical immunology	اختياري	كلية	2	1	2	0
الرابع	PMD E04	Mycology	اختياري	كلية	2	1	2	0
الرابع	PPD E02	Pharmaceutical Nanotechnology	اختياري	كلية	2	1	2	0
الرابع	PLD E05	Complementary and Alternative Medicine	اختياري	كلية	2	1	2	0
الرابع	PMD E02	Gene Regulation and Epigenetics.	اختياري	كلية	2	1	2	0
الرابع	PMD E07	Infection control	اختياري	كلية	2	1	2	0
الرابع	PLD E03	Sustainability in Therapeutics	اختياري	كلية	2	1	2	0
الرابع	PGD E02	Herbal medicine.	اختياري	كلية	2	1	2	0

Elective Courses Table 2

No.	Course Code	Course Title	Course Type (Compulsory / Elective)	Requirement Category/ Type	CrH	Lecture	Tutorial	Lab
الخامس	PMD E06	Advanced microbiological techniques	اختياري	كلية	2	1	2	0
الخامس	PLD E01	Pharmacotherapeutics for Special Population	اختياري	كلية	2	1	2	0
الخامس	PLD E04	Molecular Therapeutics	اختياري	كلية	2	1	2	0
الخامس	PND E02	Management of Critical Care Patients	اختياري	كلية	2	1	2	0
الخامس	PND E01	Management of chronic illness	اختياري	كلية	2	1	2	0
الخامس	PCD E02	Analysis of food and flavours.	اختياري	كلية	2	1	2	0
الخامس	PCD E03	Forensic analysis	اختياري	كلية	2	1	2	0
الخامس	PPD E03	Supply Chain Management	اختياري	كلية	2	1	2	0
الخامس	PLD E02	Addiction and Drug Abuse	اختياري	كلية	2	1	2	0
الخامس	PMD E05	Bioinformatics.	اختياري	كلية	2	1	2	0
الخامس	PGD E01	Natural Cosmetics	اختياري	كلية	2	1	2	0

4. Academic Standards

- **Adopted Academic Standards (NARS/ARS): NARS**
- The Faculty adopts the Academic Standards of the National Authority for Quality Assurance and Accreditation of Education (NAQAAE), Competency-Based NARS 2017, in a faculty council on 7/10/2019.
- Competency-Based NARS 2017 was previously discussed and adopted in all departments' councils.
- **Date of Adoption of Standards in the governing Council:** Click or tap to enter a date.
  7/10\2019 . * **Decision/Minutes of the governing Council to be attached**

National Academic Reference Standards (NARS) 2017:

By completion of the program, students should achieve the following 12 competencies that cover 4 competency domains. These domains cover all essentials for practicing pharmacy profession including both drug-oriented and patient-oriented disciplines. A number of Key Elements are included in each competency, with a total of 42 key elements for all competencies. These key elements will reflect each competency in practice.

The competency domains are the followings:
Domain 1: Fundamental Knowledge
Domain 2: Professional and Ethical Practice
Domain 3: Pharmaceutical Care
Domain 4: Personal Practice

DOMAIN 1- FUNDAMENTAL KNOWLEDGE

1-1- COMPETENCY Integrate knowledge from basic and applied pharmaceutical and clinical sciences to standardize materials, formulate and manufacture products, and deliver population and patient-centered care.
KEY ELEMENTS
1-1-1- Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.
1-1-2- Utilize the proper pharmaceutical and medical terms, abbreviations and symbols in pharmacy practice.
1-1-3- Integrate knowledge from fundamental sciences to handle, identify, extract, design, prepare, analyze, and assure quality of synthetic/natural pharmaceutical materials/products.
1-1-4- Articulate knowledge from fundamental sciences to explain drugs' actions and evaluate their appropriateness, effectiveness, and safety in individuals and populations.
1-1-5- Retrieve information from fundamental sciences to solve therapeutic problems.
1-1-6- Utilize scientific literature, and collect and interpret information to enhance professional decision.
1-1-7- Identify and critically analyze newly emerging issues influencing pharmaceutical industry and patient health care.

DOMAIN 2: PROFESSIONAL AND ETHICAL PRACTICE

2-1- COMPETENCY Work collaboratively as a member of an inter-professional health care team to improve the quality of life of individuals and communities, and respect patients' rights.

KEY ELEMENTS:

2-1-1. Perform responsibilities and authorities in compliance with the legal and professional structure and role of all members of the health care professional team.

2-1-2. Adopt ethics of health care and pharmacy profession respecting patients' rights and valuing people diversity.

2-1-3. Recognize own personal and professional limitations and accept the conditions of referral to or guidance from other members of the health care team.

2-2- COMPETENCY Standardize pharmaceutical materials, formulate and manufacture pharmaceutical products, and participate in systems for dispensing, storage, and distribution of medicines.

KEY ELEMENTS:

2-2-1. Isolate, design, identify, synthesize, purify, analyze, and standardize synthetic/natural pharmaceutical materials.

2-2-2. Apply the basic requirements of quality management system in developing, manufacturing, analyzing, storing, and distributing pharmaceutical materials/ products considering various incompatibilities.

2-2-3. Recognize the principles of various tools and instruments, and select the proper techniques for synthesis and analysis of different materials and production of pharmaceuticals.

2-2-4. Adopt the principles of pharmaceutical calculations, biostatistical analysis, bioinformatics, pharmacokinetics, and bio-pharmaceutics and their applications in new drug delivery systems, dose modification, bioequivalence studies, and pharmacy practice.

2-3- COMPETENCY Handle and dispose biologicals and synthetic/natural pharmaceutical materials/products effectively and safely with respect to relevant laws and legislations.

KEY ELEMENTS:

2-3-1. Handle, identify, and dispose biologicals, synthetic/natural materials, biotechnology-based and radio-labeled products, and other materials/products used in pharmaceutical field.

2-3-2. Recognize and adopt ethical, legal, and safety guidelines for handling and disposal of biologicals, and pharmaceutical materials/products.

2-4- COMPETENCY Actively share professional decisions and proper actions to save patient's life in emergency situations including poisoning with various xenobiotics, and effectively work in forensic fields.

KEY ELEMENTS:

2-4-1- Ensure safe handling/use of poisons to avoid their harm to individuals and communities.

2-4-2- Demonstrate understanding of the first aid measures needed to save patient's life.

2-4-3- Take actions to solve any identified medicine-related and pharmaceutical care problems.

2-4-4- Assess toxicity profiles of different xenobiotics and detect poisons in biological specimens.

2-5- COMPETENCY Contribute in pharmaceutical research studies and clinical trials needed to authorize medicinal products.

KEY ELEMENTS:

2-5-1- Fulfill the requirements of the regulatory framework to authorize a medicinal product including quality, safety, and efficacy requirements.

2-5-2- Retrieve, interpret, and critically evaluate evidence-based information needed in pharmacy profession.

2-5-3- Contribute in planning and conducting research studies using appropriate methodologies.

2-6- COMPETENCY Perform pharmacoeconomic analysis and develop promotion, sales, marketing, and business administration skills.

KEY ELEMENTS:

2-6-1- Apply the principles of business administration and management to ensure rational use of financial and human resources.

2-6-2- Utilize the principles of drug promotion, sales, marketing, accounting, and pharmacoeconomic analysis.

DOMAIN 3: PHARMACEUTICAL CARE

3-1- COMPETENCY Apply the principles of body functions to participate in improving health care services using evidence-based data.

KEY ELEMENTS:

3-1-1- Apply the principles of body function and basis of genomics in health and disease states to manage different diseases.

3-1-2- Apply the principles of public health and pharmaceutical microbiology to select and assess proper methods of infection control.

3-1-3- Monitor and control microbial growth and carry out laboratory tests for identification of infections/diseases.

3-1-4- Relate etiology, epidemiology, pathophysiology, laboratory diagnosis, and clinical features of infections/diseases and their pharmacotherapeutic approaches.

3-2- COMPETENCY Provide counseling and education services to patients and communities about safe and rational use of medicines and medical devices.

KEY ELEMENTS:

3-2-1- Integrate the pharmacological properties of drugs including mechanisms of action, therapeutic uses, dosage, contra-indications, adverse drug reactions and drug interactions.

3-2-2- Apply the principles of clinical pharmacology and pharmacovigilance for the rational use of medicines and medical devices.

3-2-3- Provide evidence-based information about safe use of complementary medicine including phytotherapy, aromatherapy, and nutraceuticals.

3-2-4- Provide information about toxic profiles of drugs and other xenobiotics including sources, identification, symptoms, and management control.

3-2-5- Educate and counsel patients, other health care professionals, and communities about safe and proper use of medicines including OTC preparations and medical devices.

3-2-6- Maintain public awareness on social health hazards of drug misuse and abuse.

DOMAIN 4: PERSONAL PRACTICE

4-1- COMPETENCY: Express leadership, time management, critical thinking, problem solving, independent and team working, creativity and entrepreneurial skills.

KEY ELEMENTS:

4-1-1- Demonstrate responsibility for team performance and peer evaluation of other team members, and express time management skills.

4-1-2- Retrieve and critically analyze information, identify and solve problems, and work autonomously and effectively in a team.

4-1-3- Demonstrate creativity and apply entrepreneurial skills within a simulated entrepreneurial activity.

4-2- COMPETENCY Effectively communicate verbally, non-verbally and in writing with individuals and communities.

KEY ELEMENTS:

4-2-1- Demonstrate effective communication skills verbally, non-verbally, and in writing with professional health care team, patients, and communities.

4-2-2- Use contemporary technologies and media to demonstrate effective presentation skills.

4-3- COMPETENCY Express self-awareness and be a life-long learner for continuous professional improvement**.**

KEY ELEMENTS:

4-3-1- Perform self-assessment to enhance professional and personal competencies.

4-3-2- Practice independent learning needed for continuous professional development.

5. Matrix of Academic Standards (Program Outcomes POs) with Courses

Compulsory Courses (Name and code)		Academic Standards (Mention code only)											
		1.1	2.1	2.2	2.3	2.4	2.5	2.6	3.1	3.2	4.1	4.2	4.3
Pharmacy Orientation	PPD 101	1											
Medical Terminology	PPD 102	1											
Pharmaceutical Analytical Chemistry I	PCD 101	1		1	1								
Pharmaceutical Organic Chemistry I	PCD 102	1			1								
Mathematics	PCD 103	1											
Information Technology I	PCD 104							1			1	1	
Human Rights and Fighting Corruption	PGD 101		1										
Cell Biology	PLD 101	1											
Arabic Language Skills	UGA 03							1				1	

Compulsory Courses (Name and code)		Academic Standards (Mention code only)											
		1.1	2.1	2.2	2.3	2.4	2.5	2.6	3.1	3.2	4.1	4.2	4.3
English (1)	UGE 01						1	1				1	
Physical Pharmacy	PPD 103	1											
Pharmaceutical Analytical Chemistry II	PCD 105	1		1									
Pharmaceutical Organic Chemistry II	PCD 106	1			1	1							
Medicinal Plants	PGD 102	1										1	1
Anatomy and Histology	PLD 102	1											
Psychology	PLD 103	1	1								1	1	
English 2	UGE 02						1	1				1	
Pharmaceutics I	PPD 201	1		1									
Communication Skills	PPD 203							1			1	1	
Pharmaceutical Organic Chemistry III	PCD 202	1		1									
Pharmaceutical Analytical Chemistry III	PCD 201	1										1	
Pharmacognosy I	PGD 201	1										1	
General Microbiology and Immunology	PMD 201	1							1				1
Physiology and pathophysiology	PLD 201	1							1			1	
Pharmaceutics II	PPD 202	1		1	1								
Pharmacognosy II	PGD 202	1									1		
Instrumental Analysis	PCD 203	1		1								1	
Electroanalytical Methods	PCD 204	1		1							1	1	
Parasitology and Virology	PMD 202	1							1			1	1
Pathology	PLD 202	1							1				1
Biochemistry I	PLD 203	1		1	1								
Biostatistics	PND 201			1			1						1
Pharmaceutics III	PPD 301			1	1						1		
Phytochemistry I	PGD 301			1							1		1
Medicinal Chemistry I	PCD 301			1					1		1		
Pharmaceutical Microbiology	PMD 301	1							1	1			1
Biochemistry II	PLD 301				1				1		1		
Pharmacology I	PLD 302	1			1					1		1	
Biopharmaceutics and Pharmacokinetics	PPD 302			1						1	1		

Compulsory Courses (Name and code)		Academic Standards (Mention code only)											
		1.1	2.1	2.2	2.3	2.4	2.5	2.6	3.1	3.2	4.1	4.2	4.3
Pharmaceutics IV	PPD 303			1	1					1	1		
Medicinal Chemistry II	PCD 302			1					1				1
Phytochemistry II	PGD 302			1							1		1
Medical Microbiology	PMD 302								1			1	1
Pharmacology II	PLD 303					1	1		1	1			
Pharmaceutical Technology I	PPD 401			1			1				1		
Applied and Forensic Pharmacognosy	PGD 401			1	1					1	1		
Public Health	PMD 401		1						1			1	
Pharmacology III	PLD 401					1			1	1	1		
Clinical Biochemistry	PLD 402				1	1	1		1				
Drug Information	PND 401	1				1	1					1	
Pharmaceutical Legislations and Regulatory Affairs	PND 402		1					1		1	1		
English 3	PMD 402						1	1			1	1	
Pharmaceutical Technology II	PPD 402			1			1				1		
Drug Design	PCD 401			1						1			1
Toxicology and Forensic chemistry	PLD 403				1	1				1	1		
Clinical Pharmacokinetics	PND 403		1	1		1	1						1
Hospital Pharmacy	PND 404		1	1	1	1					1		
Community Pharmacy Practice	PND 405		1			1	1	1		1			
Information Technology II	PCD 402						1	1			1	1	
Summer training			1	1						1	1		1
Good Manufacturing Practice	PPD 501	1		1	1			1			1		
Analytical Quality Control of Pharmaceuticals	PCD 501		1	1			1					1	
Phytotherapy and Aromatherapy	PGD 501									1		1	
Biotechnology	PMD 501			1	1							1	1
Clinical Research, Pharmacoepidemiology and pharmacovigilance	PMD 502						1			1	1		
Clinical pharmacy I	PND 501		1			1	1			1	1		
Communication Skills II	PPD 502							1			1	1	

Compulsory Courses (Name and code)		Academic Standards (Mention code only)											
		1.1	2.1	2.2	2.3	2.4	2.5	2.6	3.1	3.2	4.1	4.2	4.3
Advanced Drug Delivery Systems	PPD 503	1		1									1
Drug interaction	PLD 501					1				1	1		1
First Aid	PLD 502		1			1						1	1
Marketing and Pharmacoeconomics	PND 502		1					1			1	1	
Clinical Pharmacy II and pharmacotherapeutics	PND 503					1			1	1			1
Professional Ethics	PND 504		1								1	1	1
Entrepreneurship	PND 505		1					1			1	1	
Scientific Writing	PND 506	1					1					1	1
Total competencies		32	14	26	15	13	16	13	15	17	29	29	19

- Separate matrix of elective courses (Mid Senior)

Compulsory Courses (Name and code)		Academic Standards (Mention code only)											
		1.1	2.1	2.2	2.3	2.4	2.5	2.6	3.1	3.2	4.1	4.2	4.3
Chromatography and separation	PCD E01			1							1	1	
Cosmetics Preparations	PPD E01	1	1								1		
Environment and sustainability	PMD E01	1			1	1			1		1		
Clinical Immunology	PMD E03	1							1		1		
Mycology	PMD E04	1				1			1	1	1		
Complementary and Alternative Medicine	PLD E05	1							1	1		1	
Pharmaceutical Nanotechnology	PPD E02			1	1						1		
Infection control	PMD E07		1						1			1	
Natural Cosmetics	PGD E01	1	1		1						1		
Herbal medicine.	PGD E02				1					1		1	
Sustainability in Therapeutics	PLD E03	1							1	1	1	1	
Total competencies		7	3	2	4	2	0	0	6	4	8	5	0

- **separate matrix of elective courses (Senior)**

Compulsory Courses (Name and code)		Academic Standards (Mention code only)											
		1.1	2.1	2.2	2.3	2.4	2.5	2.6	3.1	3.2	4.1	4.2	4.3
Advanced Microbiological Techniques	PMD E06				1		1		1		1		
Pharmacotherapeutics for Special Population	PLD E01								1	1	1		1
Molecular therapeutics	PLD E04						1		1				
Management of chronic illness	PND E01	1	1				1		1		1	1	
Management of critical care patient	PND E02	1	1				1		1		1	1	
Analysis of food and flavours.	PCD E02			1							1		
Forensic analysis	PCD E03			1		1					1		
Supply Chain Management	PPD E03			1								1	
Addiction and Drug Abuse	PLD E02					1				1	1	1	
Gene Regulation and Epigenetics.	PMD E02			1	1							1	1
Bioinformatics	PMD E05			1	1							1	1
Total competencies		2	2	5	3	2	4	0	5	2	7	6	3

6. Teaching and Learning strategies/methods to achieve Program Outcomes:

1. Lectures
2. Tutorials
3. Laboratory Sessions
4. Cooperative Learning (Group Presentations)
5. Open, Group Discussion & E-discussion
6. Pop Questions
7. Brain Storming
8. Think, Pair and Share
9. Peer Teaching
10. Artificial intelligence
11. Assignments & E-assignments
12. Case Studies
13. Site Visits
14. Field Projects
15. Graduation Projects
16. Simulation
17. Videos & audiovisual aids
18. Game based learning
19. Role play
20. Flipped Classrooms
21. Self-Learning
22. Problem Solving

23. Formative exam

7. Student Assessment strategies/methods to verify and ensure students' acquisition of Program Outcomes:

1. Course work (Practical exam (OSCE & OSPE), assignments (Self-Peer assessments), presentations, quizzes, projects, tutorial, discussion forms)
2. Field Projects
3. Mid Term exams
4. Final Written exams
5. Final Oral exams (Rubrics)
6. Booklet assessment
7. Video Call assessment

8. Program Key Performance Indicators (if any)

N.A

Name & Signature Quality Assurance manager Associate Professor. Inas Masoud Inas	Name & Signature Program Coordinator Ass. Professor. Marwa Ahmed Atef Yakout Marwa

Name & Signature
Vice Dean for Education and Student Affairs

Associate Prof. Sherihan Salah Eldein

Sherihan